TOWN
OF
EASTHAM

BOARD OF HEALTH
REGULATIONS

(Complied May 2016)

Table of Contents

SECTION I: SEPTIC SYSTEMS - TITLE V....8

A. AS-BUILT REQUIREMENTS....8
B. DISPOSAL WORKS CONSTRUCTION PERMIT PROCESS....8
1. VALIDITY PERIOD....8
2. REQUIREMENTS....9
C. SEPTAGE DISPOSAL REGULATIONS....11
1. DISPOSAL OF SEWAGE....11
2. CAPACITY....11
3. REQUIREMENTS....11
4. CERTIFICATE OF OCCUPANCY....13
D. LOCAL AMENDMENTS TO TITLE V....13
1. DEFINITIONS OF A BEDROOM....13
2. NEW CONSTRUCTION FOR AN EXISTING DWELLING....15
3. FAILURE OF A SEPTIC SYSTEM....15
5. REPAIR TO A FAILED SYSTEM....16
6. SYSTEMS SERVING NEW CONSTRUCTION....16
7. DEFINITION OF A WETLAND/WETLAND RESOURCE AREA....17
8. NITROGEN LOADING REGULATIONS....17
E. ENVIRONMENTALLY SENSITIVE AREA....20
1. DEFINITION....20
2. REQUIREMENTS FOR NITROGEN REDUCING SEPTIC SYSTEMS....21
F. NITROGEN LOADING LIMITATIONS....22
G. SEPTIC INSPECTIONS....22

SECTION II: DRINKING WATER....23

A. PRIVATE WELL REGULATIONS....23
1. DEFINITIONS:....23
2. REGISTRATION OF WELL DRILLERS:....24
3. WELL INSTALLATION, ALTERATION AND REPAIR:....24
B. REQUIREMENTS FOR NON-POTABLE WATER WELLS NOT INTENDED FOR HUMAN CONSUMPTION....25
1. WELL CONSTRUCTION PERMIT:....25
C. REQUIREMENTS FOR POTABLE WATER WELLS INTENDED FOR HUMAN CONSUMPTION....26
2. WELL CONSTRUCTION PERMIT:....26

2. WELL CONSTRUCTION: 27
3. WELL DRILLERS REPORT: 27
4. WELL DESTRUCTION: 28
5. WELL LOCATION: 28
6. WATER QUALITY: 28
7. TESTING REQUIREMENTS 29
8. WELL APPROVAL: 31
9. VARIANCE AND ENFORCEMENT PROCEDURES: 32

SECTION III: HUMAN HABITATION 32

A. RENTAL OF PREMISES TO BE USED FOR HUMAN HABITATION 32

SECTION IV: FUEL STORAGE SYSTEMS 34

A. DEFINITIONS: 34
B. REGULATIONS 34
C. TANK REGULATIONS: 35
D. TESTING: 35
E. INSTALLATION/MAINTENANCE OF HEATING FUEL STORAGE SYSTEM: 36
F. REPORT OF LEAKS OR SPILLS: 37
G. TANK REMOVAL: 37
H. COSTS: 37
I. VARIANCES: 37
J. ENFORCEMENT: 38
K. SEVERABILITY: 38
L. REVOCATION: 38
M. EFFECTIVE DATE: 38

SECTION V: SMALL WASTEWATER TREATMENT FACILITY 39

A. DISPOSAL OF SLUDGE AND SOLIDS 39
B. TREATMENT PLAN RELIABILITY: 39
C. STAND-BY POWER 39
D. ALARMS 40
E. INTERIOR LAYOUT 40
F. BY-PASSES AND OVERFLOWS 40
G. DISINFECTION 40
H. MOISTURE CONTROL 40
I. ODOR CONTROL 40
J. GROUND WATER MONITORS 41

1. INSTALLATION 41
K. EFFLUENT LIMITS AND TESTING REQUIREMENTS **41**
L. OPERATION **43**
1. OPERATOR 43
2. BACK-UP OPERATOR 43
M. SEVERABILITY **43**

SECTION VI: BOARD OF HEALTH REGULATION ON THE CONTENT AND APPLICATION OF FERTILIZER TO TURF IN THE TOWN OF EASTHAM **43**

A. PURPOSES **43**
B. APPLICABILITY **44**
C. AUTHORITY **44**
D. DEFINITIONS **44**
E. STANDARDS OF PERFORMANCE **46**
1. BEST MANAGEMENT PRACTICES 46
2. PERFORMANCE STANDARDS FOR FERTILIZER APPLICATION 46
3. EXEMPTIONS 47
F. EDUCATION **48**
G. ENFORCEMENT, PENALTIES, VARIANCE/APPEAL **48**
1. ENFORCEMENT AND PENALTIES: 48
2. VARIANCE/APPEALS 48
H. SEVERABILITY CLAUSE **49**
I. AMENDMENTS **49**
J. EFFECTIVE DATE **49**

SECTION VII: CONTROL OF TOXIC AND HAZARDOUS MATERIAL **50**

A. FINDINGS **50**
B. AUTHORITY **51**
C. DEFINITIONS: **51**
D. PROHIBITIONS **52**
E. STORAGE CONTROLS **52**
F. REPORT OF SPILLS AND LEAKS **53**
G. ENFORCEMENT **53**
H. VIOLATION **54**
I. PENALTY **54**
J. SEVERABILITY **54**

SECTION VIII: PLUMBING REGULATIONS **54**

A. PERMIT REQUIRED 54
B. APPLICATION FOR PERMIT 55
C. FEE 55
D. INSPECTION 55
E. NOTIFICATION 55
F. QUALIFICATIONS FOR APPLICANTS 55

SECTION IX: TRANSFER STATION AND RECYCLING REGULATIONS 55

A. AUTHORITY 55
B. DEFINITION OF TERMS 56
C. USE OF TRANSFER STATION 56
D. MANAGEMENT OF WASTE MATERIALS 57
E. SOLID WASTE DISPOSAL FEES 59
F. SEVERABILITY, VIOLATIONS AND PENALTIES 59

SECTION X: REGULATION GOVERNING THE PRACTICE OF BODY ART 60

A. AUTHORITY 60
B. PURPOSE AND SCOPE 60
C. DEFINITIONS 60
D. APPLICABILITY 64
E. OPERATION OF BODY ART ESTABLISHMENTS 65
F. PUBLIC NOTIFICATION REQUIREMENTS 69
G. CLIENT RECORDS 70
H. INJURY REPORTS 71
I. RECORDS RETENTION 71
J. PREPARATION AND CARE OF THE BODY ART AREA 72
K.SANITATION AND STERILIZATION PROCEDURES 72
L.REQUIREMENTS FOR SINGLE-USE ITEMS 73
M. PERMIT REQUIREMENTS 74
N.COMPLAINTS 75
O.GROUNDS FOR THE DENIAL OF A PERMIT 76
P. GROUNDS FOR THE REVOCATION OF, OR THE REFUSAL TO RENEW A PERMIT 77
Q.GROUNDS FOR THE SUSPENSION OF A PERMIT 78
R. HEARINGS 78
S. PENALTIES 79
T. SEVERABILITY 79
U. EFFECTIVE DATE 79

SECTION XI: TOBACCO CONTROL REGULATION 80

A. STATEMENT OF PURPOSES 80
B. AUTHORITY 80
C. DEFINITIONS 81
D. TOBACCO SALES TO PERSONS UNDER THE MINIMUM LEGAL SALES AGE PROHIBITED: 84
E. TOBACCO PRODUCT SALES PERMIT 85
F. PROHIBITION OF THE SALE OF BLUNT WRAPS 86
G. FREE DISTRIBUTION AND COUPON REDEMPTION 86
H. OUT-OF-PACKAGE SALES 87
I. SELF-SERVICE DISPLAYS 87
J. VENDING MACHINES 87
K. NON-RESIDENTIAL ROLL-YOUR-OWN MACHINES 87
L. PROHIBITION OF THE SALE OF TOBACCO PRODUCTS BY HEALTH CARE INSTITUTIONS 87
M. PROHIBITION OF THE SALE OF TOBACCO PRODUCTS BY EDUCATIONAL INSTITUTIONS 87
N. VIOLATIONS: 88
O. NON-CRIMINAL DISPOSITION: 89
P. ENFORCEMENT: 89
Q. SEVERABILITY: 89
R. EFFECTIVE DATE: 89

SECTION XII : PROHIBITING SMOKING IN WORKPLACES AND PUBLIC PLACES 89

A. PURPOSE 90
B. AUTHORITY 90
C. DEFINITIONS 90
D. SMOKING PROHIBITED 91
E. ENFORCEMENT 92
F. SEVERABILITY 93
G. CONFLICTS WITH OTHER LAWS OR REGULATIONS 93
H. EFFECTIVE DATE 93

SECTION XIII: CONTROL OF NUISANCES 93

A. AUTHORITY 93
B. PURPOSE 93
C. DEFINITIONS 94
D. REGULATION OF NUISANCES 94
E. PENALTY 94
F. SEVERABILITY 94

SECTION XIV: GROUNDWATER PROTECTION REGULATION.....95

A. SCOPE OF AUTHORITY.....95
B. PURPOSE OF REGULATION.....95
C. APPLICABILITY.....95
D. DEFINITIONS.....96
E. PROHIBITIONS.....98
F. EFFECTIVE DATES FOR ALL FACILITIES.....101
G. PENALTIES.....101
H. SEVERABILITY.....101

SECTION XVI: FLOOR DRAIN REGULATION.....101

A. PURPOSE OF REGULATION.....101
B. SCOPE OF AUTHORITY.....102
C. DEFINITIONS.....102
D. PROHIBITIONS.....103
E. REQUIREMENTS FOR EXISTING FACILITIES.....104
F. EFFECTIVE DATES FOR ALL FACILITIES.....105
G. PENALTIES.....105
H. SEVERABILITY.....105

APPENDIX 1.....107

APPENDIX 2 –310 CMR 19: SOLID WASTE MANAGEMENT FROM CODE OF MASSACHUSETTS REGULATIONS.....126

19.006: DEFINITIONS.....128

SECTION I: SEPTIC SYSTEMS - TITLE V

A. AS-BUILT REQUIREMENTS[1]

Under the provisions of the above cited regulations, **NO** Certificate of Occupancy, or Compliance will be granted, nor shall any building be occupied until a Certified "As-Built" Plan has been submitted to the Board of Health and/or the Massachusetts Department of Environmental Protection, if applicable, and approved, for any new construction, repair or alteration on an individual septic disposal system (ISDS).

As-Built plans submitted for the above purpose shall **NOT** contain any disclaimers.

B. DISPOSAL WORKS CONSTRUCTION PERMIT PROCESS[2]

Preamble: For the purpose of ensuring compliance with standards for the health and safety of the inhabitants of the Town of Eastham, it shall be the duty of the Board of Health to permit all Disposal Works Construction for on-site sewage disposal systems. Certain local conditions regarding soil permeability or other topographical or regional conditions such as environmentally sensitive areas may be identified for which variances will not be granted.

Authority: In accordance with Massachusetts General Laws, Chapter III, Section 31, the Eastham Board of Health has adopted the following regulation to supplement the provisions of 310 CMR 15.00: The State Environmental Code, Title V: Minimum requirements for the subsurface Disposal of Sanitary Sewage, Section 15.020: Disposal System Construction Permits, and 310 CMR 15.400 to 15.415, variance sections.

1. VALIDITY PERIOD

Disposal Works Construction Permits are valid for three (3) years from the date of issuance, except in cases where a variance from the requirements of Title V, pursuant to 310 CMR 15.410 through 15.415, is granted. In those cases, the permit is valid for only one (1) year from the date of issuance. All variances, local upgrade approvals, etc., granted by the Eastham Board of Health are valid for the length of time for which the permit is valid, or for one year. No extensions shall be granted without re-

[1] Published January 31, 1989
[2] Revised/Adopted July 20, 2001
Effective July 27, 2001
Amended/Effective April 29, 2004
Revised May 26, 2005
Effective July 1, 2005

application to the Eastham Board of Health. No more than one extension shall be granted. Re- application shall be made by a request in writing to the Eastham Board of Health at least six (6) weeks prior to the expiration of the permit.

2. REQUIREMENTS

PRIOR TO THE APPROVAL OF A BUILDING PERMIT, A DISPOSAL WORKS CONSTRUCTION PERMIT MUST BE OBTAINED FROM THE HEALTH DEPARTMENT. The following process must be followed:

a. Contact a Professional Engineer and/or Sanitarian to request a Soils Data and percolation test. Your engineer/sanitarian will arrange a date and time for the tests to be observed by the Health Department.

b. Submit three (3) sets of the site and sewage plans, one copy of the floor plan of the building, a completed APPLICATION FOR DISPOSAL WORKS CONSTRUCTION PERMIT, and a check for ***$100.00*** made payable to the Town of Eastham. The application must contain the name of the installer licensed in the Town of Eastham, and MUST BE SIGNED by the Installer.

c. If a new well is to be installed or an existing well relocated, approval will not be granted until the well is installed and certification is submitted as to the bacteriological and mineral content of the well by a State approved laboratory.

d. The submitted plans must show, at a minimum:

a. The lot to be served.
b. Location and dimensions of the system (including reserve area).
c. Design calculations.
d. Existing and proposed contours.
e. Location and log of deep observation holes.
f. Location and results of percolation tests.
g. Location of any streams, surface and subsurface drains, and wetlands within 100 feet of the sewage disposal system.
h. Known sources of water supply within 200 feet of the sewage disposal system.
i. Location of any proposed well to serve the lot.
j. Location of water lines on the property.
k. Maximum ground water elevation in the area of the sewage disposal system.
l. A profile of the system.
m. Bench mark

n. Slope calculations and requirements
o. Variances from Title 5 and/or Board of Health requirements
p. The plan must be prepared by a Professional Engineer, or other professional authorized by law to prepare such plans. The scale used in the plan of construction or the “as-built” will not be smaller than one inch equals thirty feet (1”=30’).
q. Plan must be no larger than 11" x 17".

e. The approval of the Conservation Commission is required prior to the approval of the Board of Health, where applicable.

f. Upon approval of the APPLICATION FOR DISPOSAL WORKS CONSTRUCTION PERMIT, the Health Agent shall sign and date three (3) copies of the engineered site and sewage plan, and the DISPOSAL WORKS CONSTRUCTION PERMIT.

g. Upon completion of the construction and prior to back-filling, the installer will notify the Health Agent that the system is ready for inspection.

h. The Health Agent will inspect the system and permit back-filling upon final approval.

i. The Engineer/Sanitarian will provide an “AS-BUILT” plan to the Board of Health. Plan must be stamped by a Land Surveyor.

j. Following receipt and review of the As-Built plan, the Health Agent will date and sign the CERTIFICATE OF COMPLIANCE.

k. All plastic and concrete septic tanks shall be required to have watertight risers with covers over inlet and outlet ports to within six inches of finish grade. Manholes brought to final grade shall be secured to prevent unauthorized access.

l. All plastic and concrete distribution boxes shall be required to have watertight risers with covers over inlet and outlet ports to within six inches of finish grade. Manholes brought to final grade shall be secured to prevent unauthorized access.

C. SEPTAGE DISPOSAL REGULATIONS[3]

All septage generated in the Town of Eastham from septic tanks, privies, cesspools, tight tanks, portable toilets (or any other device used to receive human waste) must be disposed of at the Orleans, Brewster, Eastham Groundwater Protection District Facility (Tri-Town Facility) located in Orleans, or as otherwise directed and authorized by the Board of Health.

1. DISPOSAL OF SEWAGE

a. Every place of human habitation shall have available a sanitary method for the disposal of all human excreta which shall meet with the approval of this Board of Health, its agents or inspectors.

b. Wherever a water carriage system is available, final disposal of these waters shall be made by means of one or other of the following methods:

i. Connection with a public sewage system where same is required by a regulation of this Board (General Laws, Chapter 83, Section 11).

ii. A septic tank constructed in such a manner as hereinafter provided. iii. Such other methods as shall be approved by this Board.

2. CAPACITY

All septic tanks hereafter installed shall be of approved construction and shall have a minimum capacity of 1,500 gallons. The effluent of a sewage disposal system shall be disposed of by means of a septic system properly constructed, or a subsoil drainage system laid out in a manner which shall meet the approval of this board.

3. REQUIREMENTS

a. Unless otherwise specified by the Board of Health, septic tank disposal fields, or other sewage disposal methods hereafter constructed and all wells and springs hereafter installed shall be so located that distance of not less than one hundred (100) feet shall intervene between any well or spring and any septic tank disposal field. All pipe lines used for the purpose of conveying sewage or house draining shall, where

[3] Adopted September 30, 1991
Effective October 8, 1991
Revised May 26, 2005
Effective July 1, 2005

within fifty (50) feet of any well or spring, be constructed of cast iron pipe with leaded joints or in such manner as to be permanently water tight. The use of clay or terra cotta pipes with cement joints will not be approved.

i. In the absence of a water carriage system, disposal of human excreta shall be by means of a sanitary privy. All privies shall be of approved material and shall be so constructed as to prevent the access of flies to excreta or the deposit of same on the surface of the ground. Unless otherwise specified by the Board of Health, such privy shall be located not less than twenty (20) feet from line of adjoining lot and not less than twenty (20) feet from any street, court or passageway, all measurements being taken from the nearest outer point of the privy building. No permanent privy shall hereafter be constructed or maintained on premises which are provided with a water supply.

ii. Temporary privies for the convenience of contractors and their employees may be erected or installed without a permit but only under the following conditions: The vault must be at least two (2) feet in depth and must be so located as to cause no annoyance to persons residing in the vicinity. The owner, contractor or agent shall cause the contents thereof to be treated in a sanitary manner and immediately upon the completion of the contract, the contractor shall remove the privy fill in the vault and leave the premises in a condition satisfactory to the Board of Health

b. Whenever a sewage disposal system or drain becomes offensive or obstructed, the owner, agent and/or occupant of the premises shall cause same to be cleaned or otherwise corrected.

c. No cesspool, septic tank, privy or other means of sewage disposal shall hereafter be constructed or installed in this Town until a permit has been obtained from the Board of Health.

d. No soil absorption system shall be located within one hundred (100) feet of any water body, water course, either permanent or intermittent, any vegetated wetland, fresh or salt, as determined by predominance or vegetational species; the top of any coastal bank; the landward toe of any primary dune or the spring high water mark on any salt water body or estuary; or the annual flood level of any fresh water body.

e. No septic tank shall be located within fifty (50) feet of any water body, water course, either permanent or intermittent, any vegetated wetland, fresh or salt, as determined by predominance or vegetational species; the top of any coastal bank;

the landward toe of any primary dune or the spring high water mark on any salt water body or estuary; or the annual flood level of any fresh water body.

f. All holders of permits granted by the Board of Health, under Chapter III, Section 31A of the General Laws as amended for the removal and transport of contents of cesspools, septic tanks or privy vaults shall provide themselves with a water tight tank truck or vehicle to be used for this purpose. Dumping of final disposal of contents of tank truck or vehicle to be used for this purpose. Dumping of final disposal of contents of tank trucks or other vehicles shall be at such a place and in such a manner as provided by this Board of Health.

4. CERTIFICATE OF OCCUPANCY

No dwelling unit or addition thereto shall be occupied by Certificate of Occupancy under the State Building Code issued by the Building Inspector until an "as built plan" under the seal of a registered land surveyor, or other professional authorized by law to prepare such plans showing the location of the foundation, septic system, and well relative to lot lines, wetlands, water courses, and other buildings and structures on the lot has been supplied to and approved by the Board of Health.

D. LOCAL AMENDMENTS TO TITLE V

In accordance with Massachusetts General Laws, Chapter III, Section 31, the Eastham Board of Health has adopted the following regulation to supplement the provisions of 310 CMR 15.00: State Environmental Code - Title V: Minimum Requirements for the Subsurface Disposal of Sanitary Sewage. The Board feels that such a regulation for the Town of Eastham is necessary because there is no town water available. As such, every parcel in Eastham must have a well and an on-site Sewage Disposal System. These regulations will become effective January 1, 2000.

1. DEFINITIONS OF A BEDROOM[4]

A room or portion of a dwelling providing privacy consisting of all of the following:

a. Floor space of no less than 70 sq. ft.
b. for new construction, a ceiling height of no less than *7'0"*
c. for existing houses and for mobile homes, a ceiling height of no less than 7' 0".

[4] Revised May 28, 2009
Effective June 25, 2009

d. an electrical service and ventilation, and
e. at least one window.

Those rooms or portions of dwellings satisfying the foregoing criteria shall be considered "bedrooms" regardless of whether they are referred to or designated as a:

a. Bedroom
b. Finished Cellar or Attic where privacy is provided
c. A Loft Area in excess of 70 square feet where privacy is provided
d. Den
e. Study
f. Sewing Room
g. Enclosed Heated Porch where privacy is provided
h. Family Room where privacy is provided
i. Rooms with finished cased openings less than 48 inches wide
j. Rooms with exterior doors may be bedrooms
k. A basement room may be a bedroom if it is a walkout room with building code conforming egress.
l. Rooms over free standing garages that have heat or a bathroom or both that provides privacy
m. Rooms over attached garages with direct access to the house that provides privacy

The following rooms or areas shall not be considered as a "bedroom":

a. Bathroom
b. Kitchen
c. Dining Room
d. Hall
e. Unfinished Cellar or Attic
f. Open Deck
g. Garage
h. Unheated Porch or Storage Area
i. Living Room
j. Unheated Storage Areas Over Garages
k. If it is necessary to walk through a loft to access a bath or other room, then the loft is NOT a bedroom; deduct the square footage of a walk-thru hallway from the total area in calculating a minimum 70 square feet, but not the square footage from a dead-end hallway.

Where the total number of rooms for a single family dwelling exceeds eight, not including

the above list of exceptions, the number of bedrooms presumed shall be calculated by dividing the total number of rooms by two, then rounding down to the next lowest number.

2. NEW CONSTRUCTION FOR AN EXISTING DWELLING[5]

a. No person shall apply for or obtain a building permit, foundation permit or occupancy permit allowing an increase to the habitable area or number of bedrooms of a residential dwelling or an increase to the area or occupancy of any non-residential building, until the Board of Health or its agent has determined that the existing sewage disposal system is adequate for the proposed increase or change in use. Prior to applying for any of the foregoing permits to increase the habitable area or number of bedrooms of a residential dwelling or to increase the area of occupancy or change the use of a non-residential building, the owner or its representative shall file with the Board of Health a site and sewage plan prepared by a Registered Professional Engineer or Sanitarian. Said plan shall indicate whether a sewage disposal system that complies with the requirements of Title V of the State Environmental Code, 30 CMR 15.00, and the Board's sewage disposal regulations and well regulations, exists or can be installed on the property to accommodate the existing dwelling or building and the proposed increase or change in use.

b. Conversion of any seasonal dwelling to year round use shall require the installation of a new system or upgrade of the existing system sufficient to comply with the requirements of Title V and the Board's Sewage Disposal Regulations, or certification of a Registered Professional Engineer or Sanitarian that the exiting system complies with Title V and the Board's Regulations, and is adequate thereunder for the proposed use.

3. FAILURE OF A SEPTIC SYSTEM[6]

In addition to the general provisions of 310 CMR 15.303 for determining system failure, a septic system shall be considered to have failed when:

a. Any component does not function as intended according to criteria set forth in these regulations for each type of system in 310 CMR 15.303, or leading to the system failing to protect the public health.

b. The system caused effluent to be discharged to the surface of the ground, stream or other water course, or:

[5] Amended May 2004

i. A tank or cesspool is pumped to remove septic more than twice in any twelve month period, except that grease traps may be pumped in accordance with Title V, 310 CMR 15.05 (13).

ii. As a result of an inspection as per 310 CMR 15.000 Subsection 15.301 (1) System Inspection (1) Inspection at time of transfer, if inspection reveals that the sewage disposal system consists of a single cesspool or a converted cesspool, the system shall be deemed substandard by the Board of Health and must be upgraded to comply with 310 CMR 15.404, the State Environmental Code, Title V, Minimum Requirements for the Subsurface Disposal of Sewage, as applicable.

iii. Properties served by converted cesspool systems (one cesspool connected to another cesspool) will be considered to have failed, and upgrade of that system will be required whenever a septic system inspection is required. The septic system will be required to be upgraded to Title V conformance whenever a building permit is issued concerning increase to the shadow or footprint or volume of the dwelling or any redesign (excluding decks, sheds or other out buildings).

Laundromats, athletic clubs, food service or other establishments, determined to be high water users by the Board of Health, and are pumped frequently, shall be reviewed on a case-by-case basis.

4. NEW SEPTIC SYSTEM

A new septic system is one which is designed to serve a newly constructed building or one which is designed to handle an increase in sewage flow as required by changes in the building's use.

5. REPAIR TO A FAILED SYSTEM

A repair to a failed system is the replacement of a component or components to provide a working system of the same sewage flow.

6. SYSTEMS SERVING NEW CONSTRUCTION

For systems designed in accordance with Title V prior to March 31, 1995, during which

[6] Amended May 2004

time the Transition Rules of 15.005 were in effect, “old systems”, the size of the existing system shall not be considered in determining the number of bedrooms currently allowed for the existing or new dwelling.

The maximum number of bedrooms allowed shall be determined by the number of bedrooms in the existing house, if there is one, or the size of the lot a per 310 CMR 15.214 Nitrogen Loading and 310 CMR 15.005 Transition Rules, whichever is greater.

7. DEFINITION OF A WETLAND/WETLAND RESOURCE AREA[7]

a. A coastal wetland shall mean any coastal bank, costal beach, coastal dune, salt marsh, swamp, flat or other lowland subject to tidal action, as identified by Conservation Commission.

b. A fresh water wetland shall mean any bank, marsh, swamp, flat or other lowland around a body of fresh water; lake, pond, river or stream, subject to submersion due to rise and fall of the level of water in the fresh water body, as identified by Conservation Commission.

c. Or any wetland area identified in Wetland Resource Area, as identified in Wetland Protection By-Law.

8. NITROGEN LOADING REGULATIONS[8]

a. Findings and Purpose

Due to construction in the Town of Eastham prior to the 1950’s, at a time when much of the town was developed as a summer retreat, most of these were constructed with individual on-site wells for water supply and individual on-site sewage disposal systems (i.e., cesspools) for wastewater disposal.

It is recognized that the on-site soil and hydrological conditions of these lots are in many situations, inadequate for sanitary and environmentally safe wastewater disposal. Furthermore, health officials now realize that predominantly sandy soils throughout Eastham allow wastewater to migrate rapidly from individual sewage disposal systems to nearby surface waters and well sites.

[7] Voted December 20, 1999
Effective January 1, 2000
Amended May 27, 2004
Effective May 28, 2004
[8] Adopted May 26, 2005
Effective July 1, 2005

Inadequately treated wastewater effluent presents various threats to the public health and water quality. Because these threats are better understood today than they were in previous years, many houses and small commercial developments in Eastham could not now be constructed with individual on-site sewage disposal systems under current zoning bylaws and heath regulations. In Eastham, many lots are between 5,000 sq. ft. and 15,000 sq. ft. with existing dwellings or commercial businesses. Today, each bedroom requires a minimum or 10,000 sq. ft. according to Title V.

It is recognized that the cumulative impact of numerous adjacent individual on-site sewage disposal systems, given the sandy soil conditions prevalent in Eastham, jeopardizes the quality of ground and surface waters. The effluent from these systems has a high potential of contaminating ground and surface waters. This can lead to closures of shellfishing areas and prohibitions on water contact activities, and have a detrimental effect on the ecosystem. This threat is due not only to contaminants such as fecal coliform bacteria, infectious pathogenic bacteria and viruses, other bacteria associated with fecal discharges, and chemicals from household products, but also to the long-term build-up of nitrates in both ground and surface waters and of phosphorous in surface waters.

Nitrogen compounds found in septic system effluent can cause contamination of drinking water as documented in Water Resources of Outer Cape Cod 1998 Final Report of the Lower Cape Water Management Task Force particularly when systems are located in highly porous sandy soils. Consuming too much nitrate may have serious health consequences. There is strong evidence that nitrate can convert to nitrosamines – known cancer-causing agents. Excessive nitrogen can also produce nutrient loading of surface waters that can result in algae blooms that choke aquatic life. Nitrate contamination is also a “marker” – high concentrations show that other forms of contamination may exist in the water.

The two principal sources of nitrogen contamination and nutrient loading are sewage effluent from individual on-site sewage disposal systems and fertilizers from lawn care practices.

There is increasing pressure in Eastham to expand houses in order to accommodate year-round use and increased seasonal occupancy. This expanded and intensified use increases the discharge of wastewater effluent and increases the threats to the public health and environmental safety from contaminants found in the effluent.

Because of the prevalence of ponds, streams, and other surface water bodies in Eastham, virtually every area of town is critical to protecting the quality of surface and ground water. Because of the town’s reliance on ground water for public and private drinking water, the discharge of wastewater also threatens the quality of

drinking water. By virtue of the fact that all lots in Eastham are served by on-site wells and on-site septic systems, the entire town is considered "nitrogen sensitive".

In order to alleviate the further contamination of ground and surface water resources, and to address threats to the public health that result from increased wastewater discharge, the Board of Health of the Town of Eastham has determined that immediate measures must be taken. The goal of the Nitrogen loading regulation is to reduce Nitrogen to the maximum extent feasible. This regulation represents the minimum steps necessary to protect the public health from the adverse effects of the discharge of nitrates and other contaminants from individual on-site sewage disposal systems into the town's ground and surface waters.

b. Applicability

The following projects shall be subject to the nitrogen loading regulations which shall require the use of nitrogen reduction technology such that the effluent does not exceed 19 ppm nitrate-nitrogen:

i. New commercial structures with a Title V design sewage flow for existing use of under ten thousand (10,000) gallons per day that exceed 440 gpd/40,000 sq. ft.,

ii. Existing commercial development with a total Title V sewage flow of under ten thousand (10,000) gallons per day where an addition or a change in use is proposed that will increase the sewage flow over the existing commercial treatment flow but still less than ten thousand (10,000) gallons per day, or existing commercial developments with flows in excess of 440 gpd/acre where the existing system has failed.

iii. New residential or commercial development, or multi-unit housing resulting in 3 or more dwelling units, including but not limited to hotels, motels, cluster developments, planned developments, residential subdivision, nursing homes, cottage colonies and hospitals.

c. Definitions

For the purpose of this regulation, the following definitions shall apply:

<u>Multi-Unit Housing -</u> Condominiums, Cottage Colonies, apartments, apartments incidental to commercial space, and congregate, cluster, or attached housing where the land is communally owned but the individual units are either owned or rented and where the total Title V sewage flow for the lot(s) is less than two thousand (2,000) gallons per day. (For developments producing two thousand (2,000) gallons per day or more, the Town of Eastham Sewage Discharge Permit Regulations shall apply).

Residential Subdivisions - Subdivisions where lots are created and intended for the construction of single-family homes or commercial dwellings.

Nitrogen Reducing Technology - Nitrogen reducing Technology is the same as alternative systems as defined in 310 CMR 15.282 (4) which are designed specifically to reduce, convert or remove nitrogenous compounds.

d. Appeal

Any person aggrieved by the final decision of the Board of Health may seek relief there from within thirty (30) days in any court of competent jurisdiction, as provided by the laws of the Commonwealth.

e. Penalties

1. Any person who shall violate any provision of this regulation for which penalty is not otherwise provided in any of the General Laws or in any other provision of this regulation or Title 1 of the State Environmental Code shall, upon conviction, be fined not less than ten (10) nor more than five hundred (500) dollars.

2. Any person who shall fail to comply any order issued pursuant to the provisions of this regulation shall be fined not less than ten (10) nor more than five hundred (500) dollars. Each day's failure to comply with an order shall constitute a separate offense.

E. ENVIRONMENTALLY SENSITIVE AREA

1. DEFINITION

a. Any wetland/wetland resource area as identified above, any land area (whether developed or not) that borders on and is within one hundred feet (100') of marshland, tidal flats, coastal dunes, barrier beaches, coastal banks, coastal beaches or surface water;

b. Any land area containing a maximum groundwater elevation (adjusted) which is six feet (6') or less below the natural ground surface elevation in the area of installation;

c. Any land area that encompasses existing or future public water supply well area identified by the Town of Eastham.

d. Terrestrial and/or aquatic plant/animal habitats of threatened or endangered species when certified, or identified by any agency that specializes in such taxonomy

and/or environmental science. (Credibility of the certifying agency shall be determined by the Board of Health); and

e. Any land area of less than 20,000 square feet in size, developed or undeveloped, that is directly abutted by three or more developed or undeveloped properties of less than 20,000 square feet in size.

2. REQUIREMENTS FOR NITROGEN REDUCING SEPTIC SYSTEMS[9]

a. The use of nitrogen reducing septic system is required as a condition of any of the following variances in any lot determined to be an environmentally sensitive area:

1. Less than 100 feet separation distance exists between a drinking water supply well and a soil absorption system,

2. Soil absorption system is located less than 100 feet from a salt marsh or any marine surface water, or fresh surface water body

3. When the lot is defined a environmentally sensitive area any set back reduction is requested

4. Distance to adjusted high groundwater is less than 5 feet.

b. Whenever an alternative or pressure dosed system is permitted by the Board of Health, the licensed certified operator must submit operation, maintenance and testing results via internet (when available) via Barnstable County Department of Health and Environment Carmody Data Base or report directly to Eastham Board of Health if data base is not available.

c. Regulation

In addition, no variance from applicable septage disposal regulations shall not be granted in environmentally sensitive areas, as defined in I E (1)above, unless the Board determines that exceptional circumstances exist.

[9] Adopted July 20, 2001
Effective July 27, 2001
Amended May 26, 2005
Effective July 1, 2005

F. NITROGEN LOADING LIMITATIONS

In order to specifically apply the nitrogen loading limitations of 310 CMR 15.214(1) to land area available for recharge, the Board of Health shall only consider "buildable upland" in order to calculate nitrogen loading limitations for new construction or increase in flow. This regulation shall apply in cases where the property extends into salt marshes, filled wetlands and land subject to tidal action.

1. Definition:

BUILDABLE UPLAND - Buildable Upland shall be defined as land which is an area which is not swamp, pond, bog, dry bog, fresh or salt marsh, areas of exposed groundwater, stream and or which is not subject to flooding from high tides.

G. SEPTIC INSPECTIONS

Unless inspected previously within two years under the terms of this regulation, the sewage disposal system shall be inspected by a licensed inspector approved by the Massachusetts Department of Environmental Protection whenever a property containing such a system is transferred by sale, exchange, gift, or bequest to a new ownership. A copy of the report of such inspection is to be furnished to the Health Department by the prospective new owner prior to the closing. Minimum requirements include engineered Title 5 plan with certified as-built. (Certified as-built will only be required if one was required when septic system was permitted)

The Health Department shall evaluate all such reports and determine whether or not it requires an upgrade of said disposal system to meet Title 5 and Board of Health regulations to the maximum feasible compliance.

A system that passes inspection shall be deemed to have met the standards of Title 5 that were in place when the system was permitted.

In making this decision, the Board shall consider:

1. vertical separation between the bottom of the leaching facility and adjusted observed groundwater meets the minimum of 4 feet for existing 1978 code systems and 5 feet for 1995 code systems,

2. location of abutting wells and septic systems of abutting properties,

3. distance to wetlands,

4. compliance with Title 5 when installed,

5. evidence of overflow or filling,

6. pumping records

Other septic inspection requirements:

1. Septic inspections must include uncovering an inspection port for the soil absorption system to evaluate distance to ground water or ponding.

2. The septic inspector is required to complete the soil absorption system section of the state inspection form and include size of components (tank, soil absorption system), amount of stone and consistency with the existing plan.

3. All system components shall be require to install risers to within 6 inches of final grade if not already onsite including the septic tank inlet and outlet, d-box and the soil absorption system (fields are exempt)

This regulation shall not be effective at the conveyance or devise of the property to the surviving spouse. Any other transfer of ownership will trigger the requirement that a septic inspection be performed.

SECTION II: DRINKING WATER

A. PRIVATE WELL REGULATIONS

Under the authority of Massachusetts General Laws, Chapter 111, Section 31, and Chapter 21, Section16, to better protect the public health of the inhabitants of the Town of Eastham, the Eastham Board of Health voted to adopt the following regulation at its meeting on July 12, 1993. The following regulation shall be effective and applicable beginning on August 1, 1993.

1. DEFINITIONS:

Abandoned Well - A well that has not been used for water supply for a period of one year or more, unless the owner declares his/her intention to use the well again for supplying water within one year.

Board of Health - The Board of Health or its agent.

Pollution - Adverse effect on water quality created by the introduction of any matter.

Potable - Water which is pure and free from impurities that may cause disease or harmful physiological effects and is safe for human consumption, bathing and/or washing purposes.

Rented or Leased Property - Any dwelling used for habitation or business purposes by an occupant other than the owner, for the use of which a fee is paid. This includes, but is not limited to, campgrounds, motels, bed and breakfasts, inns, and other accommodations used on a transient basis, as well as community-type buildings which are rented to community groups.

Well - Any pit, pipe, excavation, spring, casing, drill hole, or other source of water to be used for any purpose of supplying water, and shall include dug wells, driven or tubular wells, drilled wells (artesian or otherwise) and springs, gravel packed, gravel walled ells, gravel developed and washed borings and as further described in the U.S. EPA Manual of Individual Water Supply Systems. For the purpose of these regulations, it shall include both private potable water wells and non-potable water wells.

Well Intended for Human Consumption - Any well supplying water for human consumption, bathing or washing purposes, which is not otherwise regulated as a "public water system" (community or non-community water supply) under 310 CMR 22.00.

2. REGISTRATION OF WELL DRILLERS:

All well drillers doing business in the Town of Eastham shall annually file with the Board of Health a copy of their current well driller registration certificate issued by the Commonwealth of Massachusetts under the General Laws, Chapter 21l Section 16 and 313 CMR 3.00.

3. WELL INSTALLATION, ALTERATION AND REPAIR:

a. No well shall be installed or altered, except by a well driller who is registered with the Water Resources Commission, Division of Water Resources, under MGL Chapter 21, Section 16 and 31, CMR 3.00, and the Eastham Board of Health.

b. All wells shall be located on the same lot as the building they serve.

B. REQUIREMENTS FOR NON-POTABLE WATER WELLS NOT INTENDED FOR HUMAN CONSUMPTION

1. WELL CONSTRUCTION PERMIT:

a. No well shall be installed, or altered, until a Well Construction Permit has been obtained from the Board of Health. A permit so granted shall expire six (6) months from the date of issue, unless construction has begun. A six (6) month extension may be granted at no additional cost.

b. The fee for a well permit for a new construction permit shall be $50.00.

c. An application for a Well Construction Permit shall be submitted by the drilling contractor or his/her agent to the Board of Health on forms furnished by the Board. The well driller is responsible for obtaining said permit prior to construction.

d. The location and design of the water well must be approved by the Board of Health, prior to the issuance of a Well Construction Permit. Prior to approval, the Board of Health requires the following information be submitted.

1. The assessor's map, parcel and lot number of the property on which the well will be located.

2. A site plan showing proposed location of well in relation to building foundations, property lines, the water supply well intended for human consumption and the subsurface sanitary disposal system(s) serving the lot. The site plan need not be prepared by a qualified professional.

e. All permits issued shall be subject to the conditions that all facilities shown shall be constructed in the location approved by the Board of Health. All permits issued shall be subject to the requirements of these regulations and to such further conditions, as the Board of Health shall prescribe.

C. REQUIREMENTS FOR POTABLE WATER WELLS INTENDED FOR HUMAN CONSUMPTION[10]

2. WELL CONSTRUCTION PERMIT:

a. No well shall be installed, or altered until a Well Construction Permit has been obtained from the Board of Health. A permit so granted shall expire six (6) months from the date of issue unless construction has begun.

b. The fee for this permit shall be $50.00.

c. An application for a Well Construction Permit shall be submitted by the drilling contractor or his/her agent to the Board of Health on forms furnished by the Board. The well driller is responsible for obtaining said permit prior to well construction.

d. The location and design of the water well must be approved by the Board of Health prior to issuance of a Well Construction Permit. Prior to approval, the Board of Health requires the following information be submitted:

1. The assessor's map, parcel and lot number of the property which the well will be located.

2. Design and capacity of the water system, as described under well yield and water system design.

3. A site plan for new construction shall be drawn by a registered professional civil engineer, or registered land surveyor, showing the proposed location of the well in relation to building foundations, property lines, sewer lines, subsurface sanitary disposal system, all other septic systems within a 100' radius, and any other known potential sources of contamination within a 100' radius.

4. For emergency repair, alteration, or replacement of an existing well, the Board of Health may waive the requirements that a site plan be submitted.

e. All permits issued shall be subject to the conditions that all facilities shown shall be

[10] Voted December 20, 1999
Published March 14, 2000

constructed in the location approved by the Board of Health. All permits issued shall be subject to the requirements of these regulations and to such further conditions as the Board of Health shall prescribe.

2. WELL CONSTRUCTION:

a. The Board of Health recommends that well construction meet the guidelines outlined in the New England Water Well Drillers Association Ground Water Quality Control Construction Code.

b. Upon completion of drilling operation the top of well casing shall be protected with a PVC, stainless steel, or steel cap to prevent contamination.

c. The top of a well shall be above ground that is higher than any surface sources of contamination and above any known conditions of flooding by drainage or runoff from the surrounding land, unless located in a floor- proofed well house.

d. Wells must be constructed so as to maintain existing natural protection against all known or potential pollution of the groundwater and to exclude all known sources of pollution from entering the well.

e. All non-yielding holes which are installed in the process of constructing a well must be filled so as to not act as a conduit to the groundwater.

f. A metal tag shall be affixed to the top of any sub-surface well casing at the time of installation so that the well may later be located, if necessary, by a metal detector.

g. In areas where salt water or other pollutant intrusion is known or likely to occur, the Board of Health, working with a design engineer, may specify the well screen level, pumping rate, water storage capacity, or any other construction parameter which must be used to ensure that water of adequate quality is obtained.

3. WELL DRILLERS REPORT:

Within thirty (30) days after completion of any well (productive or non-productive), a registered well driller shall submit to the Board of Health, a copy of the report containing the name of the owner of the well, the geographic location of the well, well depth, depth to bedrock or refusal, casing type, casing size and casing length, well screen type, well screen length, and depth at which well screen is set, static water level, method used to test well yield, length of time (in hours) well pumped, drawdown, well yield, and drilling logs describing the material penetrated. The Board of Health will not issue a certificate of

Approval for the well until this report has been received.

4. *WELL DESTRUCTION:*

a. Prior to destruction of any well, a well destruction permit must be obtained by the owner or his/her agent from the Board of Health.

b. Any abandoned well shall be filled and sealed with clean puddled clay, neat cement grout, concrete grout, or bentonite pellets in such a manner as to prevent it from acting as a conduit for pollution to the groundwater.

5. *WELL LOCATION:*

a. In general, wells intended for human consumption shall be located as far as possible from potential sources of contamination. The following minimum distances are required:

Property Line	10 feet
Roadway	25 feet from edge of road layout (not edge of pavement)
Leaching Catch Basin/Drywell	25 feet, but recommended that this distance be maximized
Utility Rights-of-Way	50 feet, but recommended that this distance be maximized
Septic Tank	50 feet
Septic Leaching Facility	100 feet
Septic Distribution Box	50 feet
Building Sewer	50 feet
Subsurface Drains	25 feet, but recommended that this distance be maximized, as pollutants frequently travel along the outside of subsurface drain pipes

Where, in the opinion of the Board of Health, adverse conditions exist, the above distances may be increased. In certain cases, the Board of Health may require the owner to provide additional means of protection. Where possible, the well shall be located up the groundwater gradient from sources of contamination.

6. *WATER QUALITY:*

a. Prior to approval of the well, the owner or his/her agent, shall take a water sample(s) from the well and submit it to a state certified testing laboratory for

analysis, with the cost to be borne by the owner. The results of all analyses shall be submitted to the Board of Health. At a minimum, water must be tested for the following chemical and bacteriological standards: total coliform, nitrate-nitrogen, pH, conductivity, sodium and iron.

b. The Board of Health will determine the potability of the well, using as guidelines the National Interim Primary and Secondary Drinking Water Standards and the U.S. Maximum Contaminant Levels (MCLs). The water quality standards for common parameters are as follows:

Primary Standards

Total Coliform	0 Colonies/100ml by membrane filtration
Nitrate	10 ppm

Secondary Standards

pH	Recommended pH above 5.0
Sodium	Recommended below 20 ppm
Iron	0.3 ppm

In the event that any secondary standards are exceeded, yet the water is deemed fit for human consumption by a state certified testing lab, the owners of said property shall be notified of test results so as to allow any corrective measures to be implemented.

Test results must meet current established maximum contaminant levels (MCLs) for synthetic organic compounds.

7. TESTING REQUIREMENTS

a. Rational - The area surrounding the capped landfill has been the focus of testing and concern vis a vis water quality in recent years. Some limited traces of Volatile Organic Chemicals (VOCs) have been found in this area, and occasionally even an exceedence has been found. There is currently NO requirement for testing for VOCs in this area when a property passes to a new owner.

b. Basis in Law:

i. Town of Eastham Regulation 2 (A) Drinking Water: Private Well Regulations
ii. 310 CMR 22.00 Water Quality
iii. EPA Method 502.2 - Methods for Determination of Organic Compounds in

Drinking Water
iv. M.G.L. c. III Section 31, Health Regulations 310

c. Water Quality:

Approval of any well as a supply of potable water (intended for human consumption) shall require the owner or owner's agent to provide the Board of Health satisfactory test results as required by 310 CMR 22.00 et seq., as amended to the date of application, from water sample(s) taken from any potential well and submitted to a state-certified laboratory test, at the owner's expense, for the following tests:

i. Total Coliform, Nitrate-Nitrogen, pH, Conductivity, Sodium and Iron
ii. Volatile Organic Compounds, employing EPA method 502.2 Methods for Determination of Organic Compounds in Drinking Water.

d. In locations where potential sources of contamination are believed to exist, or where geologic or hydrologic conditions require more restrictive or additional standards than those outlined above, additional water testing and special standards may be required by the Board of Health to ascertain that water meets the Maximum Contaminant Levels set for public water supplies by the U.S. EPA under the Safe Drinking Water Act and 1986 SDWA amendments.

e. When the Board of Health deems it necessary, the Health Agent, or other agent of the Board of Health, may be present to witness the taking of a water sample and/or may take the water sample and deliver it to the testing laboratory him/herself.

f. The Board of Health further recommends that all well owners have their wells tested, at a minimum of every two years, and at more frequent intervals when water quality problems are known to exist.

g. In cases where the well water does not meet the water quality standards outlined above the Board of Health may require the property owner to provide an alternative approved source of drinking water for the inhabitants or the building which is served by the well.

h. A test of a property's well water by a state certified testing lab to verify suitability for human consumption shall be required in change of ownership of said property. The buyer shall be notified of test results prior to finalization of transfer.

i. Well Yield and Water System Design:

i. Before approval, every well shall be pump tested to determine yield. The pump test shall include a drawdown test at a minimum pumping rate of 5 gallons per minute for one (1) hour.

j. Submission of Well Water Test Results:

i. Prior to issuance of a Certificate of Approval for well water intended for human consumption, the results of all water quality and yield tests shall be submitted to the Board of Health. The owner of the property, which the well will serve, or the well driller, acting as agent for the owner, shall certify, on a form provided by the Board of Health, the following:

a. The location and date the sample was taken, and the laboratory at which it was analyzed.

b. That the water sample whose analysis results were submitted to the Board of Health was taken from the well for which approval is being sought.

8. WELL APPROVAL:

a. New wells shall not be placed into use for human consumption until the Board of Health has approved the potability and quantity of the water provided and issued a Certificate of Approval for the well to the owner of the property which the well serves.

b. A Certificate of Approval for a well will not be issued until:

i. The well water has been shown to meet the water quality criteria outlined in the regulations, and/or has been certified fit for human consumption by a state certified testing lab.

ii. The capacity of the water system in gallons per minute, has been demonstrated to equal the number of fixture units installed.

iii. For wells installed at newly constructed buildings, the Board of Health shall require that a certified as built plot plan, drawn by a qualified Professional be submitted to the Board of Health. Such plot plan must show the actual location of the well on the lot as cross tie distances from lot corners, and must show the location of the septic system, as installed, in relation to the well. The plot plan

must also identify, by assessors map, parcel and lot number, the property on which the well is located.

iv. Wells which fail to meet some or all of the requirements in these regulations may be approved by the Board of Health after a hearing at which a variance from these standards may be granted.

9. VARIANCE AND ENFORCEMENT PROCEDURES:

a. The Board of Health may vary the application of any provision of this article with respect to any particular case when, in its opinion, the enforcement thereof would do manifest injustice; provided that the decision of the Board of Health shall not conflict with the spirit of these minimum standards, nor with the protection of human health and environmental quality.

b. Every request for a variance shall be made in writing and shall state the specific variance requested and the reasons therefore. Any variance granted by the Board of Health shall be in writing.

SECTION III: HUMAN HABITATION

A. RENTAL OF PREMISES TO BE USED FOR HUMAN HABITATION[11]

In order to protect the health, safety and well being of the occupants of the housing and the general public the Eastham Board of Health adopts the following regulations.

1. No person shall rent or lease, or offer to rent or lease, any building or any portion of a building to be used for human habitation without first registering with the Board of Health, which shall determine the number of persons such building or portion of a building may lawfully accommodate under the provisions of the Massachusetts State Sanitary Code, and without first also conspicuously posting within such building or portion of a building a Certificate of Registration provided by the Board of Health specifying the number of persons such building or portion of a building may lawfully accommodate.

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[11] Adopted April 6, 1988
Revised July 20, 2001
Effective July 27, 2001
Revised May 26, 2005
Effective July 1, 2005
Revised December 29, 2011
Effective December 29, 2011

2. No tenant shall lease, rent or occupy any building or any portion of a building subject to the provision of this chapter if, at the time of such lease, rental or occupancy, the number of persons occupying such building or portion of a building exceeds the number of persons authorized to occupy such building or portion of a building, by a Certificate of Registration if issued and posted, or, if no Certificate of Registration is issued or posted, the number of persons that may be lawfully accommodated as determined by the Board of Health, under the Massachusetts State Sanitary Code.

3. There shall be a fee to be set by Board of Selectmen to procure a Certificate of Registration which shall be valid for one (1) year or to December 31st of each year, whichever is sooner. Thereafter, the Certificate of Registration shall be renewed annually to be set by the Board of Selectmen, conditional on Board of Health receipt of annual potable water test results tested by certified laboratory.

4. Any Certificate of Registration issued under this Chapter shall be revoked if, at any time, the granting authorities are satisfied that the building or portion of the building does not meet the requirements of 105 CMR 410.000: State Sanitary Code, Chapter II, Minimum Standards of Fitness for Human Habitation, and relevant Town of Eastham By-Laws and Regulations as to the building structure itself and those persons residing therein or staying overnight. The granting authority may suspend and make inoperative, for such period of time as they may deem proper, the Certificate mentioned herein for any cause deemed satisfactory to them. The revocation and suspension shall not be made until after investigation and a hearing or after giving the Certificate holder an opportunity to be heard. Notice of the hearing shall be delivered to the holder not less than three (3) days before the time of said hearing.

5. Any violation of any provision of this regulation shall be punishable by a fine consisting of three hundred ($300.00) dollars for each day existing.

6. This regulation shall not apply to boarding and lodging houses or motels licensed under Chapter 140, Section 23 of the General Laws or establishments licensed under Chapter 140, Section 2 of the General Laws.

7. This may be enforced by Eastham Police Officer, Health Agent, or other designee.

SECTION IV: FUEL STORAGE SYSTEMS[12]

Whereas, leaking fuel storage systems pose an immediate and serious threat to Cape Cod's sole source aquifer, and,

Whereas, the Town of Eastham does not have records to locate all such systems installed within the Town,

Therefore, under Chapter 111, Section 31, of the Massachusetts General Laws, the Eastham Board of Health hereby adopts the following revised regulation to protect the ground and surface waters from contamination with liquid toxic or hazardous materials.

A. DEFINITIONS:

Toxic or hazardous materials - all liquid hydrocarbon products including, but not limited to gasoline, radioactive materials or other substance controlled as being toxic or hazardous by the Division of Hazardous Waste of the Commonwealth of Massachusetts, under the provisions of Massachusetts General Laws, Chapter 21C,k Section 1, et. Seq.

Above Ground Tank - any tank located above the ground to store fuel oil for the purpose of heating.

B. REGULATIONS

The following regulations apply to all toxic or hazardous material storage systems:

1. Installation of Fuel Storage Tanks (UST):

   a. Following the effective date of this regulation, the installation of all underground fuel, gasoline or other chemical storage tanks shall conform with the following criteria: In that the United States Environmental Protection Agency designated the Town of Eastham as overlying a sole source aquifer, secondary containment of tank and piping and an approved in-tank or interstitial space monitoring system shall be required for new or replacement tanks.

   b. Following the effective date of this regulation, all tanks installed above ground outside shall be of material approved for outside use.

[12] Approved: September 1, 1989
Revised: December 19, 2002
Effective: January 31, 2003

C. TANK REGULATIONS:

The following regulations shall apply to:

1. All underground tanks containing toxic or hazardous materials as defined above which are not currently regulated under 527 CMR 9.24 - Tanks and Contains, to all tanks containing fuel oil, hose contents are used exclusively for consumption on the premises, and to farm and residential tanks of 1,100 gallon capacity, or less, used for storing motor fuel for non-commercial purposes.

2. Owners shall file with the Board of Health or the Fire Department, before January 1, 1990, the size, type, age and location of each tank, and the type of fuel or chemical stored in them. Evidence of date of purchase and installation, including fire department permit, if any, shall be included along with a sketch map showing the location of such tanks on the property. Upon registering the tank with the Board of Health or Fire Department, the tank owner will receive a permanent metal or plastic tag, embossed with a registration number unique to that tank. This registration tag must be affixed to the fill pipe or in such a location as to be visible to any distributor when filling the tank and to any inspector authorized by the Town.

3. Effective January 1, 1990, every petroleum and other chemical distributor, when filling an underground storage tank, shall note on the invoice or bill for the product delivered, the registration number appearing on the tag affixed to the tank which was filled. Every petroleum and other chemical distributor shall notify the Board of Health or Fire Department of the existence and location of any unregistered or untagged tank which they are requested to fill. Such notification must be completed within two (2) working days of the time the distributor discovers that the tank registration tag is not present.

4. Prior to the sale of a property containing an underground storage tank, the Fire Department must receive from the current owner a change of ownership form for the registration of the underground storage tank. Such form can be obtained from the Fire Department.

D. TESTING:

The tank owner shall have each tank and its piping tested for tightness at the ages of 10, 13, 15, 17, 19, 20 years and annually thereafter. A tank shall be tested by any final or precision test, not involving air pressure, that can accurately detect a leak of 0.05 gal/hr, after adjustment for relevant variables, such as temperature change and tank end deflection, or by any other testing system approved by the Board of Health or Fire Department, as providing equivalent safety and effectiveness. Piping shall be tested hydrostatically to 150 percent of

the maximum anticipated pressure of the system. Certification of the testing shall be submitted to the Board of Health or the Fire Department by the owner, at the owner's expense. Those tanks subject to the testing requirements of this regulation shall submit the certification of testing to the Board of Health or the Fire Department, by January 1, 1990. Tanks which are currently tested under the provisions of 527 CMR 9.18 are exempt from this section. For purposes of this section, tanks of unknown age are assumed to be 20 years of age.

E. INSTALLATION/MAINTENANCE OF HEATING FUEL STORAGE SYSTEM:

1. Following the effective date of this regulation all underground fuel oil storage tanks shall be prohibited within the Town of Eastham.

2. All new construction where above ground fuel oil storage tanks (inside and outside) are installed shall be required to provide 110% containment capacity to prevent contamination from leaks that may occur. Exterior fuel oil storage tanks must be covered with substantial impermeable construction material to prevent water accumulation within the containment in such a way that it satisfies the Board of Health and the Fire Department. The area beneath the exterior shall be 4 inch thick continuous concrete slab. Double walled fuel oil storage tanks could be substituted for containment devices. The fuel oil storage tank or containment device must be approved by the Fire Department before installation occurs.

3. At time of property transfer all AGT's shall be required to be replaced with double walled fuel oil storage tanks or shall be required to provide 110% containment capacity to prevent contamination from leaks that may occur. Exterior fuel oil storage tanks must be covered with substantial impermeable construction material to prevent water accumulation within containment in such a way that it satisfies the Board of Health and the Fire Department. The area beneath the exterior tank shall be 4 inch thick continuous concrete slab. All above-ground elements of a fuel storage system shall be maintained free of leaks and visible rust.

4. All underground fuel copper lines which do not have secondary containment shall be replaced with an approved double-containment system at which time any service to the system requiring a permit is performed or whenever property ownership is transferred if lines are underground including basement foundations.

5. All in-tank or interstitial-space monitoring systems shall be checked on a monthly basis to verify system integrity.

F. REPORT OF LEAKS OR SPILLS:

Any person who is aware of a spill, loss of product, or unaccounted for increase in the consumption which may indicate a leak shall report such spill, loss or increase immediately to the head of the Fire Department and to the Board of Health.

G. TANK REMOVAL:

1. All fuel, gasoline or other chemical tanks not regulated under 527 CMR 9.00 (farm or residential tanks of 1,000 gallons or less and underground tanks storing fuel for consumptive use at the property) in service on the effective date of this regulation, shall be removed thirty (30) years after the date of installation. If the date of installation is unknown, the tank shall be assumed to be twenty years old. All underground storage tanks currently subject to the removal regulations (30 years or older) must be removed by July 1, 1990.

2. Prior to the removal of an underground storage tank governed by this regulation, the owner shall first obtain a permit from the head of the Fire Department pursuant to M.G.L., C. 148.

3. Any person granted a permit by the State Fire Marshal or the head of a local Fire Department to remove a tank under the provisions of M.G.L., C.148 or 527 CMR 9.00 shall within 72 hours provide the permit granting authority with a receipt for delivery of said tank to the site designated on the permit.

4. Before any person is granted a permit by the Marshal or the head of a local fire department to remove a tank under the provisions of M.G.L., C. 148 or 527 CMR 9.00, and said tank is not being transported to an approved tank yard, the person requesting the permit shall provide the permit-granting authority with written approval from the owner/manager of the disposal site. (Reference: 502 3.00 for tank removal and disposal procedure).

H. COSTS:

In every case, the owner shall assume the responsibility for costs incurred necessary to comply with this regulation.

I. VARIANCES:

1. Variances from this regulation may be granted by the Board of Health after a hearing

at which the applicant establishes the following:

a. the enforcement thereof would do manifest injustice; and

b. installation or use of an underground storage tank will not adversely affect public or private water resources. In granting a variance, the Board will take into consideration the direction of the ground water flow, soil conditions, depth to ground water, size, shape and slope of the lot, and existing and known future water supplies.

c. Existing above ground tank is less than 10 years of age, has been inspected and has been certified to be in full compliance with current regulations. At age 10 years of age the single walled tank would be required to be replaced with a double walled tank to provide 110% containment.

J. ENFORCEMENT:

Any owner or operator who violates any provision of this regulation shall be subject to the penalties provided under MGL C. 111 S. 31, as amended. Each day during which such violation continues shall constitute a separate offense. Upon request of the Chief of the Fire Department or the Board of Health, the licensing authority shall take any legal action as may be necessary to enforce the provisions of this regulation.

K. SEVERABILITY:

Provisions of this regulation are severable and if any provision hereof shall be held invalid under any circumstances, such invalidity shall not affect any other provisions or circumstances.

L. REVOCATION:

Eastham Board of Health regulation “Adoption of Health Regulation to Prevent Leaking of Underground Fuel and Chemical Storage Systems” dated January 20, 1980, is hereby rescinded.

M. EFFECTIVE DATE:

This regulation shall become effective upon publication.

SECTION V: SMALL WASTEWATER TREATMENT FACILITY[13]

A. DISPOSAL OF SLUDGE AND SOLIDS

Provisions for final or ultimate disposal of sludge and solids shall be in a manner approved by the Board of Health, prior to the issuance of any Board of Health permit. The estimated quantity must be stated. If sludge and solids are to be disposed of off-site, the final destination must be established prior to issuance of any permit. The applicant must demonstrate, to the satisfaction of the Board of Health, that the destination for the sludge and solids is in compliance with all applicable federal, state and local regulations and also that it will reliably be available for such purpose for the length of time that its use is required by the SWWTP. On-site dewatering of sludge is prohibited.

B. TREATMENT PLAN RELIABILITY:

The SWWTP shall be planned and designed so as to provide maximum reliability at all times. The facility shall be capable of operating satisfactorily during power failures, reduced power periods, peak loads, flooding, equipment failure and maintenance shutdowns.

The Board of Health shall receive a written certification from the engineer and/or equipment supplier that the SWWTP is capable of meeting all effluent limits.

Following completion of the SWWTP the manufacturer shall review and certify in writing to the Board of Health that the equipment installed is capable of providing the treatment level required.

Multiple units or dual compartments with unit drains shall be required for all processed, including disinfection facilities so that draining, cleaning, repairing, replacing or other maintenance can be provided without omitting any treatment processed in zones of contributions, recharge or watershed areas, or other sensitive areas as determined by the Board of Health.

C. STAND-BY POWER

The SWWTP must be constructed with a stand-by generator with an automatic transfer switch to minimize down-time during a power outage when the operator may not be able to reach the plant at the time the outage occurs. The generator must be sized to power any

[13] Adopted August 30, 1989
Effective September 8, 1989

remote pump stations tributary to the plant, or a portable pump must be provided.

D. ALARMS

All alarm functions shall be wired to a bell or horn and light at a continually monitored manned location. The alarm shall be wired to remain on until the problem is corrected.

E. INTERIOR LAYOUT

Sufficient space must be provided for an on-site laboratory large enough to conduct routine analyses not contracted for with a private laboratory. Plant design shall allow for easy equipment removal if necessary and large items need to be removed for repair/replacement. Sufficient space must be provided around all process units to facilitate access for maintenance purposes. Additional space will be provided for the possibility of expanded wastewater flow and/or the need for treatment upgrading at any future time.

F. BY-PASSES AND OVERFLOWS

No by-passes, either upstream of or at the SWWTP shall be permitted.

G. DISINFECTION

The SWWTP must be designed and constructed to allow for the disinfection of the SWWTP) effluent by ultraviolet irradiation or ozonation. The use of disinfection equipment shall be determined by the Board of Health.

H. MOISTURE CONTROL

The SWWTP must be provided with adequate ventilation and plans for the facility must fully address this issue.

I. ODOR CONTROL

The SWWTP must be designed and constructed to per second at 75 percent of the estimated peak discharge. For low service connection areas, peak flow rate shall be calculated by the fixture unit method as described in MOP #9. The minimum pipe size allowed shall be eight (8) inches in diameter.

J. GROUND WATER MONITORS

1. INSTALLATION

i. The permitee shall install, at a minimum, ground water monitoring wells in accordance with the following:

ii. One up-gradient cluster of three monitoring wells.

iii. Two down-gradient clusters of three monitoring wells each.

iv. One monitoring well for ground water level only near the center of the leaching works.

v. Screen depths for the cluster wells shall be set at elevations such that at least two screen depths will yield samples at time of seasonal low ground water (e.g. September sampling period).

vi. Such locations shall be approved by the Board of Health and as indicated appropriate from the results of the hydro geological investigation. Monitor wells shall be installed and in place prior to issuance of the CERTIFICATE OF COMPLIANCE AND ANNUAL OPERATIONS PERMIT. Additional monitoring wells or requirements may be required at the discretion of the Board of Health.

vii. Monitoring shall begin one year before the start-up of the SWWTP to give background information on the groundwater quality. All parameters in Section 6.12 shall be analyzed once during the year and those parameters listed as Daily, Weekly or Monthly in Section 6.12 shall be analyzed quarterly.

2. Ground Water Elevation

The permitee shall determine and provide the Board of Health, in continuous graph form, with elevations of the water table to the nearest one-hundredth of a foot in all monitor wells on a monthly basis, along with the current separation distance between the bottom of the leaching facility and the water table.

K. EFFLUENT LIMITS AND TESTING REQUIREMENTS

Effluent limitations shall be required by DEP regulations for Class I ground waters. All

ground waters are considered to be in this classification unless proved to be otherwise following procedures set forth by DEP. However, in no case shall the SWWTP effluent have nitrogen concentration greater than forty (40) PPM total Kjeldahl nitrogen; nor shall the total annual Kjeldahl nitrogen of the effluent exceed forty (40) pounds per acre served (total area of all lots served by the SWWTP), or 18.2 kilograms Kjeldahl nitrogen per acre served.

1. Wastewater

2. Treatment Plant Effluent

Test Frequency	**Parameters**
Daily	Flow, Specific Conductance, pH
Weekly	5-day Biochemical Oxygen Demand (BOD), Total Suspended Solids, Coliform Bacteria, Fecal Coliform Bacteria
Monthly	Total Kjeldahl Nitrogen, Ammonia Nitrogen, Nitrate Nitrogen, Total Dissolved Solids, Solids
Semi-Annually	Oil and Grease, Volatile Organic Compounds (USEPA-624)
Annually	Arsenic, Copper Silver, Barium, Chromium Zinc, Cadmium, Mercury Lead, Selenium, Fluoride, Total Trihalomethanes
Five Years	Pesticides, Radioactivity

All sampling and analyses, except for the daily and weekly frequency tests which will commence at the time of plant startup shall be performed initially at sixty (60) days after plant startup and at the stated frequency thereafter.

3. Ground Water Monitor Wells

Monitor well testing in the up gradient and down gradient wells shall be performed semi-annually in the months of April and September for all parameters designated above as semi-annually, monthly, weekly o daily. Testing for other parameters shall occur during the month of April at the stated frequency.

On an annual basis, the Board of Health, or upon written request from the permitee, may review the sampling frequency and the tested parameters and may modify either or both if it deems it necessary.

L. OPERATION

1. OPERATOR

A Certified Waste Water Treatment Plant Operator having the grade appropriate for the plant shall be retained by the permitee. Such operator shall spend a minimum of three (3) hours per day at the plant. When conditions warrant as may be determined by the Board of Health, additional hours shall be required. Such operator shall be designated as the Chief Operator and shall be responsible for the operation of the SWWTP. The Board of Health shall receive a copy of the responsible party's contract with the operator.

2. BACK-UP OPERATOR

A second Certified Waste Water Treatment Plant Operator having the grade appropriate for the plant shall be retained by the permitee. Such operator shall spend a minimum of three (3) hours per day at the plant. When conditions warrant as may be determined by the Board of Health, additional hours shall be required. Such operator shall be designated as the Chief Operator and shall be responsible for the operation of the SWWTP. The Board of Health shall receive a copy of the responsible party's contract with the operator.

A second Certified Waste Water Treatment Plant Operator, having the same grade as the Chief Operator shall be available in the absence of the Chief Operator. The Board of Health shall receive a copy of the responsible party's contract with the back-up operator.

M. SEVERABILITY

If any part or portions of these regulations be adjudicated as invalid, the adjudication shall apply only to the material so adjudged, and the remaining Rules and Regulations shall be deemed valid and in full force and effect.

SECTION VI: BOARD OF HEALTH REGULATION ON THE CONTENT AND APPLICATION OF FERTILIZER TO TURF IN THE TOWN OF EASTHAM[14]

A. PURPOSES

Mounting evidence supports the claim that excessive nutrient enrichment of the region's

[14] Adopted November 20, 2014

groundwater's and surface waters may have significant public health impact. Direct effects on drinking water sources are well known and include the increased concentrations of nitrogen to levels that can violate the Safe Drinking Water Standards. The indirect public health effects through surface water enrichment from nitrogen and phosphorus can be equally unhealthy, and may lead to environmental and ecological alterations, resulting in toxic algae blooms and the proliferation of human and animal disease organisms involving bacterial, fungal, myxozoa and insect vector pathogens.

The Board of Health has determined that excessive, inappropriate or improper use of fertilizers is part of the overall problem of nutrient enrichment, and therefore promulgates the following regulation, regarding the use of fertilizer on turf. This regulation incorporates current Best Management Practices which are deemed essential in this effort to protect the public health and aid in achieving compliance with the Total Daily Maximum Loads (TMDL) for the Towns water resources prescribed by the Commonwealth of Massachusetts while allowing reasonable use of fertilizers for the enhancement of turf quality.

B. APPLICABILITY

1. It is, therefore, desirable to control by regulation and education, in the Town of Eastham, the use of fertilizer that contains phosphorus and nitrogen for the purposes set out herein.

2. This Regulation is not intended to eliminate the use of fertilizer but only to eliminate excess amounts of phosphorus and nitrogen from reaching our water bodies and groundwater. This Regulation adopts the BEST MANAGEMENT PRACTICES as the required operating procedures for turf management throughout the Town.

3. This Regulation shall apply to turf management practices only.

C. AUTHORITY

1. This Regulation is adopted by the Town of Eastham's Board of Health as authorized by Massachusetts General Laws, Chapter 111, Section 31, and is further authorized as Implementing Regulations pursuant to the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07, and by Section 9 of Chapter 262 of the Acts of 2012.

D. DEFINITIONS

For the purposes of this Regulation, the following words shall have the following meanings unless the context clearly indicates a different meaning:

Agriculture/ Agricultural Use - farming in all of its branches including the cultivation and tillage of the soil, the production, cultivation, growing, and harvesting of any agricultural, floricultural or horticultural commodities, including but not limited to cranberries.

Best Management Practice or BMP - a sequence of activities designed to limit a nonpoint pollution source as conforming to the most current edition of "Best Management Practices for Soil and Nutrient Management in Turf Systems," prepared by University of Massachusetts Extension, Center for Agriculture, Turf Program.

Compost - the biologically stable humus-like material derived from composting, or the aerobic, thermophilic decomposition of, organic matter, which is applied as a fertility source (also referred to as enhancement or conditioning) for turf.

Eastham - is the Town and all of its waters.

Fertilizer - a substance that enriches turf with elements essential for plant growth, such as nitrogen, phosphorus, or other substances; fertilizer hereunder does not include dolomite, limestone, or lime, grass clippings, compost or compost tea.

Fertilize, fertilizing, or fertilization - the act of applying fertilizer to turf.

Fertilizer Applicator - any person who applies fertilizer to turf and soils.

Groundwater - water found in cracks, fissures and pore spaces in the saturated zone below the ground surface, including but not limited to perched groundwater.

Impervious surface - a surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water, except for compacted areas on athletic fields such as clay or baseball infields, intensely trafficked turf and the like.

Landscaping - establishment (including by sod, seeding, or transplanting), renovation, maintenance, management or fertilization of turf.

Nutrient - any of the following 17 elements needed for growth of a plant; the three (3) non-mineral elements: carbon, hydrogen, and oxygen; the six (6) macronutrients: nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur; and the eight (8) micronutrients: boron, copper, iron, chloride, manganese, molybdenum, nickel and zinc.

Slow-release, controlled-release, timed-release, or slowly soluble/ available nitrogen - nitrogen in a form that delays its availability for uptake and use after application, and is not rapidly available to turf.

Soil - the upper-most layer of the earth's surface, comprised of mineral and organic matter, which can host biological communities.

Soil test - a technical analysis of soil conducted by a soil testing laboratory that uses standards recommended by and compliant with the University of Massachusetts Amherst Extension Program BMPs, including a Modified Morgan soil testing procedure and extractable nutrient values.

Turf - grass-covered soil held together by the roots of the grass, also known as "sod" or "lawn."

Waters or Water-bodies - include, but are not limited to, streams, including intermittent streams, creeks, rivers, freshwater and tidal wetlands, ponds, lakes, marine waters, canals, lagoons, and estuaries within the Town, including without limitation all waters defined in Massachusetts General Laws Chapter 131, Section 40 and Town Wetland By-law or Regulation with the exception of the following: coastal and inland banks, beaches, coastal dunes, dune fields, and lands subject to coastal storm flowage, inland or coastal flooding or inundation, or within 100 feet of the hundred-year storm line.

E. STANDARDS OF PERFORMANCE

1. BEST MANAGEMENT PRACTICES

The Best Management Practices ("BMP***"),*** see Appendix 1, is hereby incorporated into and made part of this Regulation.

2. PERFORMANCE STANDARDS FOR FERTILIZER APPLICATION

a. Fertilizer shall not be applied during or immediately prior to predicted heavy rainfall, such as but not limited to thunderstorms, hurricanes, or northeastern storms, or when the soil is saturated due to intense or extended rainfall;

b. Neither fertilizer nor compost shall be applied between November 12 and the following April 14;

c. Fertilizer Applicators shall not apply, spill, or deposit fertilizer on any impervious surface and fail to remove the applied, spilled, or deposited fertilizer immediately

(and in which case the Applicator shall then either contain, dispose of legally or apply the fertilizer as allowed), and shall not apply, spill or deposit fertilizer in a manner that allows fertilizer to enter into storm drains or water bodies or nearby properties;

d. Unless the Town's By-laws, including its Wetland By-law or Regulations, contain a stricter standard, or other enforcement or approval mechanism such as through the Town's Conservation Commission, which shall control, fertilizer shall not be applied closer than 100 feet to any water-body, or within the Zone of Contribution to a public drinking well unless permission is obtained through the enforcement authority set out herein allowing such activity.

e. Fertilizer that contains phosphorus shall not be applied unless a soil test taken not more than 36 months before the proposed fertilizer application indicates that additional phosphorus is needed for growth of that turf, or unless establishing new turf or re-establishing or repairing turf after substantial damage or land disturbance, in which case the application shall be in compliance with the BMP.

f. A single application of fertilizer that contains nitrogen shall not exceed 1.0 pound of actual nitrogen per thousand square feet, shall consist of at least 20% slow-release nitrogen fertilizer and the annual rate per 12 month period shall not exceed 3.2 pounds of actual nitrogen per thousand square feet. Single applications may be done at intervals of no less than four weeks until the annual maximum is reached.

g. The fertilizer application requirements of this Section 2.b shall apply with the same limitations to combination products, i.e. amount of nitrogen and phosphorus

3. EXEMPTIONS

The following activities shall be exempt from this Regulation:

a. Application of fertilizer for Agriculture/ Agricultural Use.

b. Application of fertilizer to home gardens, landscape ornamentals, shrubs, trees bushes, vegetables, fruit and container plants.

c. Application of mulch exempted

F. EDUCATION

1. The Town may rely on the Cape Cod Cooperative Extension to assist in maintaining a program of fertilizer education that is based on the BMP.

2. Fertilizer education may consist of, but is not limited to, collaboration with retailers to post in-store information on town fertilizer regulations; mailings and flyers for the general public concerning town fertilizer regulations, and other public educational efforts the BOH, from time to time, deems appropriate.

G. ENFORCEMENT, PENALTIES, VARIANCE/APPEAL

1. ENFORCEMENT AND PENALTIES:

The Board of Health, through the Health Agent, Assistant Health Agent, or other enforcing officer or official designated by Board of Health, may enforce this Regulation and address violations thereof through any lawful process:

a. First offense a WARNING, shall be issued,

b. ***Second*** offense a fine of no more than $100.00 (one hundred dollars)

c. Third offense and subsequent violations a fine of $300.00 (three hundred dollars) per day may be imposed

2. VARIANCE/APPEALS

a. Variance

A request for variance to any part of this regulation may be made directly to the Board of Health. A variance may be granted when in the opinion of the Board of Health the public and environmental health will not be compromised. The applicant must provide a written request to appear at a Board of Health Meeting and provide an opportunity to provide information on why a variance should be granted that would provide equal protection to public health and the environment.

b. Appeal

Under Section 31 of Massachusetts General Law c. 111 any person or persons

aggrieved by a Board of Health Order may request a hearing before the Board of Health by filing a written request within seven (7) days of receiving the Order. At the hearing the petitioner will have an opportunity to be heard and to show why an order should be modified or reconsidered. Any person aggrieved by final order of the Board of Health may seek relief there from within thirty (30) days in Barnstable Superior Court, as provided by the laws of the Commonwealth.

H. SEVERABILITY CLAUSE

Should any section, part or provision of this Regulation be deemed invalid by a court of competent jurisdiction, such decision shall not affect the validity of the remaining terms of this Regulation as a whole or any part thereof, other than the section, part or provision held invalid, which shall remain in full force and effect.

I. AMENDMENTS

Under Section 31 of Massachusetts General Law c. 111 no amendment to this Regulation shall be adopted until such time as the Board of Health shall hold a public hearing thereon, notice of the time, place and subject matter of which, sufficient for identification, shall be given by publishing in a newspaper of general circulation in the Town once in each of two successive weeks, the first publication to be not less than fourteen days prior to the date set for such hearing.

No such amendment shall be effective unless the proposed amendment has been reviewed and approved by the Board of Health.

Amendments shall also be subject to the procedures set out in Sections 10 and 11 of the Cape Cod Commission Act, Chapter 716 of the Acts of 1989, as amended. Specifically, amendments must also be consistent with the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07 and the Guidelines for Implementing Regulations set out therein, including the requirement for consistency with the BMP.

J. EFFECTIVE DATE

The effective date of this Regulation shall be the publication date pursuant to G.L. c. 111, §31, provided the Regulation has been certified by the Cape Cod Commission as consistent with the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07.

SECTION VII: CONTROL OF TOXIC AND HAZARDOUS MATERIAL[15]

A. FINDINGS

The Town of Eastham finds that:

1. The groundwater underlying this town is the sole source of its existing and future water supply including drinking water.

2. The groundwater aquifer is integrally connected with, and flows into, the surface waters, lakes, streams and coastal estuaries which constitute significant recreational and economic resources of the town used for bathing and other water-related recreation, shellfishing and fishing.

3. Accidental spills and discharges of petroleum products and other toxic and hazardous materials have repeatedly threatened the quality of such groundwater supplies and related water resources on Cape Cod and in other Massachusetts towns, posing potential public health and safety hazards and threatening economic losses to the affected communities.

4. Unless preventive measures are adopted to prohibit discharge of toxic and hazardous materials and to control their storage within the town, further spills and discharges of such materials will predictably occur, and with greater frequency and degree of hazard by reason of increasing construction, commercial, and industrial development, population, and vehicular traffic in the Town of Eastham and on Cape Cod.

5. The foregoing conclusions are confirmed by findings set forth in the Environmental Impact Statement and Water-Quality-Management Plan for Cape Cod (September 1978), prepared by the Cape Cod Planning and Economic Development Commission pursuant to Section 208 of the Federal Clean Waters Act; by the report entitled Chemical Contamination (September 1979), prepared by the Special Legislative Commission on Water Supply, Commonwealth of Massachusetts; and by the report, "Chemical Quality of Ground Water, Cape Cod, Massachusetts", (1979) prepared by the U. S. Geological Survey.

[15] Adopted Special Town Meeting - October 1981
Approved by Attorney General - January, 1982

B. AUTHORITY

The Town of Eastham adopts the following measures under its home rule powers to protect the public health and welfare, and its authorization under Chapter 40, M.G.L.S. 21.

C. DEFINITIONS:

Discharge - the accidental or intentional spilling, leaking, pumping, emitting, emptying or dumping of toxic or hazardous material upon or into any land or waters of the Town of Eastham. Discharge includes, without limitation, leakage of such materials from failed or discarded containers or storage systems, and disposal of such materials into any on-site sewage disposal system, drywell, catch basin or unapproved landfill. The term, "discharge" as used and applied in this By- law, does not include the following:

1. Proper disposal of any material in a sanitary or industrial landfill that has received and maintained all necessary legal approvals for that purpose;

2. Application of road salts in conformance with the Snow and Ice Control Program of the Massachusetts Department of Public Works; and

3. Application of road salts in conformance with the Snow and Ice Control Program of the Massachusetts Department of Public Works, and

4. Disposal of "sanitary sewage" to subsurface sewage disposal systems as defined and permitted by Title 5 of the Massachusetts Environmental Code.

Toxic and hazardous material - any substance or mixture of such physical, chemical of infectious characteristics as to pose, in the Board of Health's judgment, a significant actual or potential hazard to water supplies, or other hazard to human health, if such substance or mixture were discharged to land or waters of this Town. "Toxic or hazardous materials" include, without limitation, organic chemicals, petroleum products, heavy metals, radioactive or infectious wastes, acids and alkaline, and include products such as pesticides, herbicides, solvents and thinners. Wastes generated by the following activities, without limitation, are presumed to be toxic or hazardous, unless and except to the extent that anyone engaging in such an activity can demonstrate the contrary to the satisfaction of the Board of Health:

1. Airplane, boat and motor vehicle service and repair
2. Chemical and bacteriological laboratory operation

3. Cabinet making
4. Dry cleaning
5. Electric circuit assembly
6. Metal plating, finishing and polishing
7. Motor and machinery service and assembly
8. Painting, wood preserving and furniture stripping
9. Pesticide and herbicide application
10. Photographic processing
11. Printing

D. PROHIBITIONS

1. The discharge of toxic or hazardous materials upon the ground or into any surface or ground waters within the Town of Eastham is prohibited.

2. Outdoor storage of toxic or hazardous materials is prohibited, except in product-tight containers which are protected from the elements, leakage, accidental damage and vandalism, and which are stored in accordance with all applicable requirements of Section E of the By-Law. For purposes of this subsection, road salts and fertilizer shall be considered as hazardous materials.

E. STORAGE CONTROLS

1. Except as exempted below, every owner and every operator other than an owner of a site at which toxic or hazardous materials are stored in quantities totaling, at any time, more than 50 gallons liquid volume or 25 pounds dry weight shall register, with the Board of health the types of materials stored, quantities, location and method of storage. The Board of Health may require that an inventory of such materials is maintained on the premises and be reconciled with purchase, use, sales and disposal records on a monthly basis, in order to detect any product loss. Registration required by this subsection shall be submitted within 60 days of enactment of this ordinance, and annually thereafter. Maintenance and reconciliation of inventories shall begin within the same 60 day period.

Exemptions: Registrations and inventory requirements shall not apply to the following:

a. Fuel oil stored in conformance with Massachusetts Fire Prevention Regulations and regulations of the Eastham Board of Health for the purpose of heating buildings located on site; or

b. The storage of toxic and hazardous materials at a single family or two family dwelling except where such materials are stored for use associated with a professional or home occupation use as defined by Section III,, or the Zoning By- Laws of the Town of Eastham.

2. Wastes containing toxic or hazardous materials shall be held on the premises in product-tight containers and shall be removed and disposed of in accordance with the Massachusetts Hazardous Waste Management Act, Chapter 704 of the Acts of 1979.

3. The Board of Health may require that containers of toxic or hazardous materials be stored on an impervious, chemical resistant surface compatible with the material being stored and that provisions be made to contain the product in the case of accidental spillage.

F. REPORT OF SPILLS AND LEAKS

Every person having knowledge of a spill, leak or other loss of toxic or hazardous materials believed to be in excess of 5 pounds dry weight shall report the spill or loss of same to the Board of Health within one hour of detection.

G. ENFORCEMENT

1. The provisions of the By-Law shall be enforced by the Board of Health. The agent of the Board of Health may, according to law, enter upon any premises of any reasonable time to inspect for compliance.

2. Upon request of an agent of the Board of Health, the owner or operator of any premises at which toxic or hazardous materials are used or stored shall furnish all information required to monitor compliance with the By-Law, including a complete list of all chemicals, pesticides, fuels and other toxic or hazardous materials used or stored on the premises, a description of measures taken to protect storage containers from vandalism, corrosion and spillage, and the means of disposal of all toxic or hazardous waste produced on site. A sample of wastewater disposed to on-site septic systems, drywells or sewage treatment systems may be required by the agent of the Board of Health.

3. All records pertaining to storage, removal and disposal of toxic or hazardous wastes shall be retained for no less than three years, and shall be made available for

review by the agent of the Board of Health upon request.

4. The Building Commissioner of the Town of Eastham shall condition issuance of construction and occupancy permits upon conformity with the requirements of this By-Law respecting any toxic or hazardous materials to be used in the course of such construction or occupancy.

H. VIOLATION

Written notice of any violation of this By-Law shall be given by the agent of the Board of Health, specifying the nature of the violation; any corrective measures that must be undertaken, including containment and cleanup of discharged materials; any preventative measures required for avoiding future violations; and a time for compliance. Requirements specified in such notice shall be reasonable in relation to the public health hazard involved and the difficulty of compliance. The cost of containment and cleanup shall be borne by the owner and operator of the premises.

I. PENALTY

Penalty for failure to comply with any provisions of this By-Law shall be $200.00 per day of violation.

J. SEVERABILITY

Each provision of this By-Law shall be construed as separate, to the end that if any part of it shall be held invalid for any reason, the remainder shall continue in full force and effect.

SECTION VIII: PLUMBING REGULATIONS[16]

A. PERMIT REQUIRED

Prior to the commencement of work, a permit shall be obtained from the Plumbing Inspector for any plumbing, supply or waste, other than minor repairs to existing plumbing.

Office hours for the Plumbing Inspector are 7:30 a.m. to 8:30 a.m. on Tuesday and Thursday except on legal holidays.

[16] Effective August 15, 1996 and amended to date

B. APPLICATION FOR PERMIT

Application for permits shall be on forms provided. Applicants shall be required to furnish such information regarding the proposed work as the Board of Health may prescribe in addition to any requirements specified under Section A of these regulations.

C. FEE

A Fee must be paid with each application for permit. There shall be an additional fee for all call-back or re-inspections. Current fee schedules are posted in the office of the Selectmen's Clerk and the Building Inspector.

D. INSPECTION

The Plumbing Inspector, or his assistants, shall make all applicable inspections and tests required by the Massachusetts State Plumbing Code and shall notify the Building Inspector when the installation has been approved. The Building Inspector shall not issue a Certificate of Occupancy for any structure until this notification of approval for the structure has been received from the Plumbing Inspector.

E. NOTIFICATION

Two (2) Working days notice is required for inspection.

F. QUALIFICATIONS FOR APPLICANTS

All holders of Massachusetts Journeyman's or Master Plumber's Licenses shall be eligible to obtain plumbing permits.

SECTION IX: TRANSFER STATION AND RECYCLING REGULATIONS[17]

These Regulations provide for the safe and effective operation of the Town of Eastham, Solid Waste Transfer Station to protect human health, and to promote recycling.

A. AUTHORITY

[17] Adopted May 31, 2007
Effective June 1, 2007
Revised July 31, 2014
Effective August 1,2014

The following regulation is adopted pursuant to MGL Chapter 111, Section 21 and 31B. This regulation supplements 310 CMR 19.000, which for enforcement purposes, is adopted by the Town of Eastham, and shall be located in Appendix 2. This regulation shall address:

1. Management of solid waste and recyclable materials, and

2. Transfer Station operational standards.

B. DEFINITION OF TERMS

The definitions set forth in CMR 19.006 are included as Appendix 2 of these regulations.

C. ***USE OF TRANSFER STATION***

1. Eligible for the use of Transfer Station facilities are: Eastham residents, non-resident taxpayers, businesses operating in the Town, and other persons visiting the Town.

   a. Such eligibility shall be evidenced by the purchase of a non-transferable sticker, displayed on all vehicles used for transporting waste to the Transfer Station. Both residents and visitors may also show eligibility by the purchase of single-entry coupons.

   b. Eligibility to purchase stickers shall be based on presentation of a valid registration for the vehicle to be used, and other verification of permanent or temporary residence, such as an address on a tax bill, a lease or seasonal rental agreement.

2. Organizations may conduct cleanup campaigns in Town parks, beaches, roadsides, or other public areas with pre-arrangement of the disposal from such campaigns with the Director of Public Works (DPW).

3. Eligible is the Cape Cod National Seashore after execution of a contract with the Town of Eastham delineating specific terms and conditions for use of the Transfer Station.

4. An annual operating license from the Board of Health is required for vehicles used for the COMMERCIAL collection of waste in the Town of Eastham.

5. A Swap Shop where residents take and leave useful items may be operated by the Recycling Committee under the supervision of the DPW. The removal of items for the

express purpose of resale is prohibited.

D. ***MANAGEMENT OF WASTE MATERIALS***

1. Facilities at the Eastham Transfer Station are operated for the collection and disposal of household and commercial waste generated only within the Town of Eastham unless otherwise directed and authorized by the Board of Health. Access shall be through the paved entry/exit road, during hours of operation only.

2. Waste materials are subject to restrictions that require separation of certain materials from the mass of co-mingled trash.

3. The following materials shall not be disposed of in the transfer station compactors. After Separation, these materials (most of which are recyclable) shall be placed in the receptacles or areas designated to receive them.

a. Ashes from wood and coal stoves
b. Batteries - wet cell, automotive, and rechargeable
c. Bottles and other glass containers (Recyclable)
d. Building and construction - demolition debris
e. Cans and small metal containers - tin, aluminum or bi-metal (Recyclable)
f. Mattresses, fully upholstered furniture, cushions and pillows
g. Metals - both scrap metal and white goods (Recyclable)
h. Newspapers (Recyclable)
I. Oil and Antifreeze - automotive, marine or small engine
j. Plastics- HDPE, milk, water jugs, plastic containers and heavy plastic products
k. Tires - either on or off the rim
1. Yard waste - leaves, grass clippings, brush, etc.
m. Fluorescent bulbs, thermostats, and other items containing mercury
n. Items with refrigerants such as AC units, dehumidifiers, etc.
o. Mixed paper.
p. Cardboard.
q. Containers with coin deposit value.
r. TV sets.
s. Computer related devices.

More specific instructions shall be made available to the public by the Board of Health through periodic distribution of information materials.

4. Single Stream Recycling (SSR) is authorized for Haulers licensed by the Board of Health and SSR material generated outside Eastham may be accepted at the Transfer Station. SSR is a method of collecting recyclable materials in which all items (paper, plastic, and metal/glass containers) are mixed together, rather than being separated by residents. Private refuse haulers that collect recyclable materials typically use this method of recycling. Once collected, SSR materials are transported to a material Recovery Facility (MRF) where they are sorted into categories and sold as a commodity.

5. The following materials are strictly prohibited from the Eastham Transfer Station Site:

a. Explosive materials, corrosive materials, pathological waste, biological waste, offal, entrails, etc. of butchered animals, radioactive materials, ashes, foundry sand, mining waste.

b. Sewage sludge, cesspool and other human waste, human and animal remains motor vehicles.

c. Brush and tree stumps, liquid waste, including liquid chemical waste, sewage and other highly diluted water-carried materials or substances and those in gaseous form, or special nuclear by-product materials within the meaning of the Atomic Energy Act of 1954 was amended, or any other material which:

1. May present a substantial endangerment to public safety or is banned by the Massachusetts Department of Environmental Protection

2. Would cause applicable water quality or water effluent standards to be violated by the normal operation of the project, or

3. Because of its size, durability or composition cannot be processed at the project, may materially impair its structures or equipment or has a reasonable possibility of otherwise adversely affecting the operation of the plant.

d. Special waste shall not be accepted at the Transfer Station at any time. Such wastes include asbestos waste, infectious waste, sewages and water treatment

sludges, and any solid waste not hazardous pursuant to 310 CMR 30.00 and that exists in such quantity or in a chemical or physical state so that particular management controls are required to prevent an adverse impact from the collection, transmission, transfer, storage, processing treatment or disposal of the solid waste.

e. Acceptable wastes, after any required separation and preparation, shall be placed in the compactor bins, or deposited in the areas or receptacles designated for each class of material, as instructed by appropriate signage and/or verbal instruction from Transfer Station employees.

f. Transfer Station employees shall periodically inspect loads of waste materials brought for disposal to ensure compliance with this regulation. Patrons entering the disposal area shall upon request of a Transfer Station attendant, provide proof or answer questions concerning the origin or nature of their waste materials.

g. Transfer Station employees shall keep daily and periodic records of the type of waste received, and of the weights of waste and restricted materials shipped from the Transfer Station. These records will be kept in a manner and form appropriate to the financial and operational management of the Transfer Station, and for use in complying with the Commonwealth's stated waste-reduction goals.

E. SOLID WASTE DISPOSAL FEES

To offset the costs of special handling, processing and transportation at the Transfer Station, fees are charged for the disposal of certain solid-waste items and materials. Fee Schedules are reviewed every year by the Board of Selectmen and the Town Administrator, and after public notice and hearing, are available at the Town Hall and the Transfer Station (The fee schedule will be discussed at the Public Hearing).

F. ***SEVERABILITY, VIOLATIONS AND PENALTIES***

If any Article, regulation, paragraph, sentence, clause or phrase of these regulations shall be declared invalid for any reason whatsoever, that decision shall not affect any other portion of these regulations, which shall remain in full force and effect; and to this end the provisions of these regulations are hereby declared severable.

Violations of the above regulations shall result in warning by written notice. Subsequent violations shall result in the issuance of fines, under MGL Chapter 40,

Section 21.

SECTION X: REGULATION GOVERNING THE PRACTICE OF BODY ART[18]

A. AUTHORITY

This regulation is adopted under the authority of Massachusetts General Law C.111 § 31.

B. PURPOSE AND SCOPE

The purpose of this Regulation is to protect the health, safety, and welfare of the residents of, and the visitors to, the Town of Eastham through the control of infection and the spread of diseases including, but not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). This Regulation protects the public health by prescribing minimal standards for the practice of body art through general sanitation of the premises; proper sterilization of all instruments and equipment; and requiring training in the standard procedures for the prevention of disease transmission. This will ensure that the practice of body art in the Town of Eastham shall be conducted with the highest professional standards.

C. DEFINITIONS

Aftercare - written instructions given to the client, specific to the body art procedure(s) rendered, about caring for the body art and the surrounding area. These instructions will include information about when to seek medical treatment, if necessary.

Bloodborne Pathogens Standard - OSHA Regulation 29 Code of Federal Regulations (CFR) 1910.1030.

Board of Health or Board - the Board of Health of the Town of Eastham

Body Art - the practice of physical body adornment by permitted establishments and practitioners using, but not limited to, the following techniques: body piercing, tattooing, cosmetic tattooing, branding, and scarification. This definition does not include practices that are considered medical procedures by the Board of Registration in Medicine in the Commonwealth, such as implants under the skin, which shall not be performed in a body art

[18] Approved: February 7, 2001
Effective: February 23, 2001

establishment.

Body Art Establishment or Establishment - a specified place or premise that has been granted a permit by the Board, whether public or private, where the practices of body art are performed, whether for profit or not.

Body Art Practitioner or Practitioner - a specified person who has been granted a permit by the Board to perform body art in a Body Art Establishment that has been granted a valid permit by the Board.

Body Piercing - the puncturing or penetration of the skin of a person with pre-sterilized single-use needles and the insertion of pre-sterilized jewelry or other adornment thereto in the opening. This definition includes piercing of the outer perimeter of the ear, but does no include piercing of the earlobe with pre-sterilized single-use stud-and-clasp ear- piercing systems.

Branding - inducing a pattern of scar tissue by use of a heated material (usually metal) to the skin, making a serious burn, which eventually becomes a scar.

Client - any person who has requested a Body Art procedure at a Body Art Establishment.

Contaminated Waste - any liquid, or semi-liquid, blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; sharps and any waste containing blood and other potentially infectious materials, as defined in 29 CFR 1910.1030 (latest edition), known as "Occupational Exposure to Bloodborne Pathogens", or as defined as "infectious or physically dangerous medical or biological waste" in accordance with 105 CMR 480.000: ***STORAGE AND DISPOSAL OF INFECTIOUS OR PHYSICALLY DANGEROUS MEDICAL OR BIOLOGICAL WASTE (STATE SANITARY CODE, CHAPTER VIII)***.

Cosmetic Tattooing - see Tattooing.

Department - the Massachusetts Department of Public Health or its authorized representatives.

Disinfectant - any product registered as a disinfectant by the U.S. Environmental Protection Agency.

Disinfection - the destruction of disease-causing microorganisms on inanimate objects or surfaces, thereby rendering these objects safe for use or handling.

Ear-piercing - the puncturing of the lobe of the ear with a pre-sterilized single-use stud- and-clasp ear-piercing system following the manufacturer's instructions.

Equipment - all machinery, including fixtures, containers, vessels, tools, devices, implements, furniture, display and storage areas, sinks, and all other apparatus and appurtenances used in connection with the operation of a Body Art Establishment.

Hand Sink - a lavatory equipped with hot and cold running water under pressure, used solely for washing hands, arms, or other portions of the body.

Hot Water - water that attains and maintains a temperature of one hundred ten to one hundred thirty degrees Fahrenheit (110□-130□F) or forty-three to fifty-four degrees Celsius (43□-54□C).

Instruments Used For Body Art - hand pieces, needles, needle bars, and other instruments that may come in contact with a client's body or may be exposed to body fluids during body art procedures.

Invasive - the entry into the client's body either by incision or insertion of any instruments into or through the skin or mucosa, or by any other means intended to puncture, break, or otherwise compromise the skin or mucosa.

Jewelry - any personal ornament inserted into a newly pierced area, which must be made of surgical implant-grade stainless steel; solid fourteen karat (14K) or eighteen karat (18K) white or yellow gold, niobium, titanium, or platinum; or dense, low-porosity plastic, which is free of nicks, scratches, or irregular surfaces and has been properly sterilized prior to use.

Minor - any person under the age of eighteen (18) years.

Operator - any person who alone, jointly, or severally with others, owns, has care, charge, or control of any body art establishment as agent or leasee of the owner or as an independent contractor, but is not a body art practitioner.

Permit - approval in writing by the Board either:

a. To operate a body art establishment, or
b. To operate as a body art practitioner within a body art establishment.

Approval is granted in accordance with 105 CMR 124.000 and is separate from any other licensing requirement that may exist within communities or political subdivisions comprising the Board's jurisdiction.

Person - an individual; any form of business or social organization; or any other non-governmental legal entity including, but not limited to, corporations, partnerships, limited-liability companies, associations, trusts, or unincorporated organizations.

Physician - an individual registered by the Board of Registration in Medicine pursuant to Massachusetts General Law C. 112 § 2 as a qualified physician.

Procedure Surface - any surface of an inanimate object that contacts the client's un- clothed body during a body art procedure, skin preparation of the area adjacent to and including the body art procedure, or any associated work area which may require sanitizing.

Sanitization Procedure - a process of reducing the numbers of microorganisms on cleaned surfaces and equipment to a safe level as judged by public health standards and which has been approved by the Department.

Sanitary - clean and free of agents of infection or disease.

Sanitized - effective disinfectant treatment by a process using intermediate disinfectants for enough time to reduce the bacteria count including pathogens to a safe level on semi- critical or non-critical equipment.

Scarification - altering the skin texture by cutting the skin and controlling the body's healing process in order to produce wounds, which result in permanently raised wheals or bumps known as keloids.

Sharps - any object (sterile or contaminated) that may purposefully or accidentally cut or penetrate the skin or mucosa including, but not limited to, needles, needle devices, lancets, scalpel blades, razor blades, and broken glass.

Single Use - products or items that are intended for one-time, one-person use and are disposed of after use on each client, including, but not limited to, cotton swabs or balls,

tissues or paper products, paper or plastic cups, gauze and sanitary coverings, razors, piercing needles, scalpel blades, stencils, ink cups, and protective gloves.

Sterilize - the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Tattoo - the indelible mark, figure, or decorative design introduced by insertion of dyes or pigments into or under the subcutaneous portion of the skin.

Tattooing - any method of placing ink or other pigment into or under the skin or mucosa by the aid of needles or any other instrument used to puncture the skin, resulting in permanent coloration of the skin or mucosa. This term includes all forms of cosmetic tattooing.

Universal Precautions - a set of guidelines and controls, published by the Centers for Disease Control and Prevention (CDC), as "Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-care and Public-Safety Workers" in Morbidity and Mortality Weekly Report (MMWR), June 23, 1989, Volume 38, No. S-6, and as "Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures" in MMWR, July 12, 1991, Volume 40, No. RR-8. This method of infection control requires the employer and employee to assume that all human blood and specified human body fluids are infectious for HIV, HBV, and other blood pathogens. Precautions include hand washing; gloving; personal protective equipment; injury prevention; and proper handling and disposal of needles, other sharp instruments, and blood and body fluid contaminated products.

D. APPLICABILITY

The Regulation shall apply to any person who operates a body art establishment or engages in the practice of body art as herein defined, except:

1. Physicians licensed in accordance with Massachusetts General Law C. 112§ 2 who perform body art procedures as part of patient treatment; and

2. Individuals who pierce only the lobe of the ear with a pre-sterilized single-use stud-and-clasp ear-piercing system.

E. OPERATION OF BODY ART ESTABLISHMENTS

Unless otherwise ordered or approved by the Board, each body art establishment shall be constructed, operated, and maintained to meet the following minimum requirements.

1. Physical Plant

a. All walls, floors, ceilings, and procedure surfaces within the body art establishment shall be smooth, free from open holes or cracks, light-colored, washable, and in good repair. Walls, floors, and ceilings shall be maintained in a clean condition. All procedure surfaces, including client chairs/benches, shall be of such construction as to be easily cleaned and sanitized after each client.

b. All body art establishments shall be completely separated by solid partitions, or by walls extending from floor to ceiling, from any room used for human habitation; any food establishment or room where food is prepared; any hair salon; any retail sales; or any other such activity that may cause potential contamination of work surfaces.

c. Effective measures shall be taken by the body art operator and/or practitioner to protect against entrance into the establishment and against the breeding or presence on the premises of insects, vermin, and rodents. Insects, vermin, and rodents shall not be present in any part of the establishment, its appurtenances, or appertaining premises.

d. There shall be a minimum of forty-five square feet (45 ft^2) of floor space for each practitioner in the establishment. Each establishment shall have an area that may be screened from public view for clients requesting privacy. Multiple body art stations shall be separated by dividers, curtains, or partitions, at a minimum.

e. The establishment shall be well-ventilated and provided with an artificial light source equivalent to at least twenty foot-candles (20 FC) three (3) feet off the floor, except that at least one hundred foot-candles (100 FC) shall be provided at the level where the body art procedure is being performed, and where instruments and sharps are assembled.

f. Separate, readily accessible hand sink with hot and cold running water, under pressure, preferably equipped with wrist- or foot-operated controls and supplied with liquid soap and disposable paper towels, shall be provided within the body art

establishment. One (1) hand sink shall serve no more than three (3) body art practitioners.

g. There shall be a minimum of one (1) lavatory, excluding any service sinks, and one (1) working toilet in a body art establishment.

h. At least one (1) covered waste receptacle shall be provided in each practitioner area and each toilet room. Receptacles in the practitioner area shall be emptied daily, and solid waste shall be removed from the premises at least weekly. All refuse containers shall be lidded, cleanable, and kept clean.

i. All instruments and supplies shall be stored in clean, dry, and covered containers.

j. Practitioners who use ear-piercing systems shall conform to the manufacturer's directions for use and all applicable U.S. Food and Drug Administration (FDA) requirements.

k. Reusable cloth items shall be mechanically washed with detergent and dried after each use. The cloth items shall be stored in a dry, clean environment until used.

2. No animals of any kind shall be allowed in a body art establishment except service animals used by persons with disabilities (e.g., seeing eye dogs). Fish aquariums shall be allowed in waiting rooms and nonprocedural areas.

3. Information to be kept on File

The following information shall be kept on file on the premises of a body art establishment and shall be available for inspection by the Board:

a. Employee information

i. Full names and exact duties
ii. Date of birth
iii. Gender
iv. Home address
v. Home and work phone numbers
vi. Identification photo

b. Establishment information

i. Establishment name;
ii. Hours of operation; and
iii. Owner's name and address.

c. A complete description of all body art procedures performed.

d. Aftercare instructions for all body art procedures performed.

e. An inventory of all instruments and body jewelry, all sharps, and all inks used for any and all body art procedures, including the names of the manufacturers and serial or lot numbers, if applicable. Invoices or orders shall satisfy this requirement.

f. A copy of the Service Agreement for the sterilizer.

g. Copies of all signed and dated Release Forms.

h. A copy of this regulation.

4. It shall be unlawful for any person to perform body art procedures unless such procedures are performed in a body art establishment with a current permit.

5. Each body art practitioner shall be a minimum of eighteen (18) years of age.

6. Each body art practitioner shall perform **all** body art procedures in accordance with Universal Precautions set forth by the U.S. Centers for Disease Control and Prevention.

7. Smoking, eating, or drinking are prohibited in the area where body art procedures are performed.

8. Operators and/or practitioners shall refuse service to any person who, in the opinion of the operator and/or practitioner, is under the influence of alcohol or drugs.

9. The practitioner shall maintain a high degree of personal cleanliness, conform to hygienic practices, and wear clean clothes when performing body art procedures. Before performing body art procedures, the practitioner shall thoroughly wash their hands in hot running water with liquid soap, then rinse hands and dry with disposable paper towels. This shall be done as often as necessary to remove contaminants.

10. In performing body art procedures, the practitioner shall wear disposable single-use gloves. Gloves shall be changed if they become contaminated by contact with any unclean surfaces or objects or by contact with a third person. The gloves shall be discarded, at a minimum, after the completion of each procedure on an individual client, and hands shall be washed before the next set of gloves is donned. Under no circumstances shall a single pair of gloves be used on more than one person. The use of disposable single-use gloves shall not preclude or substitute for hand washing procedures as part of a good personal hygiene program.

11. If, while performing a body art procedure, the practitioner's glove is pierced, torn, or otherwise contaminated, the procedure delineated in Section 9 above shall be repeated immediately. The contaminated gloves shall be immediately discarded and the hands washed thoroughly (see Section 9 above) before a fresh pair of gloves is applied. Any item or instrument used for body art that is contaminated during the procedure shall be discarded and replaced immediately with a new disposable item or new sterilized instrument or item before the procedure resumes.

12. Contaminated waste, as defined in this regulation, that may release liquid blood or body fluids when compressed or may release dried blood or body fluids when handled shall be placed in an approved "red" bag marked with the International Biohazard Symbol. It shall then be disposed in accordance with 105 CMR 480.000: STORAGE AND DISPOSAL OF INFECTIOUS OR PHYSICALLY DANGEROUS MEDICAL OR BIOLOGICAL WASTE (STATE SANITARY CODE, CHAPTER VIII), or, at a minimum, in compliance with 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens."

Used sharps ready for disposal shall be disposed of in approved sharps containers. Contaminated waste that does not release liquid blood or body fluids when compressed or may release dried blood or body fluids when handled may be placed in a covered receptacle and disposed of through normal, approved disposal methods. Storage of contaminated waste on site shall not exceed thirty (30) days, as specified in 29 CFR 1910.1030.

13. No practitioner shall perform any body art procedure upon a client who appears to be under twenty-five (25) years of age without the client presenting a valid State-issued picture identification card or driver's license with an appropriate photograph to confirm that the client is eighteen (18) years of age or older. No practitioner shall perform any body art procedure upon a client under the age of eighteen (18) years without the presence, consent, and proper identification of a parent, legal custodial parent, or legal

guardian. Nothing in this section is intended to require a practitioner to perform any body art procedure on a person under eighteen (18) years of age regardless of parental or guardian consent.

14. The skin of the client shall be free of rash or visible infection. No body art procedure shall be performed upon any client affected with boils, infected wounds, open sores, abrasions, weeping dermatological lesions, or acute respiratory infections.

15. The skin of the practitioner shall be free of rash or infection. No person, operator, or practitioner affected with boils, infected wounds, open sores, abrasions, weeping dermatological lesions, or acute respiratory infection shall work in any area of a body art establishment in any capacity in which there is a likelihood that the person, operator, or practitioner could contaminate body art equipment, supplies, or working surfaces with body substances or pathogenic organisms.

16. Proof shall be provided upon request by the Board that all practitioners in a body art establishment have either completed or were offered and declined, in writing, the Hepatitis B vaccination series. This offering should be included as a pre-employment requirement.

F. ***PUBLIC NOTIFICATION REQUIREMENTS***

1. All establishments shall prominently display, and give to each client, a Disclosure Statement, provided by the Department, which advises the public of the risks and possible consequences of body art procedures.

2. Verbal and written instructions, provided by the Department, for the aftercare of the body art procedure site shall be provided to each client by the operator or practitioner upon completion of the procedure. The written instructions shall contain:

a. Advise on the proper cleansing of the area which received the body art;

b. Advise to consult a health care provider for:

i. Unexpected redness, tenderness, or swelling at the site of the body art procedure
ii. Rash
iii. Any drainage from the site of a tattoo or excessive drainage from the site of

any other body art procedure
iv. Fever within twenty-four (24) hours of the body art procedure.

c. Address and phone number of the establishment.

These documents shall be signed and dated by both parties, with a copy given to the client and the operator and/or practitioner retaining the original with all other required records.

3. The facility permit holder shall also post in public view the address and phone number of the Board and the procedure for filing a complaint.

G. ***CLIENT RECORDS***

1. Prior to performing any body art procedure, the body art practitioner shall request the client to complete the following Release Form, containing the following health information in a "Yes/No" format:

a. History of diabetes
b. History of hemophilia (bleeding)
c. History of skin diseases, skin lesions, or skin sensitivities to soaps, disinfectants
d. History of allergies or adverse reactions to pigments, dyes, or other sensitivities
e. History of epilepsy, seizures, fainting, or narcolepsy
f. The use of medications, such as anticoagulants, which thin the blood and/or interfere with blood clotting
g. Any other pertinent medical information.

2. The Release Form shall contain the following statement:

If you answered "Yes" to any of the previous questions, please be aware that the performance of any body art procedure may jeopardize your health. Please consult with your personal physician as to the advisability and risks of any body art procedure.

In signing this form, I acknowledge that the above information is accurate and true, that I am aware of the risks associated with the body art procedure desired, and release the operator and/or practitioner from any liability associated with the performance of said body art procedure.

The operator and/or practitioner shall have the client sign and date the Release Form, in duplicate, confirming that the above information was obtained. The owner and/or practitioner shall give the duplicate Release Form to the client and retain the original for their records.

3. Each operator and/or practitioner shall keep records of all body art procedures administered, including date, time, identification and location of the body art procedure(s) performed, and the practitioner's name. All client records shall be confidential and shall be made available to the Board upon notification.

4. Nothing in this section shall be construed to require the practitioner to perform a body art procedure upon a client.

H. ***INJURY REPORTS***

A written report of any injury, infection complication, or disease to a client as a result of a body art procedure, or complaint of injury, infection complication, or disease, shall be forwarded by the owner and/or practitioner to the Board and to the Department with a copy to the complainant or injured client within five (5) working days of its occurrence or knowledge thereof. The report shall include:

1. The name of the affected client
2. The name and location of the body art establishment involved
3. The nature of the injury, infection complication, or disease
4. The name and address of the affected client's health care provider, if any
5. Any other information considered relevant to the situation

I. RECORDS RETENTION

The body art establishment shall keep a record of all clients who have had body art procedures performed. The record shall include:

1. The name, date of birth, and address of the client
2. The date of the procedure
3. The name of the practitioner who performed the procedure(s)
4. The type and location of the procedure(s) performed
5. The signature of the client
6. If the client is a minor, proof of parental or guardian presence and consent
7. The original copy of the signed and dated Release Form

Such records shall be retained for a minimum of three (3) years and shall be available to the Board upon request. The Board and the body art establishment shall keep such records confidential.

J. PREPARATION AND CARE OF THE BODY ART AREA

1. Before a body art procedure is performed, the immediate skin area and the areas of skin surrounding where the body art procedure is to be placed shall be washed with soap and water or an approved surgical skin preparation. If shaving is necessary, single-use disposable razors or safety razors with single-service blades shall be used. Blades shall be discarded after each use, and reusable holders shall be autoclaved after each use. Following shaving, the skin and the surrounding area shall be washed with soap and water. The washing pad shall be discarded after a single use.

2. In the event of bleeding, all products used to stop the bleeding or to absorb blood shall be single-use, discarded immediately after use in appropriate covered containers, and disposed of in accordance with 105 CMR 480.000.

K.SANITATION AND STERILIZATION PROCEDURES

1. All non-single-use, non-disposable instruments used for body art shall be cleaned thoroughly after each use by scrubbing with an appropriate soap or disinfectant solution and hot water, a solution of household chlorine bleach as recommended by the CDC, or by following the manufacturer's instructions to remove blood and tissue residue, and shall be placed in an ultrasonic unit operated in accordance with the manufacturer's instructions.

2. After being cleaned, all non-disposable instruments used for body art shall be packed individually in peel-packs and subsequently sterilized. All peel-packs shall contain either a sterilizer indicator or an internal temperature indicator. Peel-packs shall be dated with an expiration date not to exceed six (6) months.

3. All cleaned, non-disposable instruments used for body art shall be sterilized in a steam autoclave. The sterilizer shall be used, cleaned, and maintained in accordance with the manufacturer's instructions. A copy of the manufacturer's recommended procedures for the operation of the sterilization unit shall be available for inspection by the Board.

4. Sterile equipment shall not be used if the package has been breached or after the expiration date without first repackaging and resterilizing. Sterilizers shall be located away

from workstations or areas frequented by the public. If the body art establishment uses only single-use, disposable instruments and products and uses sterile supplies, an autoclave shall not be required.

5. Each holder of a permit to operate a body art establishment shall demonstrate that the sterilizer used is capable of attaining sterilization by monthly spore destruction tests. These tests shall be verified through an independent laboratory. The permit shall not be issued or renewed until documentation of the sterilizer's ability to destroy spores is received by the Board. These test records shall be retained by the operator for a period of three (3) years and shall be made available to the Department upon request. If at any time, the results of the spore destruction tests indicate that the sterilizer is not attaining sterilization, the operator and/or practitioner shall immediately cease operation and inform the Board.

6. All instruments used for body art procedures shall remain stored in sterile packages until just prior to the performance of a body art procedure. When assembling instruments for body art procedures, the practitioner shall wear disposable medical gloves and use medically recognized techniques to ensure that the instruments and gloves are not contaminated.

7. All inks, dyes, pigments, needles, and equipment shall be specifically manufactured for performing body art procedures and shall be used in accordance with the manufacturer's instructions.

8. The mixing of approved inks, dyes, or pigments, or their dilution, with potable water is acceptable. Immediately before a tattoo is applied, the quantity of the ink, dye, or pigment to be used shall be transferred from the container and placed in a single-use paper or plastic cup. Upon completion of the tattoo, these cups and their contents shall be discarded.

L.REQUIREMENTS FOR SINGLE-USE ITEMS

1. All products applied to the skin, including, but not limited to, needles and body art stencils, shall be single-use and disposable.

2. Single-use items shall not be used on more than one client for any reason. After use, all single-use sharps shall be immediately disposed of in approved sharps containers and in accordance with 105 CMR 480.000.

3. Petroleum jellies, soaps, and other products used in the application of stencils shall be dispensed and applied on the area to be tattooed with sterile gauze or other sterile

applicator to prevent contamination of the original container and its contents. The applicator or gauze shall be used only once and then discarded.

M. ***PERMIT REQUIREMENTS***

1. Body art establishments shall submit a scale drawing and floor plan of the proposed establishment for a plan review by the Board as part of the permit application process.

2. Body Art Establishment Permit

a. No person, firm, partnership, joint venture, association, business trust, corporation, or organized group of persons may operate a body art establishment without a valid Body Art Establishment Permit from the Board.

b. Any person operating a body art establishment shall obtain an annual permit from the Board. The Board shall set a reasonable fee for such permit.

c. A permit for a body art establishment shall not be transferable from one person or place to another.

d. The holder of a Body Art Establishment Permit shall only hire practitioners who have complied with the requirements of the Section titled **Body Art Practitioner Permit** of this Regulation.

3. Body Art Practitioner Permit

a. No person shall practice body art procedures without first obtaining a Body Art Practitioner Permit from the Board. The Board shall set a reasonable fee for such permits.

b. The Body Art Practitioner Permit shall be valid from the date of issuance and shall automatically expire in one (1) year from the date of issuance unless revoked sooner by the Board.

c. An application for a Body Art Practitioner Permit shall include:

i. Name
ii. Date of birth

iii. Gender
iv. Residence address
v. Mailing address, if different
vi. Phone number
vii. Place(s) of employment as a practitioner
viii. Training and/or experience
ix. Proof of attendance at a bloodborne pathogen training program, or its equivalent, approved by the Board.

d. The applicant shall provide documentation of attendance and completion of courses approved by the Board, or completion of an examination, on the following subjects:

i. Anatomy;
ii. Skin diseases, disorders, and conditions (including diabetes);
iii. Infectious disease control, including waste disposal, handwashing techniques, sterilization equipment operation and methods, and sanitization/disinfection/sterilization methods and techniques.

e. Examples of courses approved by the Board include "Preventing Disease Transmission" (American Red Cross) and "Bloodborne Pathogen Training" (U.S. OSHA).

f. Training or courses provided by professional body art organizations or associations or by equipment manufacturers may also be submitted to the Board for approval.

g. Proof of liability insurance.

h. No permit shall be issued unless, following reasonable investigation by the Board, the body art establishment or practitioner has demonstrated compliance with the provisions of this Regulation.

i. All permits shall be conditioned upon the continuing compliance with the provisions of this Regulation.

j. All permits shall be posted in a prominent and conspicuous area where clients may readily observe them.

N.COMPLAINTS

1. All complaints shall be in writing.

2. The Board shall investigate all complaints received about an establishment's and/or practitioner's acts or practices which may violate any of the provisions of this Regulation.

3. If the Board finds that an investigation is not warranted because the alleged act(s) or practice(s) are not in violation of this Regulation, the Board shall notify the complainant of this finding and the reasons on which it is based.

4. If the Board finds that an investigation is warranted because the alleged act(s) or practice(s) may be in violation of this Regulation, the Board, after an appropriate investigation, shall apply whatever enforcement action deemed proper to remedy the situation and shall notify the complainant of its action.

5. Investigation of complaints may lead to enforcement actions including, but not limited to, revocation, suspension, or refusal to renew a permit by the Board.

O.GROUNDS FOR THE DENIAL OF A PERMIT

1. The Board may deny a permit on any of the following grounds:

   a. Failure to conform to any provision of this regulation;

   b. Any actions or omissions which would indicate that the health or safety of the public would be at risk should a permit be approved;

   c. Any previous violation of this regulation;

   d. Any attempt to practice or obtain a permit through fraud, deceit, or misrepresentation;

   e. Criminal conduct which the Board determines to be of such a nature as to render the establishment or practitioner unfit to practice body art as evidenced by criminal proceedings resulting in conviction, guilty plea, plea of nolo contendre, or admission of sufficient facts;

   f. Any other just and sufficient cause which the Board may determine would render the establishment or practitioner unfit to practice body art;

g. Practicing body art while the ability to practice is impaired by alcohol, drugs, physical disability, or mental instability;

h. Being habitually drunk or being dependent on, or a habitual user of, narcotics, barbiturates, amphetamines, hallucinogens, or other drugs having similar effects;

i. Knowingly permitting, aiding, or abetting an unauthorized person to perform activities requiring a permit; or

j. Having been disciplined in another jurisdiction in any way by the proper permitting authority for reasons substantially the same as those set forth in this Regulation.

2. The Board may deny a permit only after a hearing conducted by the Board.

3. Applicants denied a permit may reapply six (6) months after denial.

P. GROUNDS FOR THE REVOCATION OF, OR THE REFUSAL TO RENEW A PERMIT

1. The Board may revoke or refuse to renew a permit on the following grounds, each of which, in and of itself, shall constitute full and adequate grounds for revocation or the refusal to renew:

a. Fraud or misrepresentation in obtaining a permit, or its renewal;

b. Criminal conduct which the Board determines to be of such a nature as to render the establishment or practitioner unfit to practice body art as evidenced by criminal proceedings resulting in conviction, guilty plea, plea of nolo contendre, or admission of sufficient facts;

c. A violation of any provision of the Regulation;

d. Any other just and sufficient cause which the Board may determine would render the establishment or practitioner unfit to practice body art;

e. Practicing body art while the ability to practice is impaired by alcohol, drugs, physical disability, or mental instability;

f. Being habitually drunk or being dependent on, or a habitual user of, narcotics,

barbiturates, amphetamines, hallucinogens, or other drugs having similar effects;

g. Knowingly permitting, aiding, or abetting an unauthorized person to perform activities requiring a permit;

h. Continuing to practice while their permit is lapsed, suspended, or revoked;

i. Having been disciplined in another jurisdiction in any way by the proper \ permitting authority for reasons substantially the same as those set forth in this Regulation; or

j. The refusal to practice body art on a person because of such person's race,

2. The Board may revoke or refuse to renew a permit only after a hearing conducted by the Board.

Q.GROUNDS FOR THE SUSPENSION OF A PERMIT

The Board may summarily suspend a permit pending a final hearing on the merits of the question of revocation if, based upon the evidence before it, the Board determines that an establishment and/or practitioner is an immediate and serious threat to the public health, safety, or welfare. The suspension of a permit shall take effect immediately upon written notice of such suspension by the Board.

R. HEARINGS

1. Right to a Hearing - Unless otherwise specified in this Regulation, any person or persons served any order pursuant to any provision of this Regulation may request a hearing before the Board by filing a written petition, provided that such petition is filed with the Board within seven (7) days of receipt of such an order.

2. Hearing Notice - Upon receipt of a petition, the Board shall inform the petitioner and any other affected parties, in writing, of the date, time, and place of the hearing and of their right to inspect and copy the Board's file concerning the matter to be heard.

3. Time of Hearing - The hearing shall commence not later than twenty-one (21) calendar days after the date the order was received.

4. Hearing Procedures - At the hearing, the petitioner and any other affected parties shall

be given an opportunity to be heard, to present witnesses or documentary evidence, and to show cause why an order should be modified or withdrawn.

5. Final Decisions After A Hearing

a. The Board shall sustain, modify, or withdraw the order and shall inform the petitioner, in writing, of its decision within seven (7) days after the conclusion of the hearing. If the Board sustains or modifies the order, it shall be carried out within the time period allotted in the original order or in the modification.

b. If a written petition for a hearing is not filed with the Board within seven (7) days of receipt of the order or, if after a hearing, the order has been sustained in whole or in part, each day's failure to comply with the order as issued or modified shall constitute an additional offense.

6. Appeal of the Final Decisions - Any person aggrieved by the final decision of the Board may seek relief there from within thirty (30) days in any court of competent jurisdiction, as provided for by the laws of this Commonwealth.

S. PENALTIES

1. Any person who shall violate any provision of this Regulation for which penalty is not otherwise provided in any of the General Laws of the Commonwealth or in any other provision of this Regulation shall, upon conviction, be fined not less than Ten Dollars ($10.00) nor more than Five Hundred Dollars ($500.00).

2. Any person who shall fail to comply with any order issued pursuant to any provision of this Regulation shall, upon conviction, be fined not less than Ten Dollars ($10.00) or more than Five Hundred Dollars ($500.00).

T. SEVERABILITY

Each Section of this regulation shall be construed as separate to the end that if any clause, phrase, section, or sentence thereof shall be held to be invalid for any reason, the remainder of this Regulation shall continue in full force.

U. EFFECTIVE DATE

The effective date of this regulation is February 23, 2001

SECTION XI: TOBACCO CONTROL REGULATION[19]

A. STATEMENT OF PURPOSES

Whereas there exists conclusive evidence that tobacco smoking causes cancer, respiratory and cardiac diseases, negative birth outcomes, irritations to the eyes, nose and throat; whereas the U.S. Department of Health and Human Services has concluded that nicotine is as addictive as cocaine or heroin and the Surgeon General found that nicotine exposure during adolescence, a critical window for brain development, may have lasting adverse consequences for brain development; whereas the Institute of Medicine concludes that raising the minimum age of legal access to tobacco products will reduce tobacco initiation, particularly among adolescents 15-17, and will improve health across the lifespan and save lives; whereas more than 80 percent of all adult smokers begin smoking before the age of 18; and more than 90 percent do so before leaving their teens; whereas although the manufacture and distribution of flavored cigarettes (excluding menthol) is banned by federal law, neither federal nor Massachusetts laws restrict sales of flavored non-cigarette tobacco products, such as cigars, cigarillos, smokeless tobacco, hookah tobacco, and electronic devices and the nicotine solutions used in these devices; whereas the U.S. Food and Drug Administration and the U.S. Surgeon General have stated that flavored tobacco products are considered to be “starter” products that help establish smoking habits that can lead to long-term addiction; whereas the U.S. Centers for Disease Control and Prevention has reported that electronic cigarette use among middle and high school students doubled from 2011 to 2012; and whereas in Massachusetts, youth use of all other tobacco products, including cigars, rose from 13.3% in 2003 to 17.6% in 2009, and was higher than the rate of current cigarette use (16%) for the first time in history; now, therefore it is the intention of the Eastham Board of Health to regulate the sale of tobacco products.

B. AUTHORITY

This regulation is promulgated pursuant to the authority granted to the Eastham Board of Health by Massachusetts General Laws Chapter 111, Section 31 which states "Boards of health may make reasonable health regulations".

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[19] Effective: January 1, 2000
Revised: April 29, 2004
Effective: May 1, 2004
Revised May 26, 2005
Effective July 1, 2005
Revised May28, 2015
Effective September, 30 2015

C. DEFINITIONS

For the purpose of this regulation, the following words shall have the following meanings:

Blunt Wrap - Any tobacco product manufactured or packaged as a wrap or as a hollow tube made wholly or in part from tobacco that is designed or intended to be filled by the consumer with loose tobacco or other fillers.

Business Agent - An individual who has been designated by the owner or operator of any establishment to be the manager or otherwise in charge of said establishment.

Cigar - Any roll of tobacco that is wrapped in leaf tobacco or in any substance containing tobacco with or without a tip or mouthpiece not otherwise defined as a cigarette under Massachusetts General Law, Chapter 64C, Section 1, Paragraph 1.

Characterizing flavor - A distinguishable taste or aroma, other than the taste or aroma of tobacco, menthol, mint or wintergreen, imparted or detectable either prior to or during consumption of a tobacco product or component part thereof, including, but not limited to, tastes or aromas relating to any fruit, chocolate, vanilla, honey, candy, cocoa, dessert, alcoholic beverage, herb or spice; provided, however, that no tobacco product shall be determined to have a characterizing flavor solely because of the provision of ingredient information or the use of additives or flavorings that do not contribute to the distinguishable taste or aroma of the product.

Component part - Any element of a tobacco product, including, but not limited to, the tobacco, filter and paper, but not including any constituent.

Constituent - Any ingredient, substance, chemical or compound, other than tobacco, water or reconstituted tobacco sheet, that is added by the manufacturer to a tobacco product during the processing, manufacturing or packaging of the tobacco product. Such term shall include a smoke constituent.

Distinguishable - Perceivable by either the sense of smell or taste.

E-Cigarette - Any electronic device, not approved by the United States Food and Drug Administration, composed of a mouthpiece, heating element, battery and/or electronic circuits that provides a vapor of liquid nicotine to the user, or relies on vaporization of any liquid or solid nicotine. This term shall include such devices whether they are manufactured as e-cigarettes, e-cigars, e-pipes or under any other product name.

Educational Institution - Any public or private college, school, professional school, scientific or

technical institution, university or other institution furnishing a program of higher education.

Employee - Any individual who performs services for an employer.

Employer - Any individual, partnership, association, corporation, trust or other organized group of individuals that uses the services of one (1) or more employees.

Flavored tobacco product - Any tobacco product or component part thereof that contains a constituent that has or produces a characterizing flavor. A public statement, claim or indicia made or disseminated by the manufacturer of a tobacco product, or by any person authorized or permitted by the manufacturer to make or disseminate public statements concerning such tobacco product, that such tobacco product has or produces a characterizing flavor shall constitute presumptive evidence that the tobacco product is a flavored tobacco product.

Health Care Institution - An individual, partnership, association, corporation or trust or any person or group of persons that provides health care services and employs health care providers licensed, or subject to licensing, by the Massachusetts Department of Public Health under M.G.L. c. 112 or a retail establishment that provides pharmaceutical goods and services and is subject to the provisions of 247 CMR 6.00. Health care institutions include, but are not limited to, hospitals, clinics, health centers, pharmacies, drug stores, doctor offices, optician/optometrist offices and dentist offices.

Minimum Legal Sales Age (MLSA) - The age an individual must be before that individual can be sold a tobacco product in the municipality.

Nicotine Delivery Products - Any manufactured article or product made wholly or in part of a tobacco substitute or containing nicotine that is expected or intended for human consumption, but not including a tobacco substitute prescribed by a licensed physician or a product that has been approved by the United States Food and Drug Administration either as a tobacco use cessation product or for other medical purposes and which is being marketed and sold or prescribed solely for the approved purpose.

Non-Residential Roll-Your-Own (RYO) Machine - A mechanical device made available for use (including to an individual who produces cigars, cigarettes, smokeless tobacco, pipe tobacco, or roll-your-own tobacco solely
for the individual's own personal consumption or use) that is capable of making cigarettes, cigars or other tobacco products. RYO machines located in private homes used for solely personal consumption are not Non- Residential RYO machines.

Permit Holder - Any person engaged in the sale or distribution of tobacco products who applies

for and receives a tobacco product sales permit or any person who is required to apply for a Tobacco Product Sales Permit pursuant to these regulations, or his or her business agent.

Person - Any individual, firm, partnership, association, corporation, company or organization of any kind, including but not limited to, an owner, operator, manager, proprietor or person in charge of any establishment, business or retail store.

Retail Tobacco Store - An establishment that is not required to possess a retail food permit whose primary purpose is to sell or offer for sale, but not for resale, tobacco products and tobacco paraphernalia, in which the sale of other products is merely incidental, and in which the entry of persons under the minimum legal sales age is prohibited at all times, and maintains a valid permit for the retail sale of tobacco products as required to be issued by the Eastham Board of Health.

Self-Service Display - Any display from which customers may select a tobacco product, as defined herein, without assistance from an employee or store personnel.

Schools - Public or private elementary or secondary schools.

Smoke Constituent - Any chemical or chemical compound in mainstream or side stream tobacco smoke that either transfers from any component of the tobacco product to the smoke or that is formed by the combustion or heating of tobacco, additives or other component of the tobacco product.

Smoking Bar - An establishment that primarily is engaged in the retail sale of tobacco products for consumption by customers on the premises and is required by Mass. General Law Ch. 270, §22 to maintain a valid permit to operate a smoking bar issued by the Massachusetts Department of Revenue. "Smoking bar" shall include, but not be limited to, those establishments that are commonly known as "cigar bars" and "hookah bars".

Tobacco Product - Any product containing, made, or derived from tobacco or nicotine that is intended for human consumption, whether smoked, chewed, absorbed, dissolved, inhaled, snorted, sniffed, or ingested by any other means, including, but not limited to: cigarettes, cigars, little cigars, chewing tobacco, pipe tobacco, snuff, or electronic cigarettes, electronic cigars, electronic pipes, electronic hookah, nicotine delivery products or other similar products, regardless of nicotine content, that rely on vaporization or aerosolization. "Tobacco product" includes any component or part of a tobacco product. "Tobacco product" does not include any product that has been approved by the United States Food and Drug Administration either as a tobacco use cessation product or for other medical purposes and which is being marketed and sold or prescribed solely for the approved purpose.

Vending Machine - Any automated or mechanical self-service device, which upon insertion of money, tokens or any other form of payment, dispenses or makes cigarettes or any other tobacco products, as defined herein.

D. TOBACCO SALES TO PERSONS UNDER THE MINIMUM LEGAL SALES AGE PROHIBITED:

1. No person shall sell tobacco products or permit tobacco products, as defined herein, to be sold to a person under the minimum legal sales age; or not being the individual's parent or legal guardian, give tobacco products, as defined herein, to a person under the minimum legal sales age. The minimum legal sales age in Eastham is twenty-one (21).

2. Required Signage

a. In conformance with and in addition to Massachusetts General Law, Chapter 270, Section 7, a copy of Massachusetts General Laws, Chapter 270, Section 6, shall be posted conspicuously by the owner or other person in charge thereof in the shop or other place used to sell tobacco products at retail. The notice shall be provided by the Massachusetts Department of Public Health and made available from the Eastham Board of Health. The notice shall be at least 48 square inches and shall be posted conspicuously by the permit holder in the retail establishment or other place in such a manner so that it may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than 4 feet or greater than 9 feet from the floor. The owner or other person in charge of a shop or other place used to sell tobacco products at retail shall conspicuously post any additional signs required by the Massachusetts Department of Public Health.

b. The owner or other person in charge of a shop or other place used to sell tobacco products, as defined herein, at retail shall conspicuously post signage provided by the Eastham Board of Health that discloses current referral information about smoking cessation.

c. The owner or other person in charge of a shop or other place used to sell tobacco products, as defined herein, at retail shall conspicuously post a sign stating that “The sale of tobacco products, including e- cigarettes, to someone under the minimum legal sales age of 21 years is prohibited.” The notice shall be no smaller than 8.5 inches by 11 inches and shall be posted conspicuously in the retail establishment or

other place in such a manner so that they may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than four (4) feet or greater than nine (9) feet from the floor.

3. Identification: Each person selling or distributing tobacco products, as defined herein, shall verify the age of the purchaser by means of a valid government-issued photographic identification containing the bearer's date of birth that the purchaser is 21 years old or older. Verification is required for any person under the age of 27.

4. All retail sales of tobacco products, as defined herein, must be face-to-face between the seller and the buyer and occur at the permitted location.

E. ***TOBACCO PRODUCT SALES PERMIT***

1. No person shall sell or otherwise distribute tobacco products, as defined herein, within the Town of Eastham without first obtaining a Tobacco Product Sales Permit issued annually by the Eastham Board of Health. Only owners of establishments with a permanent, non-mobile location in Eastham are eligible to apply for a permit and sell tobacco products at the specified location in Eastham.

2. As part of the Tobacco Product Sales Permit application process, the applicant will be provided with the Eastham regulation. Each applicant is required to sign a statement declaring that the applicant has read said regulation and that the applicant is responsible for instructing any and all employees who will be responsible for tobacco product sales regarding federal, state and local laws regarding the sale of tobacco and this regulation.

3. Each applicant who sells tobacco products is required to provide proof of a current Tobacco Retailer License issued by the Massachusetts Department of Revenue, when required by state law, before a Tobacco Product Sales Permit can be issued.

4. The fee for a Tobacco Product Sales Permit shall be determined by the Eastham Board of Health annually.

5. A separate permit is required for each retail establishment selling tobacco products, as defined herein.

6. Each Tobacco Product Sales Permit shall be displayed at the retail establishment in a

conspicuous place.

7. No Tobacco Product Sales Permit holder shall allow any employee to sell tobacco products, as defined herein, until such employee reads this regulation and federal and state laws regarding the sale of tobacco products and signs a statement, a copy of which will be placed on file in the office of the employer, that he/she has read the regulation and applicable state and federal laws.

8. A Tobacco Product Sales Permit is non-transferable. A new owner of an establishment that sells tobacco products, as defined herein, must apply for a new permit. No new permit will be issued unless and until all outstanding penalties incurred by the previous permit holder are satisfied in full.

9. Issuance of a Tobacco Product Sales Permit shall be conditioned on an applicant's consent to unannounced, periodic inspections of his/her retail establishment to ensure compliance with this regulation.

10. A Tobacco Product Sales Permit will not be renewed if the permit holder has failed to pay all fines issued and the time period to appeal the fines has expired and/or has not satisfied any outstanding permit suspensions.

11. A Tobacco Product Sales Permit shall not be issued to any new applicant for a retail location within 500 feet of a public or private elementary or secondary school as measured by a straight line from the nearest point of
the property line of the school to the nearest point of the property line of the site of the applicant's business premises. Applicants who purchase an existing business that holds a current Tobacco Product Sales Permit at the time of the sale of said business may apply, within sixty (60) days of such sale, for the permit held by the Seller if the Buyer intends to sell tobacco products, as defined herein.

F. PROHIBITION OF THE SALE OF BLUNT WRAPS

No Person or entity shall sell or distribute blunt wraps in Eastham.

G. FREE DISTRIBUTION AND COUPON REDEMPTION

No person shall distribute, or cause to be distributed, any free samples of tobacco products, as defined herein. No means, instruments or devices that allow for the redemption of any

tobacco products, as defined herein, for free or cigarettes at a price below the minimum retail price determined by the Massachusetts Department of Revenue shall be accepted by any permit holder.

H. OUT-OF-PACKAGE SALES

The sale or distribution of tobacco products, as defined herein, in any form other than an original factory- wrapped package is prohibited, including the repackaging or dispensing of any tobacco product, as defined herein, for retail sale. No person may sell or cause to be sold or distribute or cause to be distributed any cigarette package that contains fewer than twenty (20) cigarettes, including single cigarettes.

I. SELF-SERVICE DISPLAYS

All self-service displays of tobacco products, as defined herein, are prohibited. All humidors including, but not limited to, walk-in humidors must be locked.

J. VENDING MACHINES

All vending machines containing tobacco products, as defined herein, are prohibited.

K. NON-RESIDENTIAL ROLL-YOUR-OWN MACHINES

All Non-Residential Roll-Your-Own machines are prohibited.

L. PROHIBITION OF THE SALE OF TOBACCO PRODUCTS BY HEALTH CARE INSTITUTIONS

No health care institution located in Eastham shall sell or cause to be sold tobacco products, as defined herein. No retail establishment that operates or has a health care institution within it, such as a pharmacy, optician/optometrist or drug store, shall sell or cause to be sold tobacco products, as defined herein.

M. PROHIBITION OF THE SALE OF TOBACCO PRODUCTS BY EDUCATIONAL INSTITUTIONS

No educational institution located in Eastham shall sell or cause to be sold tobacco products, as defined herein. This includes all educational institutions as well as any retail

establishments that operate on the property of an educational institution.

N. VIOLATIONS:

1. It shall be the responsibility of the establishment, permit holder and/or his or her business agent to ensure compliance with all sections of this regulation. The violator shall receive:

a. In the case of a first violation, a fine of one hundred dollars ($100.00**)**.

b. In the case of a second violation within twenty-four (24) months of the date of the current violation, a fine of two hundred dollars ($200.00) and the Tobacco Product Sales Permit shall be suspended for seven (7) consecutive business days.

c. In the case of three or more violations within a twenty-four (24) month period, a fine of three hundred dollars ($300.00) and the Tobacco Product Sales Permit shall be suspended for thirty (30) consecutive business days.

d. In the case of further violations or repeated, egregious violations of this regulation within a twenty-four (24) month period, the Board of Health may revoke a Tobacco Product Sales Permit.

2. Refusal to cooperate with inspections pursuant to this regulation shall result in the suspension of the Tobacco Product Sales Permit for thirty (30) consecutive business days.

3. In addition to the monetary fines set above, any permit holder who engages in the sale or distribution of tobacco products while his or her permit is suspended shall be subject to the suspension of all Board of Health issued permits for thirty (30) consecutive business days.

4. The Eastham Board of Health shall provide notice of the intent to suspend or revoke a Tobacco Product Sales Permit, which notice shall contain the reasons therefore and establish a time and date for a hearing which date shall be no earlier than seven (7) days after the date of said notice. The permit holder or its business agent shall have an opportunity to be heard at such hearing and shall be notified of the Board of Health's decision and the reasons therefore in writing. After a hearing, the Eastham Board of Health shall suspend or revoke the Tobacco Product Sales Permit if the Board of Health finds that a violation of this regulation occurred. For purposes of such suspensions or

revocations, the Board shall make the determination notwithstanding any separate criminal or non-criminal proceedings brought in court hereunder or under the Massachusetts General Laws for the same offense. All tobacco products, as defined herein, shall be removed from the retail establishment upon suspension or revocation of the Tobacco Product Sales Permit. Failure to remove all tobacco products, as defined herein, shall constitute a separate violation of this regulation.

O. NON-CRIMINAL DISPOSITION:

Whoever violates any provision of this regulation may be penalized by the non-criminal method of disposition as provided in Massachusetts General Laws, Chapter 40, Section 21D or by filing a criminal complaint at the appropriate venue.

Each day any violation exists shall be deemed to be separate offense.

P. ENFORCEMENT:

Enforcement of this regulation shall be by the Eastham Board of Health or its designated agent(s).

Any resident who desires to register a complaint pursuant to the regulation may do so by contacting the Eastham Board of Health or its designated agent(s) and the Board shall investigate.

Q. SEVERABILITY:

If any provision of this regulation is declared invalid or unenforceable, the other provisions shall not be affected thereby but shall continue in full force and effect.

R. EFFECTIVE DATE:

This regulation shall take effect on, September 30, 2015.

SECTION XII : PROHIBITING SMOKING IN WORKPLACES AND PUBLIC PLACES[20]

[20] Effective September 30, 2015

A. PURPOSE

The purpose of this regulation is to protect the health of the employees and general public in the Town of Eastham.

B. AUTHORITY

This regulation is promulgated under the authority granted to the Eastham Board of Health pursuant to Massachusetts General Laws Chapter 111, Section 31 that "[b]oards of health may make reasonable health regulations." It is also promulgated pursuant to Massachusetts General Laws Chapter 270, Section 22(j) which states in part that "[n]othing in this section shall permit smoking in an area in which smoking is or may hereafter be prohibited by law including, without limitation: any other law or . . . health .. . regulation. Nothing in this section shall preempt further limitation of smoking by the commonwealth . . . or political subdivision of the commonwealth."

C. DEFINITIONS

As used in this regulation, the following words shall have the following meanings, unless the context requires otherwise:

Compensation: money, gratuity, privilege, or benefit received from an employer in return for work performed or services rendered.

E-Cigarette: Any electronic device, not approved by the United States Food and Drug Administration, composed of a mouthpiece, heating element, battery and/or electronic circuits that provides a vapor of liquid nicotine to the user, or relies on vaporization of any liquid or solid nicotine. This term shall include such devices whether they are manufactured as e-cigarettes, e-cigars, e-pipes or under any other product name.

Employee: an individual or person who performs a service for compensation for an employer at the employer's workplace, including a contract employee, temporary employee, and independent contractor who performs a service in the employer's workplace for more than a *de minimus* amount of time.

Employer: an individual, person, partnership, association, corporation, trust, organization, school, college, university or other educational institution or other legal entity, whether public, quasi-public, private, or non-profit which uses the services of one (1) or more employees at one (1) or more workplaces, at any one (1) time, including the Town of

Eastham.

Enclosed: a space bounded by walls, with or without windows or fenestrations, continuous from floor to ceiling and enclosed by one (1) or more doors, including but not limited to an office, function room or hallway.

Municipal Building: Any building or facility owned, operated, leased or occupied by the Town of Eastham. Retail tobacco store: an establishment that is not required to possess a retail food permit whose primary purpose is to sell or offer for sale to consumers, but not for resale, tobacco products and paraphernalia, in which the sale of other products is merely incidental, and in which the entry of persons under the age of 18 is prohibited at all times, and maintains a valid permit for the retail sale of tobacco products as required to be issued by the Eastham Board of Health.

Smoking (or smoke): the lighting of a cigar, cigarette, pipe or other tobacco product or possessing a lighted cigar, cigarette, pipe or other tobacco or non-tobacco product designed to be combusted and inhaled.

Workplace: an indoor area, structure or facility or a portion thereof, at which one (1) or more employees perform a service for compensation for an employer, other enclosed spaces rented to or otherwise used by the public; and where the employer has the right or authority to exercise control over the space.

Terms not defined herein shall be defined as set forth in M.G.L. Ch. 270, §22 and/or 105 CMR 661. To the extent any of the definitions herein conflict with M.G.L. Ch. 270, §22 and 105 CMR 661, the definition contained in this regulation shall control.

D. SMOKING PROHIBITED

1. It shall be the responsibility of the employer to provide a smoke free environment for all employees working in an enclosed workplace as well as those workplaces listed in subsection (c) below.

2. Smoking is hereby prohibited in Eastham in accordance with M.G.L. Ch. 270, §22 (commonly known as the “Smoke-free Workplace Law).

3. Pursuant to M.G.L. Ch. 270, §22(j) smoking is also hereby prohibited in:

a. Town-owned parks, playgrounds, athletic fields and beaches;
b. Retail tobacco stores; and
c. The area within twenty-five (25) feet of any municipal building entranceway accessible to the public, except that this shall not apply to a smoker transiting through such twenty-five (25) foot area nor to a smoker approaching an entranceway with the intention of extinguishing a tobacco product.

4. The use of e-cigarettes is prohibited wherever smoking is prohibited per M.G.L. Ch. 270, §22 and Section 4(c) of this regulation.

E. ***ENFORCEMENT***

1. An owner, manager, or other person in control of a building, vehicle or vessel who violates this section, in a manner other than by smoking in a place where smoking is prohibited, shall be punished by a fine of:

a. $100 for the first violation;
b. $200 for a second violation occurring within two (2) years of the date of the first offense; and
c. $300 for a third or subsequent violation occurring within two (2) years of the second violation.

2. Each calendar day on which a violation occurs shall be considered a separate offense.

3. This regulation shall be enforced by the Board of Health and its designees.

4. Violations of Section 4(b) shall be disposed of by a civil penalty using the non-criminal method of disposition procedures contained in Section 21D of Chapter 40 of Massachusetts General Law without an enabling ordinance or by-law. The disposition of fines assessed shall be subject to Section 188 of Chapter 111.

5. Violations of Sections 4(a), 4(c) and 4(d) may be disposed of by a civil penalty using the non-criminal method of disposition procedures contained in Section 21D of Chapter 40 of Massachusetts General Law.

6. If an owner, manager or other person in control of a building, vehicle or vessel violates this regulation repeatedly, demonstrating egregious noncompliance as defined by regulation of the Department of Public Health, the Board of Health may revoke or

suspend any Board of Health-issued permit to operate and shall send notice of the revocation or suspension to the Department of Public Health.

7. Any person may register a complaint to initiate an investigation and enforcement with the Board of Health, the local inspection department or the equivalent.

F. ***SEVERABILITY***

If any paragraph or provision of this regulation is found to be illegal or against public policy or unconstitutional, it shall not effect the legality of any remaining paragraphs or provisions.

G. CONFLICTS WITH OTHER LAWS OR REGULATIONS

Notwithstanding the provisions of Section 4 of this regulation, nothing in this regulation shall be deemed to amend or repeal applicable fire, health or other regulations so as to permit smoking in areas where it is prohibited by such fire health or other regulations.

H. EFFECTIVE DATE

This regulation shall be effective as of September 30, 2015.

SECTION XIII: CONTROL OF NUISANCES

A. AUTHORITY

This regulation was adopted August 1, 1994 at a duly advertised Public Hearing held by the Eastham Board of Health, pursuant to the authority conferred thereupon under M.G.L. C. 111, SS 31 and 122. This regulation shall take effect August 15, 1994.

B. PURPOSE

The purpose of this Regulation is to preserve and protect the public health through the prompt identification and correction of all nuisances, sources of filth and causes of sickness in the town and to further provide penalties for failure to correct said nuisances, sources of filth and causes of sickness in a timely fashion after notice from the Board of Health.

C. DEFINITIONS

The following definition shall apply in the interpretation and implementation of the Regulation.

NUISANCE - any source of filth or cause of sickness, including but not limited to, any collection of junk and/or debris, such as abandoned household property, industrial or commercial equipment, debris, and unsafe structures, but exclusive of putrescible wastes utilized in farming, gardening or fisheries; provided that this use does not cause offensive odors.

D. REGULATION OF NUISANCES

No owner, occupant, tenant or manager of any property situated in the Town of Eastham shall cause or permit to exist a nuisance on said property.

Upon determination by the Board of Health or its agent(s) that a nuisance exists, the Board of Health or its agent(s) shall notify the owner, occupant, tenant or manager of the property of the nuisance, by certified mail, return receipt requested. Said notice shall specify the nature of the nuisance, order specific correction and indicate a time certain within which correction must be completed. Where appropriate, the Board may notify the owner, occupants, tenant or manager that it is investigating into a possible nuisance on the property and provide an opportunity for said owner, occupant, tenant or manager to be heard prior to making a determination that a nuisance exists. Nothing herein shall be construed to abrogate or limit the authority of the Board of Health to exercise its statutory powers to abate a nuisance pursuant to M.G.L. C. 111, SS 122, et seq without prior hearing, upon its determination that the nuisance comprises a clear and imminent danger to the public health.

E. PENALTY

Any person who violates any provision of this Regulation shall be punished by a fine not to exceed one thousand ($1,000.00) dollars. Each day or portion thereof during which violation continues shall constitute a separate offense.

F. SEVERABILITY

Should any Court of competent jurisdiction declare any sentence, clause or portion hereof

invalid, the remainder of this Regulation shall remain in full force and effect.

The property owner shall be required to abate the nuisance within period specified by the Board of Health or its agent, not to exceed 45 days. If the nuisance is not abated in this period, the Board of Health may have the nuisance abated. Costs for abatement, and all other associated costs shall be reimbursed to the Town of Eastham. Failure to reimburse the Town within 60 days of abating the nuisance shall result in placement of a lien on this property for the mount due the Town.

SECTION XIV: GROUNDWATER PROTECTION REGULATION[21]

A. SCOPE OF AUTHORITY

The Town of Eastham Board of Health adopts the following Groundwater Protection Regulation pursuant to authorization granted by MGL. c 111 s. 31 and 122. This regulation shall apply, as specified in Section III, to all applicable facilities within the Town of Eastham.

B. PURPOSE OF REGULATION

Whereas:

- siting of certain uses and activities have the potential to release hazardous waste, petroleum products and other pollutants into drinking water supply areas; and
- discharges of leachate, pathogens, and other pollutants have repeatedly threatened surface and ground water quality throughout Massachusetts; and
- surface and ground water resources contribute to the Town's public drinking water supplies;

The Town of Eastham adopts the following regulation, under its authority as specified in Section I, as a preventative measure for the purpose of preserving and protecting public drinking water quality and to minimize the risk to public health and the environment.

C. APPLICABILITY

[21] Adopted July 30, 2015

The regulation shall apply to all applicable facilities within the Zone II located within the Town of Eastham. These drinking water supply areas are delineated on a map entitled Groundwater Protection Overlay District Analysis and dated 7/27/15.

D. DEFINITIONS

Automobile Graveyard: An establishment that is maintained, used, or operated for storing, keeping, buying, or selling wrecked, scrapped, ruined, or motor vehicle parts, as defined in MGL c.140B, s.1

Aquifer: A geologic formation composed of rock, sand or gravel that contains significant amounts of potentially recoverable water.

CMR: Code of Massachusetts Regulations.

Commercial/Industrial Facility: A public or private establishment where the principal use is the supply, sale, and/or manufacture of services, products, or information, including but not limited to: manufacturing, processing, or other industrial operations; service or retail establishments; printing or publishing establishments; research and development facilities; small or large quantity generators of hazardous waste; laboratories; hospitals.

Commercial Fertilizer: Any substance containing one or more recognized plant nutrients which is used for its plant nutrient content and which is designed for use, or claimed to have value in promoting plant growth, except un-manipulated animal and vegetable manures, marl, lime, limestone, wood ashes, and gypsum, and other products exempted by state regulation.

Discharge: The accidental or intentional disposal, deposit, injection, dumping, spilling, leaking, pouring, or placing of toxic or hazardous material or hazardous waste upon or into any land or water such that it may enter the surface or ground waters.

Dry Well: A subsurface pit with open-jointed lining or holes through which storm-water drainage from roofs, basement floors, foundations or other areas seep into the surrounding soil.

Groundwater Protection Area: The drinking water supply area protected by this regulation.

Hazardous Material: Any substance in any form which because of its quantity, concentration, or its chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with one or more substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed. Hazardous materials include, without limitation, synthetic organic chemicals, petroleum products, heavy metals,

radioactive or infectious materials, and all substances defined as toxic or hazardous under MGL c. 21E.[22,23] This term shall not include hazardous waste or oil.

Hazardous Waste: A substance or combination of substances, which because of quantity, concentration, or physical, chemical or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety, or welfare or to the environment when improperly treated, stored, transported, used or disposed of, or otherwise managed. This term shall include all substances identified as hazardous pursuant to the Hazardous Waste Regulations, 310 CMR 30.000.

Historical High Groundwater Table: A groundwater elevation determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey.

Impervious Surface: Material or structure on, above, or below the ground that does not allow precipitation or surface water runoff to penetrate into the soil.

Junkyard: An establishment that is maintained, operated, or used for storing, keeping, buying, or selling junk, or for the maintenance or operation of an automobile graveyard, as defined in MGL c.140B, s.1.

Landfill: A facility established in accordance with a valid site assignment for the purposes of disposing solid waste into or on the land, pursuant to the Solid Waste Regulations, 310 CMR 19.006.

MassDEP: Massachusetts Department of Environmental Protection.

MGL: Massachusetts General Law.

Non-Sanitary Wastewater: Discharges from industrial and commercial facilities containing wastes from any activity other than collection of sanitary sewage.

Petroleum Product: Includes, but is not limited to: fuel oil; gasoline; diesel; kerosene; aviation jet fuel; aviation gasoline; lubricating oils; oily sludge; oil refuse; oil mixed with other wastes; crude oils; or other liquid hydrocarbons regardless of specific gravity. Petroleum product shall not include liquefied petroleum gas including, but not limited to, liquefied natural gas, propane or butane.

Open Dump: A facility operated or maintained in violation of the Resource Conservation and Recovery Act 42 USC 4004(a)(b), or state regulations and criteria for solid waste disposal.

[22] Please note that *only* liquid hazardous materials are prohibited in the Zone II and *only* when not stored according to 310CMR 22.21(2)(b)(5). The use/storage of dry hazardous materials is not prohibited under 310 CMR 22.21(2).

Recharge Areas: Land areas, such as a Zone II and Interim Wellhead Protection Areas, where precipitation and surface water infiltrates into the ground to replenish groundwater and aquifers used for public drinking water supplies.

Septage: The liquid, solid, and semi-solid contents of privies, chemical toilets, cesspools, holding tanks, or other sewage waste receptacles. This term shall not include any material that is a hazardous waste, as defined by the Hazardous Waste Regulations 310 CMR 30.000.

Sludge: The solid, semi-solid, and liquid residue that results from a process of wastewater treatment or drinking water treatment including wastewater residuals. This term shall not include grit, screening, or grease and oil which are removed at the head-works of a facility.

Treatment Works: Any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation, or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage, or disposal.

Utility Works: Regulated activities providing for public services, including roads, water, sewer, electricity, gas, telephone, transportation and their associated maintenance activities. This term shall include the installation of detention and retention basins for the purpose of controlling storm water.

Very Small Quantity Generator (VSQG): Any public or private entity, other than residential, which produces less than 27 gallons (100 kilograms) a month of hazardous waste or waste oil, but not including any acutely hazardous waste as defined in 310 CMR 30.136.

Waste Oil Retention Facility: A waste oil collection facility for automobile service stations, retail outlets, and marinas which is sheltered and has adequate protection to contain a spill, seepage, or discharge of petroleum waste products in accordance with MGL c.21, s.52A.[24]
Zone II: The delineated recharge area to a public drinking water well as approved by MassDEP and defined under the MA Drinking Water Regulations 310 CMR 22.00.[25]

E. PROHIBITIONS

1. The following land uses and activities are prohibited in the Groundwater Protection Overlay District Analysis:

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[23] MGL c. 21E MA Oil and Hazardous Material Release Prevention and Response Act

[24] MGL.c.21s.52A requires all auto service stations, marinas, and retail outlets that sell auto lubricating oil to accept waste oil and to install retention facilities properly sheltered and protected to prevent discharge of waste oil into storm or sanitary sewers or into the waters of the commonwealth and to properly dispose of accumulated waste oil.

[25] Compliance with the Wellhead Protection Regulations means that municipal controls (bylaws/ordinances and/or BOH regulations) prohibit within the Zone II, all of the land uses and activities cited in 310 CMR 22.21(2).

a. Landfills and open dumps; except for areas approved for the disposal of brush and stumps.

b. Automobile graveyards and junkyards;

c. Disposal or stockpiling of chemically treated snow and ice that have been removed from highways and roadways from outside the Groundwater Protection Area;

d. Petroleum, fuel oil, and heating oil bulk stations and terminals including, but not limited to, those listed under North American Industry Classification System (NAICS) Codes 424710 and 454311, except for liquefied petroleum gas;[26]

e. Treatment or disposal works, subject to 314 CMR 5.00, for non-sanitary wastewater, including those activities listed under 310 CMR 15.004(6), except for:[27,28]

1. replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works;

2. treatment works approved by MassDEP designed for the treatment of contaminated ground or surface water and operating in compliance with 314 CMR 5.05(3) or 5.05(13); and

3. publicly owned treatment works.

f. Facilities that generate, treat, store, or dispose of hazardous waste subject to MGL.c. 21C and 310 CMR 30.000, except for:

1. very small quantity generators (VSQGs);

2. household hazardous waste collection centers or collection events;

3. waste oil retention facilities; and

4. treatment works for the restoration of contaminated ground or surface waters in compliance with MGL. c.21E and 310 CMR 40.000.[29]

g. The use, generation, storage, treatment or disposal of toxic or hazardous materials in quantities greater than those associated with normal household use.

2. The following land uses and activities are prohibited unless designed in accordance with the specified performance standards:

[26] In 1997 the North American Industry Classification System (NAICS) replaced the Standard Industrial Classification (SIC) system.
[27] 314 CMR 5.00 regulates groundwater discharges.
[28] 314 CMR 15.04(6) (Title V Septic Systems) No person shall discharge or allow the discharge of wastes from the industry categories listed in 310 CMR 15.004(5) to any system regulated under 310 CMR 15.000. No system shall receive oil, hazardous materials or waste, medical wastes or radioactive wastes.
[29] Massachusetts Contingency Plan (the MCP), 310 CMR 40.000

a. Storage of liquid hazardous materials and/or liquid petroleum products, unless such materials are stored above ground and on an impervious surface, and in containers (or above ground tanks) within a building, or outdoors in covered containers (or above ground tanks) designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater. However these storage requirements shall not apply to the replacement of existing tanks or systems for the keeping, dispensing or storing of gasoline provided the replacement is performed in a manner consistent with state and local requirements;

b. Rendering impervious any lot or parcel more than 15% or 2,500 square feet, whichever is greater, unless artificial recharge, that will not degrade water quality, is provided using methods demonstrated to be capable of removing contaminants from storm water and which are consistent with methods and best management practices described in MassDEP's 'Storm Water Handbook', Volumes I,II,III, as amended;[30]

c. Removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table, unless the substances removed are re-deposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark, and except for excavations for the construction of building foundations, the installation of utility works , or wetland restoration work conducted in accordance with a valid Order of Condition issued pursuant to MGL. c. 131, s.40;[31]

d. Storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;[32]

e. Storage of de-icing chemicals including sodium chloride and chemically treated abrasives, unless such storage is within a structure designed to prevent the generation and release of contaminated leachate and runoff;

f. Storage of animal manure, unless such storage is within a structure designed to prevent the generation and release of contaminated leachate and runoff; and

g. Storage of commercial fertilizers, unless such storage is within a structure designed to prevent the generation and release of contaminated leachate and runoff.

[30] MassDEP's Stormwater Handbook is available on MassDEP's website.
[31] MGL c.131 s.40 regulates the removal, filling, dredging or altering of land bordering waters.
[32] Sludge and Septage Regulations 310 CMR 32.30, prohibit storage within a 2,500' radius of a public water supply

F. EFFECTIVE DATES FOR ALL FACILITIES

1. The effective date of this regulation is July 30, 2015.

2. Certification of conformance with the provisions of this regulation by the Board of Health shall be required prior to issuance of construction and occupancy permits.

3. As of the effective date all new construction and/or applicable change of use within the Town of Eastham shall comply with the provisions of this regulation.

G. PENALTIES

Any person who violates any provision of this regulation, or who fails to comply with any Order by the Board of Health, for which a penalty is not otherwise provided in any of the general laws shall be subject to a fine of not less than $200.00 but no more than $1000.00. Each day's failure to comply with an Order may constitute a separate violation.

H. SEVERABILITY

If any provision of this regulation is declared invalid by a court of competent jurisdiction, such invalidity shall not affect any remaining provisions of this regulation. Any part of these regulations subsequently invalidated by a new state law or modification of an existing state law shall automatically be brought into conformity with the new or amended law and shall be deemed to be effective immediately.

SECTION XVI: FLOOR DRAIN REGULATION[33]

A. PURPOSE OF REGULATION

Whereas:

- floor drains in industrial and commercial facilities are often tied to a system leading to a leaching structure or a septic system; and
- improper maintenance or inappropriate use of these systems may allow the passage of contaminants or pollutants entering the drain to discharge from the leaching structure

well, *unless* storage is a watertight container, or if it is determined that such storage will not result in contamination.

[33] Adopted July 30, 2015

or septic system to the ground; and

- discharges of hazardous wastes and other pollutants to floor drains leading to leaching structures and septic systems have repeatedly threatened surface and ground water quality throughout Massachusetts; and
- ground water resources in the Town of Eastham contribute to public drinking water supplies.

The Town of Eastham adopts the following regulation, under its authority as specified in Section II, as a preventative measure for the purposes of preserving and protecting the community's drinking water supply from discharges of pollutants to the ground via floor drains, and minimizing the threat of economic losses due to such discharges.

B. SCOPE OF AUTHORITY

The Board of Health adopts the following regulation pursuant to authorization granted by M.G.L. Chapter 111 Sections 31 and 122. This regulation shall apply to all new and existing facilities located within the Town of Eastham /MassDEP approved Zone II(s)/name of overlay protection district.

C. DEFINITIONS

For the purposes of this regulation, the following words and phrases shall have the following meanings:

Commercial and Industrial Facility - A public or private establishment where the principal use is the supply, sale, and/or manufacture of services, products, or information, including but not limited to: manufacturing, processing, or other industrial operations; service or retail establishments; printing or publishing establishments; research and development facilities; small or large quantity generators of hazardous waste; laboratories; hospitals.

MassDEP - Massachusetts Department of Environmental Protection.

Discharge - The accidental or intentional disposal, deposit, injection, dumping, spilling, leaking, incineration, or placing of toxic or hazardous material or waste upon or into any land or water so that such hazardous waste or any constituent thereof may enter the land or waters of the Commonwealth. Discharge includes, without limitation, leakage of such materials from failed or discarded containers or storage systems and disposal of such materials into any on-site leaching structure or sewage disposal system.

Floor Drain - An intended drainage point on a floor constructed to be otherwise impervious which serves as the point of entry into any subsurface drainage, treatment, disposal, containment, or other plumbing system.

Leaching Structure - Any subsurface structure through which a fluid that is introduced will pass and enter the environment, including, but not limited to, dry wells, leaching catch basins, cesspools, leach fields, and oil/water separators that are not water-tight.

Oil/Water Separator - A device designed and installed to separate and retain petroleum based oil/grease, flammable wastes and sand particles from normal wastes while permitting normal sewage or liquid wastes to discharge into the drainage system by gravity. Other common names for such systems include MDC traps, gasoline and sand traps, grit and oil separators, grease traps, and interceptors.

Toxic or Hazardous Material - Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or waters. Toxic or hazardous materials include, without limitation, synthetic organic chemicals, petroleum products, heavy metals, radioactive or infectious wastes, acids and alkalis, and all substances defined as Toxic or Hazardous under Massachusetts General Laws (MGL) Chapter 2 1C and 2 1E or Massachusetts Hazardous Waste regulations (310 CMR 30.000), and also include such products as solvents, thinners, and pesticides in quantities greater than normal household use.

Use of Toxic or Hazardous Material- The handling, generation, treatment, storage, or management of toxic or hazardous materials.

Zone II - The delineated recharge area to a public drinking water well as approved by MassDEP and defined under the MA Drinking Water Regulations 310 CMR 22.00. [34]

D. PROHIBITIONS

With the exception of discharges that have received, or have applied and will receive, a MassDEP issued permit prior to the effective date of this regulation, no floor drain shall be allowed to discharge with or without pretreatment, such as an oil/water separator, to the ground, a leaching structure, or septic system in any industrial or commercial facility if such floor drain is located in:

1. An industrial or commercial process area; or
2. A petroleum, toxic, or hazardous materials and/or hazardous waste storage area; or

A leased facility lacking either A or B as described above, but which has the potential for a change in use to one which has either A or B; and is in the opinion of the Board of Health or its Agent, sufficient to warrant the elimination of the ground discharge present at this facility.

[34] Include this definition only if the term 'Zone II' is used in the body of the regulation.

E. REQUIREMENTS FOR EXISTING FACILITIES

1. The owner of a facility in operation, prior to the effective date of this regulation, with a prohibited floor drain system as defined in Section IV shall:

a. Where possible, disconnect and plug all applicable inlets to and outlets from applicable leaching structures, oil/water separators, and/or septic systems; and

b. Remove all existing sludge in oil/water separators, septic systems and, where accessible, leaching structures. Any sludge determined to be a hazardous waste shall be disposed of in accordance with state hazardous waste regulations, 310 CMR 30.000. Remedial activity involving any excavation and/or soil or groundwater sampling must be performed in accordance with appropriate MassDEP policies; and

c. Alter the floor drain system so that the floor drain shall be either:

i. Connected to a holding tank that meets all applicable requirements of MassDEP policies and regulations, with hauling records submitted to the Board of Health at the time of hauling; or

ii. Connected to a municipal sanitary sewer line, if available, with all applicable MassDEP and local permits; or

iii. Permanently sealed. Any facility sealing a drain shall be required to submit for approval to the Board of Health a hazardous waste management plan detailing the means of collecting, storing, and disposing any hazardous waste gene rated by the facility, including any spill or other discharge of hazardous materials or wastes.

2. Any oil/water separator remaining in use shall be monitored weekly, cleaned not less than every 90 days, and restored to proper conditions after cleaning so as to ensure proper functioning. Records of the hauling of the removed contents of the separator shall be submitted to the Board of Health at the time of hauling.

3. Compliance with all provisions of this regulation must be accomplished in a manner consistent with Massachusetts Plumbing, Building, and Fire Code requirements.

4. Upon complying with one of the options listed under Section V.A.3, the

owner/operator of the facility shall notify MassDEP of the closure by filing the UIC Pre-Closure Form BRP WS-06d (which may be obtained by calling MassDEP at 617-292-5770) and sending a copy to the Board of Health.

F. EFFECTIVE DATES FOR ALL FACILITIES

The effective date of this regulation is the date posted on the front page of the regulation, which shall be identical to the date of adoption of the regulation.

1. Existing Facilities:

    a. Owners and Operators of a facility affected by this regulation shall comply with all of its provisions within 120 days of the effective date; and

    b. All applicable discharges to the leaching structures and septic systems shall be discontinued immediately through temporary isolation or sealing of the floor drain.

2. New Facilities:

    a. As of the effective date of this regulation, all new construction and/or applicable change of use within the Town of Eastham shall comply with the provisions of this regulation.

    b. Certification of conformance with the provisions of this regulation by the Board of Health shall be required prior to issuance of construction and occupancy permits

    c. The use of any new oil/water separator shall comply with the same requirements as for existing systems, as specified above in Section V.B.

G. PENALTIES

Failure to comply with provisions of this regulation will result in the levy of fines of not less than $ 200.00, but no more than $1000.00. Each day's failure to comply with the provisions of this regulation shall constitute a separate violation.

H. SEVERABILITY

Each provision of this regulation shall be construed as separate to the end that, if any provision, or sentence, clause or phrase thereof, shall be held invalid for any reason, the remainder of that section and all other sections shall continue in full force and effect.

APPENDIX 1[35]

BEST MANAGEMENT PRACTICES FOR SOIL & NUTRIENT MANAGEMENT IN TURF SYSTEMS

Developing and implementing a soil and nutrient management plan is critical to the proper management of turf with environmental protection and enhancement as priorities. The term 'nutrient management' infers a responsibility common to all turf practitioners that goes beyond simple additions of fertilizer in efforts to positively influence plant growth. In the interest of environmental protection, natural resource preservation, and economic viability, modern fertility programs necessitate custodial responsibility for the fate of applied nutrients in the environment and complementary practices designed to enhance nutrient efficiency.

Although the focus of the following text is lawn and landscape turf, much of the included information is also applicable to the management of other types of turf such as high value playing surfaces or very low maintenance turf areas.

Nutrient management for turf involves:

- Analysis of the existing condition and fertility of the soil that provides the growing medium for the turf and influences site characteristics such as drainage and water infiltration.
- Careful consideration of the nutritional requirements of the turf, based on several variables including soil fertility, expected quality of the turf, use of the turf, suitability of the growing environment, grass species and varieties present, and available management resources.
- Awareness of the potential for adverse impact from nutrient contamination on precious natural resources, particularly water, from off-site movement of nutrients due to factors such as misapplication, runoff, erosion and leaching.
- Informed and judicious additions of nutrients into the turf system with regard to proper timing, proper application rate, proper material selection, and proper placement, with the intention of meeting expectations for turf function and aesthetics while simultaneously minimizing the potential for adverse environmental impact.
- Reduction of fertilizer application to the lowest possible level, in addition to the use of turf cultural practices designed to maximize efficient use of nutrients by the plants in the turf system, thereby eliminating waste and minimizing nutrient loss.
- Appropriate accounting for all nutrient inputs and record-keeping of other cultural practices that influence nutrient relations in the turf system.

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[35] *Developed by:*

- Mary Owen, *Extension Turf Specialist*
- Jason Lanier, *Extension Educator*
- Scott Ebdon, *Turf Agronomist*
- John Spargo, *Soil Scientist*

This text was excerpted from Section 7 of UMass Extension's *Best Management Practices for Lawn & Landscape Turf:* http://extension.umass.edu/turf/publications-resources/best- management-practices

Nutrient management planning must consider not only protection and enhancement of natural resources and the environment, but also sound agronomic practices that maximize the use and function of the turf. UMass Extension's *Elements of a Nutrient Management Plan for Turf* provides the framework for the development of an effective nutrient management plan (NMP). This document can be found at http://extension.umass.edu/turf/nutrient-management or in Appendix C of UMass Extension's *Best Management Practices for Lawn & Landscape Turf* manual (available online at http://extension.umass.edu/turf/publications-resources/best-management- practices).

The individual elements of a NMP are explained in greater detail in the rest of this document on soil and nutrient management.

OBJECTIVE	Obtain soil tests to determine the chemical and physical condition of the soil and to ascertain recommendations for adjustments.

Test soil to obtain needed information for sound management decisions.

• An uninformed approach to soil and nutrient management is neither economically viable nor environmentally responsible.
• Soil test results can dictate approaches for management of soil, for assessment of overall plant health, for refinement of a fertility program, for the prevention of nutrient losses to the environment, and for other aspects of management.
• Conduct chemical (nutrients, heavy metals, pH, CEC, exchangeable acidity, base saturation) and physical (texture, percent organic matter) soils analyses prior to establishment, renovation, or at the beginning of assuming management responsibility for a site where limited history is available.

Soil Chemical Properties	Soil Physical Properties
Ex. pH, fertility, nutrient reserves, heavy metals, salinity	Ex. texture, particle size distribution, Percent organic matter
• Provides information about growing conditions of soil • Informs additions of fertilizer and liming materials	• Provides information about behavior of soil • Helps in assessment of drainage characteristics and compatibility of amendments with existing soil

For established: healthy turf, conduct soil chemica3 analyses at !east every three years and monitor pH annually.

• Have soil tested at a laboratory offering the modified Morgan extraction method for nutrients. Over fifty years of research indicates that this is the most appropriate nutrient extraction method for New England soils and is used by the University of Massachusetts Soil Testing Laboratory. Different analytical procedures can yield vastly different results.
• Test soil conditioners, topdressing materials, composts and other turf amendments separately to ensure suitability for use.

Learn how to correctly interpret soil test results.

• Soil test results are of little value without an appropriate interpretation.
• Research data about the relationship between soil test values and the need for amendments form the foundation of soil test interpretation.
• As the soil test level for a nutrient increases, plant growth increases until a point where the nutrient is no longer limiting; this point is known as the critical soil test level. The critical soil test level is defined as the extractable nutrient concentration in soil above which plant growth (or performance) response to added nutrient is unlikely.
• Nutrient levels are considered sufficient when the concentration is just above the critical soil test level. This is known as the *Optimum* soil test range.
• When levels are below the *Optimum* range *(Very Low or* Low), the addition of more of the nutrient will usually improve turf performance.
• Nutrient recommendations provided by the soil testing lab are intended to meet short-term turf nutritional needs and provide enough to slowly (over several years) build soil test levels to the *Optimum* range.
• When soil test levels are in the *Optimum* range turf response to application of that nutrient is unlikely, but some amount may be recommended to maintain soil levels over time.
• It is important to keep in mind that factors other than nutrients may limit turf grass growth, and simply adding more nutrients may not improve turf performance. To optimize turf performance and maximize response to fertilizer nutrients, sound management practices must be used (e.g., cultivar selection, establishment, irrigation management, and pest and stress management).

Table 1. Interpretation of soil test categories

Categories	Interpretation
Very Low	Soil test level is well below optimum. Very high probability of plant response to additional nutrients. Substantial amounts of additional nutrients required to achieve optimum growth. Fertilizer rates based on plant response and are designed to gradually increase soil nutrient levels to the optimum range over a period of several years

Low	Soil test level is below optimum. High probability of plant response to addition of nutrients. Moderate amounts of additional nutrients needed to achieve optimum growth. Recommendations based on plant response and are intended to gradually increase soil nutrient levels to the optimum range.
Optimum	For most plants, low probability of response to addition of nutrient. Most desirable soil test range on economic and environmental basis. To maintain this range for successive years, nutrients must be retained in the system, or those nutrients removed by plants or lost to the environment must be replaced.
Above optimum	The nutrient is considered more than adequate and will not limit plant performance or quality. At the top end of this range, there is the possibility of a negative impact on the turf if nutrients are added. Additional nutrient applications are not recommended.
Excessive	This soil test level is independent of plant response and, due to environmental concerns, is only defined for soil test phosphorus (P). This P concentration is associated with elevated risk of P loss in leachate and runoff at concentrations high enough to impair surface water quality. No P should be applied and steps should be taken to minimize losses from leaching and runoff.

The modified Morgan extractable nutrient values associated with each of the soil test categories for Massachusetts are summarized in Table 2. These values, derived from the results of regional soil test calibration research, are used to determine fertilizer needs for turf grass. Notice that N is not included in Table 7. Soil testing is of limited value for determining N needs due to the dynamic behavior of soil nitrogen (N) in the humid Northeastern US. Soil testing is most useful for determining fertilizer phosphorus (P) and potassium (K) needs.

Table 2. UMass soil test categories for modified Morgan extractable nutrients.

	Very Low	*Low*	*Optimum*	*Above Optimum*	*Excessive*
P, ppm a	0- 1.9	2-3.9	4-14	14-40	>40
K, ppm	0-49	50-99	100- 160	>160	-
Ca, ppm	0-499	500-999	1000- 1500	>1500	-
Mg, ppm	0-24	25-49	50- 120	>120	-

a. ppm= parts per million

OBJECTIVE	Monitor soil pH regularly and manage if effectively with good liming practices

Monitor soil pH and maintain at a level appropriate for turfgrass species and site use.

- Soil testing labs offer convenient and cost effective pH analysis, and provide recommendations for correcting adverse pH conditions.
- Both acid and alkaline conditions can affect nutrient availability to turfgrass plants.
- Acid conditions can increase mobility of heavy metals and pesticides.
- Many soil organisms function best when pH values are moderately acidic to near neutral.
- pH can significantly affect the composition of the turfgrass stand, and can influence incidence of many weed species.

Know the significance of soil pH, soil acidity and buffering capacity to determine lime requirements.

- Soil pH is only a measure of *active acidity*, that is, the concentration of hydrogen ions (H^{1+}) in soil solution. Active acidity is an indicator of current soil conditions.

• There are also acidic cations (H^{1+} and Al^{3+}) adsorbed on soil colloids (the cation exchange capacity, or CEC) which can be released into the soil solution. This is called *exchangeable acidity*. Exchangeable acidity is much larger than active acidity.
• The most effective way to manage soil acidity is to apply agricultural limestone. The quantity of lime required is determined by the target pH (based on turfgrass species and management) and the soil's buffering capacity.
• Buffering capacity refers to a soil's tendency to resist changes in pH. The buffering capacity of a soil depends on factors such as the soil's clay and organic matter contents and type of clay present. Soils with a high clay and organic matter content can hold greater levels of exchangeable acidity and will require greater amounts of limestone than sandy soils lower in clay content and organic matter.

Do not apply more than 50-70 pounds per 1000 sq. ft. (1.5 tons per acre) of limestone to established turf in a single treatment.

- If a soil testing lab recommendation is more than this, then the limestone should be applied in several treatments on a semi-annual or annual basis until the recommended quantity of limestone is met.
- Applications in excess of 50-70 pounds per 1000 sq. ft. will not increase the rate at which pH changes can be difficult to manage, and visibility of excessive limestone can impact turf aesthetics.
- Aeration in conjunction with lime application will help increase the effectiveness of lime and will raise pH faster.
- When preparing soil for new plantings at the time of establishment, incorporate limestone pre-plant to increase its effectiveness.

Adjust application rates based on the calcium carbonate ($CaCO_3$) equivalent (CCE) of the liming material being used.

- Limestone recommendations from a soil testing lab are based on material with a 100% CCE value, however commercially available lime is never 100% pure.
- Divide the recommended limestone amount by the CCE of your liming material (usually provided on the bag):

Example 1:
Calcium carbonate equivalent (CCE) on the bag = 85%
Laboratory recommended limestone treatment= 50 pounds per 1000 sq.ft.
Limestone required = (50/85) x 100 = 59 pounds per 1000 sq. ft.

Example 2:
Calcium carbonate equivalent (CCE) on the bag = 79%
Laboratory recommended limestone treatment = 1800 pounds per acre
Limestone required = (1800/79) x 100 = 2278 pounds per acre

Apply limestone at intervals appropriate for the soil type and drainage on the site.

- A sandy soil needs to be limed more frequently because of its lower buffering capacity relative to a soil higher in clay and organic matter.
- A soil that is poorly drained requires less frequent liming than a well-drained soil because of the reduced leaching of alkaline soil components.

Account for the CCE of fertilizer materials being used.

• As covered previously, the calcium carbonate equivalent (CCE) indicates the degree to which a material reacts to change the soil pH.
• In the case of fertilizer, CCE is defined as the amount of calcium carbonate (limestone) needed to neutralize the acidity caused by a specific amount of the fertilizer material.
• Information on CCE can be found on the fertilizer bag label.
• Some fertilizer sources (e.g. ammonium sulfate, urea, mono- and di-ammonium phosphate, superphosphate, and many composts and organic fertilizers) can cause a lowering of soil pH (positive CCE).
• Some fertilizers (e.g. poultry feather meal and poultry manure-based composts and fertilizers) can cause an increase in soil pH (negative CCE).

OBJECTIVE	Determine the level of nutrition necessary to achieve an acceptable level of turf quality

Consider the ultimate uses of the turf, and expectations of quality and performance.

• Adequate and balanced nutrition is essential to maintaining a healthy turfgrass shoot and root system.
• Heavily used and/or intensively managed turf (for instance, athletic fields and golf course greens) often requires more nutrition than residential lawns and utility turf.
• High profile or heavily used lawns will require more nutrition than less heavily used lawns with lower quality and functional expectations.
• Adequate fertility is critical for maintaining function, managing stress, and recovering from damage.
• A dense, properly fertilized turf is more likely to capture, retain and use nutrients more efficiently than under-nourished turf.

Identify the grasses present on the site as well as the desirable grasses for the site and use.

• There can be significant variation in terms of nutritional requirements between species and even among individual cultivars within species.
• Grass species and cultivars unadapted to site conditions often require additional nutrition for acceptable performance.

Consider the growing environment on the site.

• Existing factors such as shade, pH, thatch, poor drainage, proximity to environmentally sensitive areas or to heat islands, and other factors can significantly modify the nutritional requirements of the turf.

Assess the soil type and condition on the site.

• Soil type affects nutrient-holding capacity and nutrient retention characteristics.
• Sandy soils low in organic matter are prone to leaching and generally have a low nutrient reserve.
• Loamy soils with organic matter (humus) and some clay content are less prone to leaching and generally have a higher nutrient reserve. Nutrients can also bind to soil particles or organic matter and become less available.

Sandy Soils	Loamy Soils
• low nutrient reserve • poor nutrient and moisture retention • potential for high nutrient losses via leaching	• generally more fertile • good nutrient and moisture retention • potential for significant content of unavailable nutrients

Manage soil pH appropriately.

• pH management is crucial, as pH extremes have implications for solubility (availability) of nutrients.
• pH in the slightly acidic to neutral range generally maximizes nutrient availability.
• Managing pH is often the best way to avoid micronutrient deficiencies.
• Maintaining proper pH is important for preventing build-up of unhealthy amounts of thatch.

To maximize nutrient availability, make provisions for sufficient moisture.

• Plants take up mineral nutrients in solution, therefore adequate moisture is required for nutrient release from most fertilizers and mineralization of nutrients from organic matter.
• Less moisture makes nutrients less available to plants and less mobile in soil.
• Excess moisture, however, can facilitate nutrient loss via leaching and runoff.
• Adequate moisture is especially critical at establishment, not only for seedling growth and development, but also to enhance nutrient availability.

Understand and encourage soil microbial activity.

• Microorganisms impact fertility by decomposing organic material, mineralizing nutrients, recycling and immobilizing nutrients and fixing and transforming nitrogen.
• Soil microorganisms are most active when soil moisture is adequate, when soil temperature is greater than 55° F, when soil is well aerated and when soil pH is near neutral (6.5-7.0).

• Microorganisms get their energy from carbon (C) sources. Like plants, they also require nitrogen (N) and can often acquire it more easily than plants.
• Microbial populations and activity can be promoted by maintaining adequate soil moisture, optimum pH, balanced fertility, good soil aeration, by limiting use of pesticides and growth regulators, and by using organic amendments with readily available C and N.
• Microorganisms will tie up N when decomposing materials with a carbon to nitrogen ratio (C:N) > 30:1. If such materials (e.g. inadequately decomposed woodchips or compost materials) are present in the soil, then additional N may need to be applied to avoid weak, stunted turfgrass growth. Preferably, soils containing such materials should not be used until the high C: N ratio components are more thoroughly decomposed.

Understand that nitrogen (N} is the foundation of any fertility program for turf.

• N is needed in the greatest amount because of its many effects on turfgrass growth.
• Adequate nitrogen is necessary to maintain high shoot density, realize vigorous but not excessive growth, attain healthy moderate green color (which is an indicator of the plants' potential for photosynthesis, the process by which the plant produces its energy), and the ability to recuperate from stress or pest injury.
• Excessive N can increase disease problems, reduce tolerance to high and low temperature, reduce traffic tolerance and result in moisture stress due to increased shoot growth and reduced rooting.

Know that phosphorus is needed by turfgrass plants in amounts second only to N.

• Phosphorus is essential when establishing new turf plantings, and also helpful in improving both rooting and winter hardiness.
• Adequate phosphorus in the seedbed is critical to rapid establishment and to reduce runoff following planting.

Provide adequate potassium.

• Adequate K fertility improves wear tolerance, heat and cold tolerance, stolon and rhizome growth, and rooting (thus improving water and nutrient uptake).
• Unlike N and P, K is an environmentally-benign nutrient and excess K fertilization poses little to no known risk to the health of the environment.

OBJECTIVE	Develop a sound plan for additions of nutrient- containing materials into the turf system; these are some of the most important and complex decisions a turf manager makes.

Develop and implement an efficient nutrient management plan that prioritizes environmental protection:

• Perform site analysis with identification and mapping of environmentally sensitive areas as well as areas at high risk for off-site movement of nutrients.
• Note and map specific buffer zones delineated in environmentally regulated areas such as Zone I Wellheads, wetlands and certain coastal zones, and for protection of natural resources.
• Map, including measured square footage or acreage, areas being fertilized or receiving nutrient containing materials.
• Perform and consult soil tests to determine soil water infiltration and drainage characteristics.
• Reduce applications of nutrient-containing materials to the lowest possible level required to sustain an acceptable level of turf performance.
• Implement cultural practices that maximize nutrient uptake by plants, reduce nutrient waste and minimize off-site movement of nutrients, especially by reducing soil compaction, increasing surface water infiltration, and decreasing runoff.
• Implement proper storm water management techniques aimed at reducing movement of soil and nutrients.
• Apply fertilizer and other nutrient containing materials so that they do not land or stay on hard surfaces and so that they do not enter surface waters or conduits such as catch basins that lead to surface waters.

Understand that there is no 'generic' fertility program that will produce excellent turf under all conditions.

• Factors that may vary among different fertility programs include the form of nutrients to be applied, the frequency of application, the rate of application, the timing of applications throughout the season and the placement of the fertilizer and other nutrient containing materials.
• Factors including turf quality desired, use of the turf, site conditions, grasses present, age and maturity of the turf stand, resources available, proximity to environmentally sensitive areas and other factors will influence the frequency, rate, timing and placement of applications of the particular nutrient sources to be applied.
• Select fertilizer and other nutrient containing materials appropriate for the time of year, irrigation status of the turf, and growth rate of the grasses present.
• Recognize that improper fertilization practices can be more detrimental than not fertilizing at all.
• On established turf, N and P losses from unfertilized areas can be equal to or greater than losses from fertilized areas.

Fertilize for the right reasons.

• Adequate and balanced nutrition is critical for healthy turfgrass shoots and roots.
• Apply fertilizer to the turf system to supply nutrients that may be in inadequate supply for the desired level of turf performance.
• Vigorously growing turf is more resistant to weeds, disease, and insect pests.
• Healthy turf provides a surface better able to withstand wear as well as mechanical and environmental stresses.
• Dense, well-rooted turf promotes water infiltration and effectively mitigates runoff.
• Good nutrition helps to promote turf with favorable aesthetic c haracteristics.

Give some low maintenance turf areas special consideration in terms of fertility.

• Although turf use factors and even aesthetics are not necessarily a priority for management of many low maintenance sites, all turf requires some minimum level of fertility to provide other functional benefits such as erosion control, atmospheric carbon sequestration, slowing of runoff, and promotion of moisture infiltration.
• A soil test is the best starting point for selecting an appropriate fertilizer material and determining a reasonable rate.
• Use caution when considering fertilization for sites that have not been fertilized for several years. Certain older, low traffic and very low maintenance sites have achieved an acceptable equilibrium that may be disrupted by new fertilizer input. Unless expectations have changed or issues with growth rate or stand density are apparent, sometimes it is best to leave such sites alone in terms of fertility.

NITROGEN

Recognize that no soil test currently exists that can reliably inform nitrogen (N) applications to turf in the Northeast.

• There are no generic N fertilization recommendations that can be applied to all situations.
• N rates must be determined based on variables such as expected quality of the turf, use of the turf, condition of the growing environment, grass species and varieties present, and available fertilizer and nutrient containing materials.
• N should be applied at a frequency and rate that will assure vigorous growth without promoting surge growth, overstimulation or loss of N from the turf system.
• Nitrogen from all sources in the management plan should be factored into total N applied. Remember that materials including organic amendments, organic fertilizers, composts and compost derivatives, topdressings and recycled clippings can all contribute N to the turf system.

In choosing a nitrogen *SOURCE,* carefully evaluate the readily-available nitrogen content and the slowly-available nitrogen content, as well as the specific nutrient release characteristics.

• **Water-soluble nitrogen (WSN)** is readily available to the plant.
• **Slowly-available nitrogen or slow release nitrogen (SRN)** sources include **water-insoluble nitrogen (WIN)** and various engineered slow release nitrogen technologies referred to as **controlled release nitrogen (CRN).**
• Manufactured turf fertilizers are often formulated with a mixture of WSN and SRN.
• The percentages of WSN and SRN in a fertilizer product will affect the N release rate, price, and other factors.

- Characteristics of WSN and SRN sources may be considered either advantageous or disadvantageous depending on the specific management situation.
- Turf managers need to be especially cognizant of the release characteristics for nutrients from any material and how release rate is influenced by factors such as temperature and water.

Water-soluble nitrogen (WSN)

Table 3 lists the most common WSN sources used by turf managers. Of these fertilizers listed, urea is the most commonly used source of N in most complete fertilizers. Calcium ammonium nitrate, ammonium sulfate, and potassium nitrate have a higher salt index and are more likely to burn the turf than urea. Mono- and diammonium phosphate are used in fertilizers when phosphorus input is also desired.

Table 3. Characteristics of some water soluble turfgrass fertilizers.

Fertilizer	Analysis (N-P-K)	Salt Indexa	CaC03b Equiv.	Lbs. Needed to Supply 1 Lb. N
Urea	45-0-0	1.7	71	2.2
Ammonium sulfate	21-0-0	3.3	110	4.8
Calcium ammonium nitrate	20-0-0	3.2	-4 c	5.0
Potassium nitrate	13-0-44	5.3	-23	7.7
Monoammonium phosphate	11-4-0	2.7	58	9.1
Diammonium phosphate	21-53-0	1.7	75	4.8

a. Relative burn potential compared to sodium nitrate. (>2.5 = high, 2.5 -1.0 =moderate, <1.0 = low)
b. Calcium carbonate equivalent (CCE): lbs. of $CaCO_3$ (limestone) needed to neutialize the acidity of 100 lbs. of applied fertilizer.
c. A negative CCE increases pH; equivalent to applying 4 lbs. $CaCO_3$ for every 100 lbs. of calcium ammonium nitrate fertilizer, or 23 lbs. CaC03 for every 100 lbs. potassium nitrate

Water-insoluble nitrogen (WIN)

Typical slow release N sources classified as WIN include: ureaformaldehyde products (UF), isobutylidene diurea (IBDU), and products derived from natural organic materials such as seed meals, feather meal, activated sewage sludge, seaweed, and other plant and animal residues.

Ureaformaldehyde (UF) fertilizers (38%N) depend upon microbial activity to release N from complex mixtures of short, intermediate and long chain organic carbon polymers. Thus, factors which favor microbial activity will also favor N release. These conditions are: soil temperatures higher than 55°F, adequate moisture, adequate aeration, and pH between 6.0 and 7.0. UF fertilizers are less effective in late fall and early spring because of unfavorable temperatures (cold soils) for N release.

Methyleneurea (MU) fertilizers are similar to UF but are composed of shorter length carbon chains. MU fertilizers are less sensitive to cold temperatures compared to UF products.

lsobutylidene diurea (IBDU, 31% N) is a material which releases Nasa result of very slow solubility in water. The physical process is essentially similar to dissolving of sugar or some other soluble product only at a much reduced rate. Finer particle size products are available for use on low cut areas or where a more rapid response is desired. Because moisture is necessary for release, IBDU is not a good choice for non-irrigated turf areas. Conditions that are not favorable for moisture retention such as excessive thatch will be less favorable for N release from IBDU. In addition, IBDU will not release as effectively on alkaline soil with pH above 7.7. Because release is not affected by temperature, IBDU is a good choice for early spring when adequate natural rainfall is usually plentiful. IBDU is not commonly found as the nitrogen component in most complete fertilizers.

Natural organic fertilizers vary in composition depending upon what source of nitrogen is used. N release from natural organic fertilizers is much like that of UF fertilizer. Release depends upon microbial activity and is temperature dependent (i.e. needs warm soils). Therefore, developing a fertility program utilizing natural N sources can pose a unique challenge as N from natural organic sources will be more available during periods of warmer temperatures (when less fertility is generally needed), and less available during periods of cooler temperatures favorable for turfgrass growth. See Table 5 for information on some natural organic fertilizer materials.

Slow release nitrogen (SRN) technologies

In addition to WIN sources, coated technologies are available including sulfur coated urea (SCU), polymer (plastic) coated urea (PCU) and double coated technologies (Polymer-S), which combine both sulfur and polymer coatings in the same N source. These coated technologies are SRN sources that have similar strengths and weaknesses to those exhibited by WIN fertilizers. N release from SCU can be less consistent and less efficient compared to Polymer-S and PCU sources.

Sulfur Coated Urea (SCU, 32-36% N} and plastic coated urea (PCU} products release N slowly because the urea pellet (prill) is covered with a coating of sulfur, plastic or both. Thus, N leaks through the pores at a slow rate compared to uncoated urea. Prills which have an incomplete or cracked coating will behave like WSN. Thinly coated prills will release N more rapidly than thickly coated prills. Adequate moisture and warm soil temperatures (warmer than 55°F) are factors favoring release of N from SCU and other coated urea fertilizer products.

Table 4 lists the most common synthetic WIN and SRN sources used by turf managers.

Table 4. Characteristics of some common slow release turfgrass fertilizers.

Fertilizer	Analysis (N-P-K)	Salt Indexa	CaCO Equiv.	Lbs.Neededto Supply 1 Lb. N
Ureaformaldehyde and Methyleneurea	38-0-0	0.3	68	2.6
Isobutylidene diurea	31-0-0	0.2	57	3.2
Sulfur coated urea	32-0-0	0.7	varies	3.1

a. Relative burn potential compared to sodium nitrate. (>2.5 = high, 2.5 -1.0 =moderate, <1.0 = low).
b. Lbs. of CaC03 (limestone) needed to neutralize the acidity of 100 lbs. of applied fertilizer.

Table 5. Typical nutrient value and C: N ratio of several common organic and mineral soil amendments and nutrient containing materials.

	Total N (%)a	C:N ratio	Fraction of organic N made available	P20s (%)	K2O (%)
Plant residues					
Alfalfa meal	3-4	18	0.3-0.5	0.5	2.5
Cottonseed meal	6	5	0.6-0.8	2	2
Seaweed	0	-	-	0	1
Soybean meal	7	5	0.6-0.8	2	2
Corn gluten meal c	9	4	0.6-0.8	0	0
Animal products					
Dried blood	12	3	0.7-0.9	1	0.5
Bone meal (steamed)	3	4	0.5-0.7	15	0
Feather meal	13	4	0.7-0.9	0	0
Fish emulsion	4	3	0.7-0.9	2	0
Fish meal	9-12	4	0.7-0.9	7	0
Poultry litter d	3-4	15	0.4-0.6	3	3
Compost (mature) d					
Manure	1.5-2	20-25	0.1-0.15	2	1
Yard waste	0.5-1	20-25	0.1-0.2	1	1
Mineral materials					
Potassium sulfate	0	-	-	0	50
Sui-Po-Mag	0	-	-	0	21
Wood ash	0	-	-	1	10
Colloidal rock phosphatee	0	-	-	25 f	0
Rock phosphate e	0	-	-	20-32 f	0
Granite dust e	0	-	-	0	3-5 f
Greensand e	0	-	-	1 f	4-9f

a. Nutrient concentration of organic materials is inherently variable. Estimated values are provided for reference only. It is best to have materials tested in order to determine appropriate application rates.
b. To estimate the quantity of total N expected to become plant available in the first season following application, multiply by the appropriate coefficient.
c. Corn gluten meal inhibits germination of some small seed plants and has been promoted as a natural pre-emergent herbicide. Avoid using where turfgrass has been recently seeded or where overseeding is imminent.
d. Compost and poultry litter also contain varying quantities of NH4, which is immediately plant available; however, NH4 is subject to volatilization losses if material is not immediately incorporated.
e. Relative nutrient availability of nutrients from rock powders varies with origin of material, soil pH, and depends largely on fineness of grind.
f. These values represent total KzO and PzOs. These materials are extremely insoluble therefore available KzO and PzOs from these materials will be much lower.

Use slowly-available SRN along with readily-available WSN for fertilizer applications, especially on sandy soils prone to leaching.

- WSN and SRN sources each contribute both positive and negative properties to a fertilizer product. A balance of both WSN (fast) and SRN (slow) types are preferred for most turf applications.
- As a general rule, during periods of peak shoot growth typical of spring and fall it is desirable to have not less than 25 percent of the total N in the fertilizer derived from some SRN source. The fertilizer should also contain a sufficient amount of WSN to support active growth especially during favorable shoot and root growth periods of spring and fall.
- If fertilization is necessary during periods of minimal growth typical of summer stress, it is advisable to have not less than 50 percent of the total N (though not less than 75% is preferable) in the fertilizer derived from an SRN source (WIN or CRN).

Characteristics of readily-available (WSN) N sources:	**Characteristics of slowly-available (SRN) N sources:**
provide a rapid increase in both color and growth rate	release N slowly over a longer period of time than readily- available N sources
release of N is relatively independent of temperature, so can be used throughout most of the growing season with acceptable response	some sources are temperature dependent and do not release N in cold soils{< 55 oF)
relatively rapid plant response rate	in moist, warm summers nutrient release may be more rapid
relatively short period of plant response (residual of 4 to 6 weeks at normal rates)	low potential for foliar burn (salt index)
potential for surge shoot growth	do not result in flushes of rapid growth (surge growth)
can be applied in either granular or liquid form	provide a longer residual plant response
high foliar burn potential (salt index) when applied at excessive rates or during periods of high temperature	potential carryover of N into the following growing season(s)
greater potential for Joss via leaching or volatility (gaseous losses)	lower potential for gaseous loss and loss via leaching
generally less expensive per unit N when compared to many SRN Sources	relatively slow color response
	generally cost more per unit of N when compared to WSN sources

When using natural organic sources of N, take care not to over apply phosphorus.

- Soil testing is the first step before applying any P containing fertilizers or P containing materials.

- Since almost all natural organic nitrogen sources contain P, care should be taken that excess P is not applied in an attempt to supply adequate N.
- Organic N sources exhibit a low N content by weight of fertilizer. The total fertilizer amount needed to meet the turf system N requirement increases with decreasing N content of the N source. This in turn may lead to over-application of P in a turf system, especially when soil test P is sufficient for turf growth.
- Repeated applications of organic N sources that contain P can continue to overload the turf system with unnecessary P over time.
- Where organic fertility programs are being implemented and soil test results show *Above Optimum* levels of P, the addition of P containing fertilizer, amendment, topdressing or other materials should be avoided.

See Table 10 for information on natural organic fertility sources.

Exercise particular care in determining an appropriate *RATE* of fertilizer N.

- As discussed previously, turfgrasses are highly responsive to fertilizer N. N is also a nutrient that can impair ground and surface water in the event of undesired migration out of the turf system.
- The term 'fertilization rate' can refer either to the rate of an individual application or to the amount of fertilizer nutrient applied on an annual basis, taking into account all sources of N.
- The N fertilization rate depends upon many factors such as: N source to be applied, time of the year, fertility requirement of the species and cultivars present, specific management goals (for example, successful overseeding or repairs), and expectations for quality and performance.
- Turf that is intensively used (e.g. sports fields, golf courses) may need special considerations in terms of appropriate N rates. The N rate may need regular adjustments to provide for adequate growth and recovery at specific times of the year.
- Any practice that promotes rooting activity especially into deeper portions of the soil profile will increase acquisition of both water and nutrients by the turf system. To that end, keeping N to its lowest possible level needed to maintain optimum turf function will promote greater rooting relative to shoot growth (high root-to- shoot ratio) and increase nutrient and water use efficiency.

Current fertilizer guidelines may call for as much as 4 lbs. N per 1000 sq. feet per season for the turfgrass species present on a site. Guidelines for N input to turf are exactly that: guidelines. If turf of acceptable quality can be maintained at a rate lower than 4 lbs. N per 1000 sq. feet per season, then reducing the rate is justified and helps to reduce labor, fertilizer cost, and the potential for excess nutrients in the system.

Lower N rates may be possible where:

- fertile loam soils are present
- traffic is not intensive
- higher height of cut is practiced
- grass clippings are returned
- turf is under shade
- turf is not irrigated
- turf is older and well-established

Table 6. Typical nitrogen fertilizer rate ranges for common cool-season lawn grasses.

	Kentucky bluegrass	Perennial ryegrass	Tall fescue	Fine fescues
Fertility level	med- high	med- high	med- high	low- med
Lbs. N per 1000 sq ft per season	2-4	2-4	2-4	0-2

Determine the *FREQUENCY* of fertilizer applications based on the nitrogen characteristics of the fertilizer material.

- Fertilization programs for lawns may vary from 1 to 4 or more applications per season, depending on several factors, including the nutrient release characteristics of the material used.
- Fertilization programs utilizing only WSN are not suggested for lawns.
- Multiple, frequent applications of very small rates (0.1 to 0.2 lbs. of N per 1000 sq. feet per application of WSN sources, referred to as spoon-feeding) are sometimes utilized on heavily used, high

value turf (e.g. sports fields and golf course tees and greens) where rapid and complete uptake of fertilizer nutrients is important for controlled plant growth and recovery, and where the presence of well drained soils requires strategies to reduce leaching potential. Such labor intensive spoon-feeding programs are seldom appropriate for lawn turf.

- The proportion of SRN in a fertilizer should be increased during the pre-stress period approaching the summer (i.e. June) or during the summer to protect against foliar burn and surge growth. Similarly, for intensively used turf such as sports turf, more SRN in a fertilizer is needed in mid-fall during the pre-stress period preceding low temperatures when plants are acclimating (conditioning) to cold stress. It is extremely important to keep WSN as low as possible during these pre-stress periods.

TIME fertilizer applications so that maximum nitrogen availability corresponds with periods of active turfgrass growth.

- An N application during late spring (approximately Memorial Day) is widely practiced in order to enhance quality going into summer and to encourage growth before the high temperatures and moisture stress of summer occur. It is important that such an application does not stimulate the turf into growth during the stressful summer months (especially if irrigation is not available). Fertilizer applied at this time should contain a high percentage of WIN (minimum of 50% or more).

- Fertilization during July and August should be approached cautiously in order to avoid excess growth during periods of high temperature and moisture stress. If fertilization during the summer is necessary, it is recommended to have not less than 50 percent of the total N as WIN, though not less than 75% of total N as WIN is preferable.
- Application of fertilizer materials should be avoided on non-irrigated turf in summer and during times of high temperature stress or moisture stress. More flexibility is possible on irrigated sites.
- The late August/early September (approximately Labor Day) fertilization period is the most important for cool season grasses. Recovery from summer stress injury as well as increased shoot growth from tillering and rhizome production are enhanced by sufficient N availability throughout the fall.
- Some sophisticated management programs employ what is referred to as a late season (or late fall) fertilizer application. The proper approach for late season fertilization is to apply after the last mowing after shoot growth has stopped but before the turf has lost green color.
  - The correct timing of late season fertilization, which can vary considerably from year to year depending on prevailing conditions, is extremely critical in order to realize positive benefits. Incorrect timing can stimulate turf into undesirable growth immediately prior to the onset of low temperature stress, and/or increase the potential for nutrients to move off-site due to leaching or runoff.
  - Because of the delicate nature of late season fertilization, it is more appropriate for specific management objectives on intensively-used, high value turf areas (e.g. sports fields and golf courses). Late season fertilization is normally not warranted for less intensively managed sites.
  - The success of late season fertilization is dependent on proper late summer-early fall fertilization.
  - Late season fertilization is best practiced by an experienced turf manager.
  - Late season fertilization should be avoided in areas that are or may be environmentally sensitive.
- Some programs also employ an early spring application of N. This application is used primarily to enhance quality and early spring growth at the time when preemergence weed control materials are being applied. This application is also used to stimulate growth and enhance recovery of high-use turf (e.g. baseball and soccer fields and parks).
- Do not apply fertilizer or other nutrient containing materials to drought dormant, cold dormant, inactive or otherwise brown turf. Do not apply fertilizer to frozen ground.

Table 7. Suggested options for timing, rate, and % SRN[3] for N applicationsb based on number of applications per year (lbs N/M = lbs of nitrogen per 1000 square feet).					
Time of year	Number of N applications				
	1x/yr	2x/yr	3x/yr	4x/yr c	4x/yr c
Spring (after -50% green-up)		50-100% SRN 1.0-1.5 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M	
Late spring/ eariy summer			50-75% SRN 0.75-1.0 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M
Summer (irrigated turf only)				50-75% SRN 0.75-1.0 lbs N/M	50-75% SRN 0.75-1.0 lbs N/M
Late summer/ early fall (-Labor Day)	75-100% SRN 1.0-2.0 lbs N/M	50-100% SRN 1.0- 1.5 lbs N/M	25-50% SRN 1.0 - 1.5 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M	25-50% SRN 0.75-1.0 lbs N/M
Late fall (late season) d					25-50% SRN 0.75-1.0 lbs N/M
TOTAL ANNUAL N	1.0-2.0 lbs N/M	2.0-3.0 lbs N/M	2.5-3.5 lbs N/M	3.0-4.0 lbs N/M	3.0.4.0 lbs N/M

a. Use higher SRN content on sandy root zones or during stress and pre-stress periods.
b. Specific N rates may *vary* based on several factors including turfgrasses present, management, and turf use. For predominately fine fescue turf or shaded sites use lower listed N rates.
c. Programs utilizing 4 or more N applications per year are best suited for intensively used, high-value turf.
d. Final application made after last mowing while grass is still green. *As noted in the text, not necessary for most lawns and not appropriate for environmentally sensitive sites.*

PHOSPHORUS AND POTASSIUM

Supply phosphorus and potassium based on soil test results.

- Soil testing is the most accurate method for determining P and K fertilizer requirements.
- Phosphorus and potassium are expressed in their respective oxide forms, P20s and K2O, for the purposes of fertilizer grades and recommendations.

Understand that special considerations are necessary for application of phosphorus-containing materials.

- For mature turf, phosphorus application is rarely needed on most soils unless a deficiency is indicated by a soil test.
- When soil tests indicate P is needed, use rapidly-available sources of P for new seedings to ensure adequate levels of soluble phosphorus for young grass shoots. Note that some organically approved mineral sources of P may not release available phosphorus quickly enough for rapid turfgrass development (e.g., rock phosphate, colloidal soft rock phosphate).
- When soil test phosphorus levels for established turf are below optimum *(Very low* or *Low;* see Table 1, 'Interpretation of soil test categories'), the recommended application rate for P is intended to meet immediate turf phosphorus needs in addition to gradually raising soil test levels into the *Optimum* range (see Table 9, 'UMass soil test phosphorus application guidelines').
- Applying P in conjunction with cultivation (aeration, dethatching, etc) will facilitate incorporation into the root zone and reduce the potential for phosphorus loss,
- When soil test phosphorus levels are in the *Optimum* range very **little,** if any, P is needed for established turf.
- When soil test phosphorus levels are *Above Optimum,* no P is needed for establishment or maintenance.

Table 8. Characteristics of common phosphorus containing fertilizer sources				
Fertilizer	Analysis	Salt Index a	CaC03 Equivalent b	Lbs. needed to supply 1 lb. P20s

Mono-ammonium phosphate	11-52-0	2.7	58	1.9 (also supplies 0.21bs. N)
Di-ammonium phosphate	18-46-0	1.7	75	2.2 (also supplies 0.41bs. N)
Super-phosphate	0-20-0	0.4	0	5.0

a. Relative burn potential compared to sodium nitrate. (>2.5 =high, 2.5 - 1.0= moderate, <1.0 = low)
b. Lbs. of $CaCO_3$ (limestone) needed to neutralize the acidity of 100 lbs. of applied fertilizer.

Table 9. UMass soil test phosphorus application guidelines.

	Soil test phosphorus level			
	Very low	*Low*	*Optimum*	*Above Optimum*
	lbs P_2O_5 /1000 sf *I* year			
Turf Establishment	2.0-2.5	1.0-2.0	0.5-1.0	0
Turf Maintenance	1.5-2.0	0.5-1.5	0-0.5	0

Limit P input to the lowest possible level needed to achieve adequate turf quality and prevent deficiency.

- Soil test phosphorus levels should not exceed the environmental critical concentration (40 ppm Modified Morgan extractable P) in order to to protect surface water quality. When extractable phosphorus exceeds the environmental critical concentration, the risk of dissolved phosphorus loss in subsurface water flow or runoff in amounts that pollute surface water is significantly increased. As with N, the potential for leaching of P is greater on sandy root zones.
- To avoid phosphorus overload in the turf system, nutrients from all sources in the management plan should be factored into total P applied. Organic amendments, retained clippings and many compost materials can contribute P into the turf system.
- Where soil test phosphorus levels are *Excessive* (greater than 40 ppm P), no P containing materials should be applied and active steps should be taken to minimize surface runoff from the site.
- **Natural organic sources of P, whether approved in organic programs or not, do not pose a lower risk to water resources than synthetic fertilizer P**. Where organic fertility programs are being implemented and soil test results indicate *Above Optimum* levels of P, the addition of P containing fertilizer, soil amendments or topdressing materials should be avoided.

See Table 5 for a listing of natural organic nutrient sources containing P.

Apply potassium in accordance with soil test results and management goals

- When soil test K levels are below *Optimum (Very low* or *Low),* application of K fertilizer will generally improve turf health. Even when soil test K levels are in the *Optimum* range, turf health may benefit from a modest application of K. See Table 1, 'Interpretation of soil test categories'.
- While every fertilizer application may not include K, those applications proceeding stress periods are good times to supplement K and to correct for soil K deficiencies.
- Where no P is needed, apply N and K over the growing season following a ratio of approximately 3-0-2 or 4-0-2.
- Early fall applications in particular are often made with a fertilizer containing N and K to improve winter survival without over-stimulating growth.

Potassium chloride (KCI) is the most common K source used in turf fertilizers because of its lower cost and moderate burn potential (Table 10). Potassium sulfate (K_2SO_4) is used in high-grade turf fertilizers because of its low burn potential (low salt index).

Table 10. Characteristics of common potassium containing fertilizer sources.				
Fertilizer	Analysis	Salt Index [a]	CaC03 Equivalent [b]	Lbs.needed to supply 1 lb. K20
Muriate of potash (KCl)	0-0-60	1.9	0	1.7
Sulfate of potash (KzS04)	0-0-50	0.9	0	2.0
Potassium nitrate ($KN0_3$)	13-0-44	5.3	-23	2.3

a. Relative burn potential compared to sodium nitrate. (>2.5 =high, 2.5 -1.0 = moderate, <1.0 = low)
b. Lbs. of $CaC0_3$ (limestone) needed to neutralize the acidity of 100 lbs. of applied fertilizer.

Table 11. UMass soil test potassium application guidelines				
	Soil test potassium level			
Management level	*Very low*	*Low*	*Optimum*	*Above Optimum*
	Lbs K2O/1000sf/year			
Normal	3-4	2-3	1-2	0
Intensive a	4-5	2-4	1-2	0

a. Use intensive recommendations for heavily used or intensively managed turf such as sports turf, or golf greens and tees.

See Table 5 for a listing of natural organic nutrient sources containing K.

OBJECTIVE	Employ cultural management practices that maximize nutrient uptake by plants, reduce nutrient waste and minimize off-site movement of nutrients.

Fertilization and supplemental irrigation are important in many turf management scenarios for the maintenance of an acceptable level of turf performance. Water, in particular, is an especially important consideration for effective nutrient management. Adequate moisture is critical for efficient uptake and use of nutrients, while excess moisture can lead to undesirable movement of nutrients in the environment. To protect precious environmental resources and to minimize maintenance costs, water and fertilizer inputs need to be kept to their lowest possible levels. This lower input can be accomplished in part by eliminating wasteful use and taking action to promote the retention of water and nutrients within the plant-soil system. Furthermore, by eliminating waste the turf practitioner can help to minimize the potential impact of nutrients such as phosphorus and nitrogen on surface and ground water quality.

This can be done by enhancing the ability of turfgrass plants to acquire water and nutrients or equivalently, improving the nitrogen use efficiency (NUE) and water use efficiency (WUE) of the turfgrass system. Increased NUE and WUE helps to sustain greater turf quality and function under reduced water and fertilizer input.

Although NUE does not diiectly account for relationships involving other essential plant nutrients (such as P and K), NUE is an effective metric for evaluating the efficiency of various plant nutrients within a turf system. Remember that N forms the foundation of any fertility program for turf, therefore steps to improve N use efficiency by optimizing inputs and reducing waste will in turn promote efficient use and retention of other essential nutrients.

Correct factors that reduce soil infiltration and promote runoff.

- Low soil infiltration rates promote runoff and therefore may increase reliance on costly supplemental fertilization and irrigation. Whether the source of water is rainfall or irrigation, increasing the soil infiltration rate will reduce runoff potential, protect resources and promote turf quality.
- It is important to alleviate any condition or practice that reduces soil infiltration and promotes runoff:

- Manage excessive thatch and reduce soil compaction: Thatch can be hydrophobic in summer, which can result in low soil infiltration rates. Compaction increases soil hardness and inherently reduces soil infiltration rates. These factors together inhibit rooting depth and density. These same conditions also promote surface water runoff as well as nutrient and pesticide losses, conditions that reduce plant and irrigation efficiency and compromise environmental quality.
- Do not irrigate in excess of the soil's capacity to absorb water: Where slow infiltration is problematic, multiple cycling of irrigation may be necessary to prevent runoff.
- Water in fertilizer and nutrient containing materials immediately after a pplication to move nutrients to the root zone, where they can be absorbed by the plant: Time fertilizer applications on un-irrigated lawns to coincide with subsequent rainfall whenever possible, avoiding applications prior to forecast periods of extended or excessive rainfall. Fertilize or apply nutrient containing materials in conjunction with core aeration whenever possible to further promote incorporation of fertilizers into the root zone.
- Protect steep slopes at establishment through use of mulches, netting or other appropriate material: If steep grades are unavoidable, then it is likely that multiple cycling of irrigation will be needed in such areas to prevent runoff.
- Employ appropriate cultural practices to maintain turf density: Decreasing shoot biomass translates to reduced capacity to inhibit water runoff.
- Manage heavy traffic: Turf thinning and soil compaction increase relative to the amount of traffic on the turf.
- Select and introduce turfgrass species and cultivars adapted for the site and use: Carefully selected, well-adapted species and cultivars have greater capacity to maintain turf function, shoot density and extensive rooting with less maintenance input in terms of fertilizer and water. Poorly adapted plants will be challenged to maintain shoot density sufficient to minimize runoff.
- Avoid excessive soil firming during establishment.
- Provide proper soil preparation at planting to minimize stones and debris at the soil surface.

Minimize leaching loss of water and nutrients.

- Soil water that moves below the rooting profile is water unavailable for plant uptake; such leaching loss is wasteful.
- Leaching events also move nutrients such as N and P below the root zone and out of the turfgrass system, which increases the potential for adverse environmental impact.

Alleviate factors that can lead to leaching of water and nutrient inputs:

- Avoid exceeding turfgrass evapotranspiration (ET} rates in summer: Irrigating deeply and infrequently according to ET replacement will help to prevent leaching loss.
- Avoid the use of highly water soluble N (WSN) fertilizers in summer: Use of slowly-available N (SRN) instead minimizes the potential for nutrient loss, especially on sandy soils that are prone to leaching. Fertilizer with at least 50% of total N as SRN is preferred (75% as SRN is better). Frequent 'spoon feeding' or foliar N at very low WSN rates may be appropriate for more sophisticated systems.
- Maintain turf density: Thin turf has less photosynthetic leaf area to support sufficient root mass to enable effective uptake and utilization of water and nutrients.
- Do not apply fertilizers to dormant or inactive turf: Minimal shoot and root activity compromise uptake and utilization of water and nutrients.

Eliminate waste.

- Promptly correct any practice that may result in removal or loss of nitrogen or water from the turf system.

Alleviate factors by that contribute to waste:

- Retain grass clippings whenever possible: Significant nitrogen and phosphorus is removed from turf systems by clipping removal, therefore the return of clippings to retain nutrients in the turf system is preferable in the vast majority of cases. When retaining clippings, supplemental fertilization must be adjusted to avoid possible overloads of N and P. Exceptions for removal of clippings include when they are excessive and may smother turf, when certain diseases are present, or during seed head formation of weed species. If clippings must be removed, dispose of them properly to avoid undesirable release and movement of nutrients as the clippings decompose.
- Direct applications of water and fertilizer to turf areas: Water and fertilizer that reach non-grassy areas and hard surfaces are not useful to turf and may be rapidly conveyed off-site, dramatically increasing the potential for negative environmental impact. Promptly clean up fertilizer as well as pesticide materials and turfgrass clippings that settle on impervious surfaces. Also, fertilizer and other nutrient containing materials should not be used as de-icers. Where irrigation is

provided water should only be applied to turf, not hard surfaces, and at a rate that ensures adequate infiltration.

▪ Properly calibrate fertilizer and irrigation delivery equipment: Irrigation audits and spreader calibration should be conducted regularly, consistently and correctly.

▪ Manage weeds: Undesirable grassy and broadleaf weeds compete with desirable turfgrasses for water and nutrients; therefore weed control/removal is important for improving efficient use of nutrients and water.

▪ Prevent nutrient deficiencies: Under-fertilized turf is less capable of mitigating losses of water and nutrients through leaching and runoff. Insufficient phosphorus (P) and potassium (K) may reduce NUE and WUE especially if rooting is inhibited. Furthermore, P should only be applied based on soil test results and soil testing for K is advisable as well.

Condition plants for nutrient uptake with responsible and effective cultural practices.

- Any practice that promotes rooting activity, especially in the deepest portions of the soil profile, will increase acquisition of both nutrients and water by turfgrass plants.

Alleviate factors that reduce turf system NUE and WUE by inhibiting rooting depth and density:

▪ Keep N inputs to the lowest possible level: This will promote greater rooting relative to shoot growth (high root-to-shoot ratio) and increase both NUE and WUE of turf.

▪ Manage excessive thatch and relieve soil compaction: These factors are inhibitory to rooting depth and density. These same conditions also promote surface water runoff as well as nutrient and pesticide losses, conditions that reduce plant and irrigation efficiency.

▪ Avoid excess levels of WSN and close height of cut: These practices in combination are more detrimental to rooting depth than either practice considered alone. SRN is more effective in increasing turf NUE and WUE compared to WSN (for example, a minimum of 75% of total N as SRN in summer is highly effective in minimizing shoot growth and alleviating root stress). Cutting too low, or too frequently, shrinks leaf area which translates into reduced photosynthetic capacity. Less photosynthetic capacity in turn can support less root mass and depth.

▪ Do not over-irrigate: Maintaining root zones at field capacity by over- watering will inhibit rooting, decrease drought resistance, and promote disease and soil compaction. Furthermore, excess moisture in the root zone can limit soil oxygen and affect active uptake of nutrients. Use of wilt-based irrigation (irrigation withheld until the onset of mild moisture stress) with ET replacement will promote rooting and root activity and prevent leaching of water and nitrate-N. Wilt-based irrigation with ET replacement is very effective in enhancing NUE and WUE of turf.

▪ Manage soil pH: Acid soils (pH< 5.5) can inhibit rooting. Furthermore, availability of nutrients such as iron and manganese can reach toxic levels when pH is low. Follow soil test recommendations for adjusting soil pH to the slightly acidic to neutral range (6 to 7).

▪ Avoid shallow rooted species and cultivars: Plants with genetically limited rooting potential exhibit poor drought resistance as well as poor NUE and WUE. Generally plants with superior drought resistance have greater NUE. Use National Turfgrass Evaluation Program data (NTEP, http://www.ntep.org) for selecting drought hardy turfgrasses. See Section 4, *Turfgrass Selection,* in this publication, for more information on considerations in the selection of turfgrasses.

▪ Take care with applications of soil applied preemergence herbicides:
Some soil applied preemergence herbicides can negatively affect rooting of desirable turfgrasses. When a need for these type of materials has been identified as critical to the proper functioning of the turf, use a split application in spring to control weedy summer annuals such as crabgrass in two applications at reduced rates. Consult pesticide labels for split application rates that may be less detrimental to rooting without sacrificing season long weed control.

OBJECTIVE	Establish new turf areas quickly and effectively while protecting soil and nutrients from loss.

Plant during favorable periods that promote rapid establishment.

- The ideal period for establishment in the Northeast is late summer to early fall.
- Consider using grasses that establish quickly, such as perennial ryegrass, to promote rapid grass cover when needed. This is especially important on slopes or in environmentally sensitive areas to minimize soil loss and potential environmental contamination.
- Avoid excess firming of soil.

Take steps to prevent movement of soil off-site.

- Eliminate potential for storm water runoff; keep soil from running onto hard surfaces or into catch basins.
- Consider sodding areas that have a high erosion potential during the establishment phase. Sod should only be installed if irrigation is available throughout the establishment phase.
- Take all available steps to maximize turfgrass germination and rapid establishment. Mature turf has a much greater capacity to hold soil in place and prevent erosion.

Promote rapid establishment with mulches and similar materials.

- Consider using mulches or erosion control blankets to promote soil infiltration of water, to reduce soil loss, to buffer temperature fluctuations and to hasten germination.

Promote rapid establishment with proper fertility.

- Proper fertility at establishment greatly reduces the potential nutrient losses over time.
- Phosphorus (P) needs by the turfgrass plant and rates of P fertilization are greatest during the establishment period. Apply Pas recommended by a soil test.
- N and P losses can be greater at establishment due to low shoot density, use of readily-available nutrient sources, and high irrigation frequency. Therefore, providing conditions for rapid establishment and protecting soil from loss are critical.

OBJECTIVE	Keep application records for fertilizer and nutrient-containing materials.

Maintain detailed application records as a useful tool for evaluating and adjusting the fertility program.

- Good records are invaluable for evaluating the performance of an existing fertility program, as a guide when making adjustments, and as a reference from season to season.

The following information is suggested for fertility records:

- Application location
- Presence of and distance to surface water, wellheads or other environmentally sensitive areas
- Soil-type
- Date of most recent soil test Product or material applied Nutrient analysis of material
- %slowly-available N (SRN as WIN or CRN)
- Amount of material used and timing
- Application equipment used (drop, rotary, spray)
- Application rates used for N, P20s and K20
- Wind speed at application
- Rainfall amounts 24 to 48 hours before/after application
- Magnitude and length of slope of fertilized area
- Total annual **N** used
- Total annual **P** used
- Total annual K used
- Other comments/notes

APPENDIX 2 –310 CMR 19: Solid Waste Management from Code of Massachusetts Regulations

Disclaimer

The Massachusetts Department of Environmental Protection (MassDEP) provides this file for download from its Web site for the convenience of users only.

Please be aware that the OFFICIAL versions of all state statutes and regulations (and many of the MassDEP policies) are only available through the State Bookstore or from the Secretary of State's Code of Massachusetts Regulations (CMR) Subscription Service.

When downloading regulations and policies from the MassDEP Web site, the copy you receive may be different from the official version for a number of reasons, including but not limited to:

- The download may have gone wrong and you may have lost important information.
- The document may not print well given your specific software/ hardware setup.
- If you translate our documents to another word processing program, it may miss/skip/lose important information.
- The file on this Web site may be out-of-date (as hard as we try to keep everything current).

If you must know that the version you have is correct and up-to-date, then purchase the document through the state bookstore, the subscription service, and/or contact the appropriate MassDEP program.

310 CMR 19.000: SOLID WASTE MANAGEMENT

PART I: GENERAL REQUIREMENTS, PROCEDURES AND PERMITS

19.001: Authority
19.002: Purpose
19.003: Applicability
19.004: Severability
19.005: Computation of Time
19.006: Definitions
19.007: Access Rights of the Department
19.008: Accurate and Timely Submittals
19.009: Accurate and Complete Record Keeping
19.010: Accurate Monitoring
19.011: Signatories, Certification and Engineer's Supervision
19.012: Determinations by the Department
19.013: Exemptions
19.014: Prohibition on Open Dumps and Dumping Grounds and Illegal Disposal of Solid Waste
19.015: Compliance
19.016: Post-closure Use
19.017: Waste Bans
19.018: Third-party Inspections
19.028: Requirements for Construction, Operation, Modification or Expansion of a Solid Waste Management Facility
19.029: Applicable Permit and Certification Procedures for Construction, Operation, Modification or Expansion of a Solid Waste Management Facility
19.030: Application for a Solid Waste Management Facility Permit
19.032: Permit Procedure for a New Facility or Expansion Permit Application
19.033: Permit Procedure for an Application for a Permit Modification or Other Approval
19.034: Presumptive Approval Procedure
19.035: Transfer Station Certifications
19.036: Department's Modification, Suspension or Revocation of a Permit
19.038: Review Criteria for a New or Expanded Facility Permit or Permit Modification
19.041: Authorization to Construct
19.042: Authorization to Operate
19.043: Conditions for Permits and Other Approvals
19.044: Transfer of Permits
19.045: Facility Closure and Post-closure
19.050: Private Facility Tax
19.051: Financial Assurance Requirements

19.060: Beneficial Use of Solid Wastes
19.061: Special Waste
19.062: Demonstration Projects or Facilities
(19.070: Operator Certification Requirements: Reserved)
19.080: Variances
19.081: Enforcement Provisions
19.082: Penalties
19.083: Enforcement of Minimum Recycling Requirements

PART II: LANDFILL DESIGN AND OPERATIONAL STANDARDS

19.100: Preamble
19.101: Applicability
19.102: Definitions
19.103: Additional Requirements
19.104: Landfill Facility Plan
19.105: Equivalency Review Standards and Procedures
19.106: Quality Assurance and Quality Control Requirements
19.107: Construction Certification
19.110: Ground Water Protection Systems
19.111: Alternative Ground Water Protection System Design
19.112: Landfill Final Cover Systems
19.113: Alternative Landfill Final Cover System Design
19.114: Ground Water Protection System and Final Cover Waivers

Section: continued

19.115: Storm Water Control
19.116: Surface and Ground Water Protection
19.117: Air Quality Protection Systems
19.118: Ground Water, Surface Water and Gas Monitoring Systems
19.119: Design Requirements for Ash Landfills
19.120: Design Requirements for Woodwaste Landfills
19.121: Landfill Gas Recovery Operations
19.130: Operation and Maintenance Requirements
19.131: Additional Operation and Maintenance Requirements for Landfills that Accept Ash
19.132: Environmental Monitoring Requirements
19.133: Maintenance of Environmental Control and Monitoring Systems
19.140: Landfill Closure Requirements
19.141: Notice of Landfill Operation
19.142: Landfill Post-closure Requirements
19.143: Post-closure Use of Landfills
19.150: Landfill Assessment Requirements
19.151: Corrective Action Requirements

PART III: TRANSFER STATION DESIGN AND OPERATIONS STANDARDS

19.200: Preamble
19.201: Applicability
19.202: Definitions
19.203: Additional Requirements
(19.204: Handling Facility Plan: Reserved)
19.205: Handling Facility Design Requirements
19.206: Construction and Demolition (C&D) Waste Processing Facilities Requirements
19.207: Handling Facility Operation and Maintenance Requirements

CLASS II RECYCLING PROGRAM

19.300: Preamble
19.301: Applicability
19.302: Definitions
19.303: Class II Recycling Program

19.001: Authority

310 CMR 19.000 is promulgated by the Commissioner and the Department of Environmental Protection pursuant to the authority granted by St. 1987, c. 584, M.G.L. c. 21A, §§ 2 and 8 and c. 111, § 150A.

19.002: Purpose

310 CMR 19.000 is intended to protect public health, safety and the environment by comprehensively regulating the storage, transfer, processing, treatment, disposal, use and reuse of solid waste in Massachusetts. Protection of public health, safety and the environment is primarily the prevention of pollution from the site, but also encompasses the operation of the facility within an integrated solid waste management system which maximizes material reuse and the conservation of energy.

19.003: Applicability

(1) 310 CMR 19.000 shall apply to all solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste.

(2) 310 CMR 19.014 and 19.017 also shall apply to any person disposing or contracting for disposal or transport of solid waste or restricted materials listed in Table 310 CMR 19.017(3).

19.004: Severability

It is hereby declared that the provisions of 310 CMR 19.000 are severable, and if any provision hereof or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of 310 CMR 19.000, and the application thereof to persons or circumstances which can be given effect without the invalid provision or application.

19.005: Computation of Time

Unless otherwise specifically provided by law or 310 CMR 19.000, any determination issued pursuant to 310 CMR 19.000, or any time period prescribed or referred to in 310 CMR 19.000 shall begin with the first day following the act which initiates the running of the time period, and shall include every calendar day, including the last day of the time period so computed. If the last day is a Saturday, Sunday, legal holiday, or any other day in which the Department's offices are closed, the deadline shall run until the end of the next business day. If the time period prescribed or referred to is six days or less, only days when the offices of the Department are open shall be included in the computation.

19.006: Definitions

For purposes of 310 CMR 19.000, the following words and phrases shall have the following meanings unless the content clearly indicates otherwise:

Abutter means the owner of land sharing a common boundary or corner with the site of the proposed activity in any direction, including, but not limited to, land located directly across a street, way, creek, river, stream, brook or canal.

Access Road means a roadway or course providing access to a facility, or areas within a site assigned area, from a public way or other road that is not under the control of the operator.

Action Leakage Rate (ALR) means the quantity of liquid collected from a the leak detection system of a double liner system over a specified period of time which, when exceeded, requires certain actions to be taken as described in a plan approved by the Department.

Active Landfill means a landfill that has an authorization to operate pursuant to 310 CMR 19.042 and for which the Department has not approved facility closure completion pursuant to 310 CMR 19.140(6).

Adverse Impact means an injurious impact which is significant in relation to the public health, safety, or environmental interest being protected.

Agricultural Material means organic materials produced from the raising and processing of plants and animals as part of agronomic, horticultural, aquacultural or silvicultural operations, including, but not limited to, animal manures, animal products and by-products (including carcasses), bedding materials and plant materials.

Airport means any air navigation facility certificated by the Massachusetts Aeronautics Commission (MAC) under provisions of M.G.L. c. 90, and airports operated by the Massachusetts Port Authority.

Airport Zone means the area surrounding an airport that is within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway used by only piston type aircraft.

Applicant means the person named in the application as the owner of a property interest in the site or the operator of the proposed facility where the owner has entered into an agreement with an operator at the time the application is filed.

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Asbestos Waste means Asbestos-containing Material and Asbestos-containing Waste Material as defined in 310 CMR 7.00: Air Pollution Control.

Ash means the residual by-product of a thermal combustion/reduction process, including all ash fractions (bottom, fly, boiler and economizer ash).

Asphalt Pavement, Brick and Concrete means asphalt pavement, brick and concrete from construction activities and demolition of buildings, roads and bridges and similar sources.

Bedrock means cemented or consolidated earth materials exposed on the earth's surface or underlying unconsolidated earth materials.

Beneficial Use means the use of a material as an effective substitute for a commercial product or commodity.

Bird Hazard means a hazard to aircraft created by an increase in the likelihood of bird/aircraft collisions.

Board of Health means the legally designated health authority of the city, town or other legally constituted governmental unit within the Commonwealth having the usual powers and duties of the board of health of a city or town, or its authorized agent or representative; provided, that in any case in which a waste disposal facility extends into the geographic areas of two or more boards of health, said boards may coordinate activities in effecting compliance with 310 CMR
19.000 for the management of solid wastes.

Bulky Wastes means waste items of unusually large size including but not limited to large appliances, furniture, large auto parts, stumps, trees, branches, brush.

Cathode Ray Tube (CRT) means any intact, broken, or processed glass tube used to provide the visual display in televisions, computer monitors and certain scientific instruments such as oscilloscopes.

Cell means a discrete portion of a landfill that contains or is designed to contain compacted solid waste enclosed by natural soil or other non-waste materials.

Clean Gypsum Wallboard means gypsum wallboard that is not contaminated with paint, wallpaper, joint compound, adhesives, nails, or other substances after manufacture. Gypsum wallboard means a panel (also known as drywall) with a gypsum core and faced with a heavy paper or other material on both sides.

Clean Wood means discarded material consisting of trees, stumps, and brush, including but not limited to sawdust, chips, shavings, bark, and new or used lumber. Clean wood does not include:

(a) wood from commingled construction and demolition waste; (b) engineered wood products; and
(c) wood containing or likely to contain:
    1. asbestos;
    2. chemical preservatives such as, but not limited to, chromated copper arsenate (CCA), creosote or pentachlorophenol; or
    3. paints, stains or other coatings, or adhesives.

Closed Landfill means a landfill for which the Department has determined that the facility closure has been completed or has approved a post-closure monitoring plan pursuant to
310 CMR 19.140.

Closure means the act or process of deactivating a facility in compliance with the approved facility final closure plan and applicable closure requirements.

Combustion Facility means a facility employing an enclosed system using controlled flame combustion, the primary purpose of which is to thermally break down solid wastes, producing ash that contains little or no combustible materials.

Commercial Organic Material means food material and vegetative material from any entity that generates more than one ton of those materials for solid waste disposal per week, but excludes material from a residence.

Commercial Products means of or relating to goods. Commercial products are often unrefined, produced and distributed in large quantities for use. A commercial product may be solid like a concrete block, or loose like aggregate drainage material. A commercial product may be manufactured or produced using solely secondary materials.

Commercial Solid Waste means all types of solid waste generated by stores, offices, institutions, restaurants, warehouses, and other non-manufacturing activities, or similar types of solid waste generated from manufacturing operations. Commercial Solid Waste does not include solid waste generated in a residence or in a manufacturing or industrial process.

Commissioner means the Commissioner of the Department of Environmental Protection or his or her designee.

Composting or Composted means a process of accelerated biodegradation of organic materials using microorganisms under controlled conditions in the presence of oxygen using windrows or piles, including but not limited to, covered aerated piles or bays. For the purposes of 310 CMR 19.000, composting is not aerobic digestion or conversion.

Composite Liner means a groundwater protection system that is composed of two or more low permeability layers where, typically, the upper layer consists of FML (flexible membrane liner) or Geomembrane in direct contact with the lower layer consisting of a low permeability soil and/or a geosynthetic clay liner (GCL).

Construction and Demolition Waste (C&D) Processing Facility means a handling facility where construction and demolition waste is brought, stored and processed (usually by sorting, crushing, shredding, screening, etc.) prior to reuse or transport to a solid waste disposal facility or to other types of facilities for recycling, recovery or reuse.

Construction and Demolition Waste (C&D) means the waste building materials and rubble resulting from the construction, remodeling, repair or demolition of buildings, pavements, roads or other structures. Construction and demolition waste includes but is not limited to, concrete, bricks, asphalt pavement, masonry, plaster, gypsum wallboard, metal, lumber and wood.

Construction and Demolition Waste (C&D) Transfer Station means a transfer station permitted by the Department to accept 50 tons per day or more of construction and demolition waste. A C&D waste transfer station may accept other types of solid waste in accordance with its permit.

Cover Material means soil or other materials that can be placed in one or more layers over solid waste for control of vectors, fires, odors, percolation of water into a landfill, grading, support of vegetation and related environmental or engineering purposes.

Critical Contaminant of Concern (CCC) means contaminants identified by the Department to be of particular concern due to their toxicity, persistence, ability to bio-accumulate, or widespread occurrence.

Cumulative Receptor Cancer Risk means that risk as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Cumulative Receptor Cancer Risk is defined at 310 CMR 40.0000 as follows: the sum of the estimated excess lifetime cancer risks associated with exposure to all oil and/or hazardous material at or from a disposal site at all exposure points for a given receptor.

Cumulative Receptor Non-cancer Risk means that risk as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Cumulative Receptor Non- cancer Risk is defined at 310 CMR 40.0000 as follows: a calculation of the possibility of non- cancer health effects associated with exposure to all oil and/or hazardous material at or from a disposal site at all exposure points identified for a given receptor. The Hazard Index is a measure of the Cumulative Receptor Non-cancer Risk.

Current Operations means those areas of a solid waste management facility which had been filled with refuse, were in active use for management of solid wastes or were under construction as of July 1, 1990.

Department means the Department of Environmental Protection.

Destructive Practices means any process that requires the demolition of commercial products that were manufactured using secondary materials.

Discharge means the accidental or intentional spilling, leaking, pumping, emitting, emptying, dumping or placement of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

Disposal means the final dumping, landfilling or placement of solid waste into or on any land or water or the combustion of solid waste.

Disposal Facility means any combustion facility or any landfill.

Double Liner means a groundwater protection system that is comprised of two liners that are separated by a drainage layer that provides a leak detection function by collecting any leachate that leaks through the primary liner.

Downgradient means:

(a) in reference to surface water, the direction perpendicular to lines of equal elevation over a distance in which elevation continuously decreases, measured from the point or area in question; or

(b) in reference to groundwater, the direction perpendicular to lines of equipotential over a distance in which total head continuously decreases, measured from the point or area in question.

Dumping Ground means a facility or place used for the disposal of solid waste from one or more sources which is not established or maintained pursuant to a valid site assignment or permit in accordance with M.G.L. c. 111, § 150A, 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or 310 CMR 19.000.

Equipment means any item of machinery or implement used in the operation or maintenance of a facility.

Expansion means:

(a) For a landfill, a horizontal or vertical increase in the size of the landfill beyond the horizontal or vertical limits specified or approved in the permit; and

(b) For a transfer station:

1. In the case of a transfer station permitted by the Department to accept less than 50 tons per day (TPD), an increase in the tonnage acceptance limits approved in the permit that would result in the facility accepting 50 TPD or more; and

2. In the case of a transfer station permitted by the Department to accept 50 TPD or more, an increase in the tonnage acceptance limits of more than 25% beyond the limits approved in the permit, determined on a cumulative basis since the last new or expanded transfer-station permit was issued to the facility.

(c) For any other handling facility or combustion facility, an increase in the tonnage acceptance limits beyond the tonnage limits approved in the facility permit.

Exposure means exposure as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Exposure is defined at 310 CMR 40.0000 as follows: any contact with or ingestion, inhalation or assimilation of oil and/or hazardous material, including, without limitation, irradiation.

Exposure Pathway means exposure as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Exposure is defined at 310 CMR 40.0000 as follows: The mechanism by which human or environmental receptors inhale, consume, absorb, or otherwise take in oil and/or hazardous material at an exposure point.

Exposure Point means that point as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Exposure Point is defined at 310 CMR 40.0000 as follows: a location of potential contact between a human or environmental receptor and a release of oil and/or hazardous material. An Exposure Point may describe an area or zone of potential exposure, as well as a single discrete point.

Exposure Point Concentration means that concentration as defined in 310 CMR 40.0000: Massachusetts Contingency Plan. As of October 7, 2005 Exposure Point Concentration is defined at 310 CMR 40.0000 as follows: the concentration of oil or hazardous material in a specific medium which a human or environmental receptor may contact at an Exposure Point.

Facility means a site or works, and other appurtenances thereto, which is, has been or will be used for the handling storage, transfer, processing, treatment or disposal of solid waste including all land, structures and improvements which are directly related to solid waste activities.

Factor of Safety means the ratio of the breaking stress of a structure to the estimated maximum stress in ordinary use.

Fault means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to those on the other side.

Flexible Membrane Liner (FML) or Geomembrane Liner means a continuous layer of low- permeability flexible polymeric material beneath, on the sides and/or on the top of a landfill or landfill cell.

Floodplain means an area which floods from a rise in a bordering waterway or waterbody and is the maximum lateral extent of flood water which will result from the statistical 100 year frequency storm. This boundary shall be determined using the data available through the National Flood Insurance Program (NFIP) as administered by the Federal Emergency Management Agency (FEMA), except where the Department determines that more accurate information is available.

Food Material means material produced from human or animal food production, preparation and consumption activities and which consists of, but is not limited to, fruits, vegetables, grains, and fish and animal products and byproducts.

Geologic Formation means the basic stratigraphic unit which is a mappable lithologic entity characterized by a particular rock type or types.

Geonet or Geocomposite means a synthetic material with its primary function designed to facilitate drainage.

Geosynthetic Clay Liner (GCL) means a liner material that is comprised of a layer of sodium bentonite clay (or similar low permeability clay) either sandwiched and mechanically secured between two materials (typically synthetic) or chemically bonded to a synthetic material to create a continuous low permeability layer or liner.

Geotextile means a permeable synthetic material that can be a woven, nonwoven, composite, or knitted product, etc. that fulfills several functions in civil engineering, especially separation, filtration, drainage and protection.

Ground Water means water below the land surface in a saturated zone.

Groundwater Protection System means an engineered system that may include without limitation, liners and barrier structures; leachate collection, storage and disposal systems; drainage systems and/or other technologies intended to prevent the migration of leachate into and contamination of the groundwater.

Handling means storing, transferring, processing or treating of a material or solid waste.

Handling Area means an area used for the transfer, storage, processing or treatment of solid waste, excluding weigh stations or access roads.

Handling Facility means any facility that is not a disposal facility and that is used for the storage, processing or treatment of solid waste.

Hazardous Material means that material as defined in 310 CMR 40.000: Massachusetts Contingency Plan. As of October 7, 2005 Hazardous Material is defined at 310 CMR 40.0000 as follows: material, including, but not limited to, any material in whatever form which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed. The term shall not include oil, but shall include waste oil and all those substances which are included under 42 U.S.C. § 9601(14), but it is not limited to those substances. The term shall also include, but is not limited to, material regulated as hazardous waste or recyclable material under 310 CMR 30.000: Hazardous Waste.

Hazardous Waste means any waste that is defined and regulated under 310 CMR 30.000: Hazardous Waste.

Holocene means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

Household Hazardous Waste means hazardous waste generated by households but which is not subject to the Hazardous Waste Regulations pursuant to 310 CMR 30.104: Wastes Subject to Exemption From 310 CMR 30.000 except as provided in 310 CMR 30.390: Special Provisions for Accumulation of Household Hazardous Waste and/or Hazardous Waste Generated by Very Small Quantity Generators.

Hydrogeologic Study means a detailed study designed to define and assess the geologic and hydrologic character of a given area focusing on existing or potential water quality impacts.

Interim Wellhead Protection Area (IWPA) means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005 Interim Wellhead Protection Area is defined at 310 CMR 22.00 as follows: for public water systems using wells or wellfields that lack a Department approved Zone II, the Department will apply an interim wellhead protection area. This interim wellhead protection area shall be a ½ mile radius measured from the well or wellfield for sources whose approved pumping rate is 100,000 gpd or greater. For wells or wellfields that pump less than 100,000 gpd, the IWPA radius is proportional to the approved pumping rate which may be calculated according to the following equation: IWPA radius in feet
= (32 x pumping rate in gallons per minute) + 400. A default IWPA radius or an IWPA radius otherwise computed and determined by the Department shall be applied to transient non- community (TNC) and non-transient non-community (NTNC) wells when there is no metered rate of withdrawal or no approved pumping rate.

Landfill means a facility or part of a facility established in accordance with a valid site assignment for the disposal of solid waste into or on land.

Leachate means a liquid that has passed through or emerged from solid waste and which may contain soluble or suspended material from such waste.

Leak Detection System means a secondary leachate collection system or other means that can both detect the presence of leachate which has leaked through the primary liner and identify the area of the primary liner through which the leachate has leaked.

Liner means an engineered layer or layers of recompacted soils and/or synthetic materials designed to restrict the movement of leachate into ground water and to facilitate the collection of leachate. "Liner" may refer to one or more low permeability layers in a ground water protection system.

Lithified Earth Material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock formed by crystallization of magma or by induration of loose sediments. Lithified Earth Material does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil or regolith lying at or near the earth surface.

Lower Explosive Limit (LEL) means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

Maintain means to establish, keep or sustain the presence of a facility on a site, whether or not such facility is in operation or has been closed.

Maximum High Groundwater Table means the highest seasonal elevation of the surface of the Zone of Saturation that has been historically documented or calculated.

Maximum Horizontal Acceleration in Lithified Earth Material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90% or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

Medical or Biological Waste means Medical or Biological Waste as defined in 105 CMR 480.000: Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII).

MEPA means the Massachusetts Environmental Policy Act, M.G.L. c. 30, §§ 61 through 62H.

MEPA Process means an environmental review process required for projects subject to 301 CMR 11.00: MEPA Regulations.

Mercury-added Product means a product to which the manufacturer intentionally introduces mercury, including, but not limited to, electric lamps, thermostats, automotive devices, electric switches, medical or scientific instruments, electric relays or other electrical devices, but not including products made with coal ash or other products that are incorporated into equipment used to manufacture semiconductor devices, elemental mercury in pre-capsulated form that is sold, distributed or provided to a dental practitioner for use in compliance with the department's regulations concerning amalgam wastewater and recycling for dental facilities, or mercury-added formulated products. Mercury-added Product includes mercury-added components that are incorporated into larger products.

Metal means ferrous and non-ferrous metals derived from used appliances, building materials, industrial equipment, transportation vehicles, and manufacturing processes.

Monitor means to systematically measure, inspect and/or collect data on the performance of a facility or on its existing or potential impact on the land, air, ground and surface waters.

Monitoring Well means a well designed to facilitate the down-hole measurement of groundwater and/or gas levels and the collection of groundwater and/or gas samples.

Municipal Solid Waste means any residential or commercial solid waste.

No Significant Risk means that risk as defined in 310 CMR 40.000: Massachusetts Contingency Plan. As of October 7, 2005 No Significant Risk is defined at 310 CMR 40.0000 as follows: a level of control of each identified substance of concern at a site or in the surrounding environment such that no such substance of concern shall present a significant risk of harm to health, safety, public welfare or the environment during any foreseeable period of time.

Open Burning means burning under such conditions that the products of combustion are emitted directly to the ambient air space and are not conducted thereto through a stack, chimney, duct, or pipe. Open burning includes above or underground smoldering fires.

Open Dump means a facility which is operated or maintained in violation of the Resource Conservation and Recovery Act (42 U.S.C. 4004(a)(b)), or the regulations and criteria promulgated thereunder relative to solid waste disposal.

Operator means any person who has care, charge or control of a facility subject to 310 CMR 19.000, including without limitation, an agent or lessee of the owner or an independent contractor.

Opportunity to Recycle or Compost means financial or operational participation in a coordinated recycling or composting program between the applicant and the applicant's waste sources.

Owner means any person who alone or in conjunction with others has legal ownership, a leasehold interest, or effective control over the real property upon which a facility is located, or the airspace above said real property; “owner” does not mean persons holding bare legal title for the purpose of providing security for financing.

Person(s) means any individual, partnership, association, firm, company, corporation, department, agency, group, public body (including a city, town, district, county, authority, state, federal, or other governmental unit) or any other entity responsible in any way for an activity subject to 310 CMR 19.000.

Pollution means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of any material which, because of its quantity, concentration or other characteristics, does or may result in an adverse impact to human, plant or animal life or to property, or may unreasonably interfere with the comfortable enjoyment of life or property.

Post-closure means a finite period of time commencing after the closure of a facility has been completed and approved by the Department, during which the Department may require site monitoring, care and maintenance.

Post-consumer Recyclables means the following materials which have served their intended end use and have been pre-sorted:

(a) containers, films and wraps and other forms of packaging made from metal, glass, plastic or paper; and
(b) newspaper, office paper, cardboard and other grades of paper.

Potential Private Water Supply means a portable water supply as defined in 314 CMR 5.11: Ground Water Standards, capable of yielding water of sufficient quality and quantity which is located under a parcel of land that at the time of the earlier of the following two filings, the Site Assignment Application or, where applicable, the Massachusetts Environmental Policy Act Environmental Notification Form, is:

(a) zoned residential or commercial;
(b) not served by a public water supply; and
(c) subject to a subdivision plan or a building permit application approved by the appropriate municipal authority.

Potential Public Water Supply means a drinking water source which, at the time of the earlier of the following two filings, the Site Assignment Application, or where applicable, the Massachusetts

Environmental Policy Act Environmental Notification Form, has been determined to be capable of yielding water of sufficient quality and quantity for future development as a public water supply, and either:

(a) has been designated and received Departmental approval under the Guidelines and Policies for Public Water Systems; or

(b) has had the necessary documentation submitted on its behalf for determination as a Potential Public Water Supply as defined by the Department's Division of Water Supply.

Pre-sort means to separate from solid waste and to keep separate from solid waste. Pre-sorting does not require the separation of components that are integral to that material (e.g. insulation or electronic components in white goods).

Primary Composite Liner means a composite liner that is the uppermost liner in a double liner system.

Primary Leachate Collection System means the uppermost leachate collection system.

Primary Liner means the uppermost liner in a ground water protection system composed of two or more liners.

Private Water Supply means a well used as a source of drinking water supplying a non-public water system with any volume of groundwater from any source.

Processing means the use of any method, technique or process to alter the physical characteristics of a material or solid waste through any means, including, without limitation, separating, baling, shredding, crushing or reworking. Storage alone does not constitute processing.

Public Water Supply means a source of drinking water supplying a public water system as defined in 310 CMR 22.00: Drinking Water.

QA/QC means quality assurance/quality control.

Recharge Area means an area through which water enters an aquifer. See "Zone II".

Recyclable or Recyclable Material means a material that has the potential to be recycled and which is pre-sorted. Recyclable material includes biodegradable paper, but does not include:

(a) organic materials that will be composted or converted; or

(b) construction and demolition waste unless it has been separated, and kept separate, into at least the following categories: asphalt, brick and concrete; wood; metals; plaster and wallboard; roofing materials; and carpet.

Recycle means to recover materials or by-products which will be:

(a) Reused; or

(b) Used as an ingredient or a feedstock in an industrial or manufacturing process to make a marketable product; or

(c) Used in a particular function or application as an effective substitute for a commercial product or commodity.

Recycle does not mean to recover energy from the combustion of a material or to create a fuel.
Recycle does not include composting or conversion.

Refuse means solid waste.

Residence or Residential means a single, multi-family, or group home, or apartment complex. For purposes of 310 CMR 19.000, a group home means an establishment, usually resembling a private home, for providing a small group of persons with special needs, such as handicapped or elderly persons or children, with lodging and supervised care. Residence does not include any centralized dining facility.

Residual means all waste remaining after treatment or processing. Residual remaining after treatment or processing is not pre-sorted material. Air and water discharges managed in accordance with applicable regulations are not residuals.

Responsible Official means an individual who is duly authorized to bind the entity (e.g., but not limited to, a corporation, limited liability company, partnership, public entity, sole proprietorship or trust) which is subject to 310 CMR 19.000.

Restricted Material means any material subject to a waste restriction at a solid waste management facility pursuant to 310 CMR 19.017(3).

Saturated Zone or Zone of Saturation means the area beneath the land surface in which the voids in the rock or soil are filled with water.

Secondary Composite Liner means a composite liner that is the lowest liner in a double liner system.

Secondary Leachate Collection System means the leachate collection system lying between the uppermost or primary liner and the secondary liner and is designed to collect leachate which has leaked through the primary liner.

Secondary Liner means the liner that is below the uppermost or primary liner and is separated from the primary liner by a leachate collection system in a ground water protection system composed of two or more liners.

Secondary Material means a waste material that has characteristics that make it an effective substitute for an ingredient in an existing or new product or commodity.

Secretary means the Secretary of the Executive Office of Environmental Affairs.

Seismic Impact Zone means an area with a 10% or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in 250 years.

Site means any building, structure, place or area where solid waste is or will be stored, transferred, processed, treated, disposed, or otherwise come to be located.

Site Assignment means a determination by a board of health or by the Department as specified in M.G.L. c. 111, § 150A that:

(a) designates an area of land for one or more solid waste uses subject to conditions with respect to the extent, character and nature of the facility that may be imposed by the assigning agency after a public hearing in accordance with M.G.L. c.111, § 150A; or

(b) establishes that an area of land was utilized as a site for the disposal onto land of solid waste or as a site for a refuse disposal incinerator prior to July 25, 1955, as provided in St. 1955, c. 310, § 2. The area of land assigned under 310 CMR 19.006: Site Assignment(b) shall be limited to the lateral limits of the waste deposition area ("the footprint"), or the area occupied by the incinerator, as they existed on July 25, 1955, except as otherwise approved by the Department in approved plans. Said assignment shall apply only to uninterrupted solid waste disposal activities within the footprint or plan approved area and shall have no legal force or effect at any time after the cessation of disposal activities except as otherwise provided at 310 CMR 16.21: Alternative Use of Assigned Site.

Sludge means the accumulated solids and/or semisolids deposited or removed by the processing and/or treatment of gasses, water or other fluids.

Sole Source Aquifer means an aquifer so designated by the U.S. Environmental Protection Agency, or by the Department under the authority of a state program as may be established, that supplies 50% or more of the drinking water for the aquifer service area, and the volume of water which could be supplied by alternative sources is insufficient to replace the petitioned aquifer should it become contaminated.

Solid Waste or Waste means useless, unwanted or discarded solid, liquid or contained gaseous material resulting from industrial, commercial, mining, agricultural, municipal or household activities that is disposed or is stored, treated, processed or transferred pending such disposal, but does not include:

(a) hazardous wastes as defined and regulated pursuant to 310 CMR 30.000: Hazardous Waste;

(b) sludge or septage which is land applied in compliance with 310 CMR 32.00: Land Application of Sludge and Septage;

(c) wastewater treatment facility residuals and sludge ash from either publicly or privately owned wastewater treatment facilities that treat only sewage and which is treated and/or disposed at a site regulated pursuant to M.G.L. c. 83, §§ 6 and 7 and/or M.G.L. c. 21, §§ 26 through 53 and the regulations promulgated thereunder, unless the wastewater treatment residuals and/or sludge ash are co-disposed with solid waste;

(d) septage and sewage as defined and regulated pursuant 314 CMR 5.00: Ground Water Discharge Permit Program, and regulated pursuant to either M.G.L. c. 21, §§ 26 through 53 or 310 CMR 15.00: The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage, provided that 310 CMR 19.000 does apply to solid waste management facilities which co-dispose septage and sewage with solid waste;

(e) ash produced from the combustion of coal when reused as prescribed pursuant to M.G.L. c. 111, § 150A;

(f) solid or dissolved materials in irrigation return flows;

(g) source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954;

(h) those materials and by-products generated from and reused within an original manufacturing process;

(i) materials which are recycled, composted, or converted in compliance with 310 CMR

16.03: Exemptions From Site Assignment, 310 CMR 16.04: General Permit for Recycling, Composting or Aerobic and Anaerobic Digestion Operations; or 310 CMR 16.05: Permit for Recycling, Composting or Conversion (RCC) Operations; and

(j) organic material when handled at a Publicly Owned Treatment Works as defined in 314 CMR 12.00: Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers and as approved by the Department pursuant to 314 CMR 12.00: Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers.

Solid Waste Management Facility (See Facility).

Special Waste means any solid waste that is determined not to be a hazardous waste pursuant to 310 CMR 30.000: Hazardous Waste and that exists in such quantity or in such chemical or physical state, or any combination thereof, so that particular management controls are required to prevent an adverse impact to the public health, safety or the environment from the collection, transport, transfer, storage, processing, treatment or disposal of the solid waste.

Storage means temporary containment of a material or solid waste in a manner which does not constitute disposal.

Storage Facility means a handling facility where solid waste is stored.

Surface Water means all bodies of water natural or artificial, inland or coastal, fresh or salt, public or private within the territorial limits of the Commonwealth of Massachusetts.

Third-party Inspection means an inspection conducted by a third-party inspector in accordance with 310 CMR 19.018.

Third-party Inspector means an individual registered with the Department to conduct third-party inspections in accordance with 310 CMR 19.018.

Tires means a continuous solid or pneumatic rubber covering intended for use on a motor vehicle.

Transfer Station means a handling facility where solid waste is brought, stored and transferred from one vehicle or container to another vehicle or container for transport off-site to a solid waste treatment, processing or disposal facility.

Treatment means the use of any method, technique or process to change the chemical, or biological character or composition of any solid waste; to neutralize such waste; to render such waste safer to transport, store or dispose; or make such waste amenable to recovery, storage or volume reduction.

Upgradient means:

(a) in reference to surface water, the direction perpendicular to lines of equal elevation over a distance in which elevation continuously increases, measured from the point or area in question; or

(b) in reference to groundwater, the direction perpendicular to lines of equipotential over a distance in which total head continuously increases, measured from the point or area in question.

Upper Concentration Limits means ceiling concentrations established for hazardous materials when contained in secondary material intended for beneficial use.

Unsaturated Zone means the zone between the land surface and the nearest saturated zone.

Unstable Area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas include, but are not limited to, areas providing inadequate foundation support and areas of mass movement including landslides, avalanches, debris slides and flows, block sliding and rock fall.

Vector means an organism that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

Vegetative Material means plant material.

Water Table means the upper elevation of the surface of the saturated zone.

Watershed means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005 Watershed is defined at 310 CMR 22.00 as follows: the area contained within geomorphic or topographic boundaries of higher elevations which cause surface water and/or groundwater to

drain or flow to lower elevations into water used as a public water system source.

Wetlands means any land or water area subject to M.G.L. c. 131, § 40 or resource areas regulated pursuant to 310 CMR 10.00: Wetlands Protection.

White Goods means appliances employing electricity, oil, natural gas or liquified petroleum gas to preserve or cook food; wash or dry clothing, cooking or kitchen utensils or related items; or cool or heat air or water.

Wood means treated and untreated wood, including woodwaste.

Yard Waste means deciduous and coniferous seasonal deposition (e.g., leaves), grass clippings, weeds, hedge clippings, garden materials and brush.

Zone A means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005
Zone A is defined at 310 CMR 22.00 as follows:

(a) the land area between the surface water source and the upper boundary of the bank; (b) the land area within a 400 foot lateral distance from the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05: Classes and Criteria(3)(a); and
(c) the land area within a 200 foot lateral distance from the upper boundary of the bank of a tributary or associated surface water body.

Zone B means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005
Zone B is defined at 310 CMR 22.00 as follows: the land area within ½ mile of the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05(3)(a), or edge of watershed, whichever is less. However, Zone B shall always include the land area within a 400-foot lateral distance from the upper boundary of the bank of the Class A surface water source.

Zone C means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005
Zone C is defined at 310 CMR 22.00 as follows: the land area not designated as Zone A or B within the watershed of a Class A surface water source as defined at 314 CMR 4.05(3)(a).

Zone of Contribution means the recharge area that provides water to a well.

Zone I means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005
Zone I is defined at 310 CMR 22.00 as follows: the protective radius required around a public water supply well or wellfield. For public water system wells with approved yields of 100,000 gpd or greater, the protective radius is 400 feet. Tubular wellfields require a 250-foot protective radius. Protective radii for all other public water system wells are determined by the following equation: Zone I radius in feet = (150 x log of pumping rate in gpd) - 350. This equation is equivalent to the chart in the Guidelines and Policies for Public Water Systems. A default Zone I radius or a Zone I radius otherwise computed and determined by the Department shall be applied to transient non-community (TNC) and non-transient non-community (NTNC) wells when there is no metered rate of withdrawal or no approved pumping rate.

Zone II means that area defined by 310 CMR 22.00: Drinking Water. As of October 7, 2005
Zone II is defined at 310 CMR 22.00 as follows: that area of an aquifer which contributes water to a well under the most severe recharge and pumping conditions that can be realistically anticipated (i.e., pumping at the safe yield of the well for 180 days without any natural recharge occurring); it is bounded by the groundwater divides which result from pumping the well and by contact of the edge of the aquifer with less permeable materials such as till and bedrock. At some locations, streams and lakes may form recharge boundaries. For the purposes of 310 CMR
19.000, a Zone II area is one which has been defined and delineated in accordance with the Department's Division of Water Supply Guidelines for Public Water Systems, September, 1984 Supplement to the 1979 edition.

19.007: Access Rights of the Department

310 CMR 19.007 relates to the rights of the Department to enter properties and to obtain and review information to verify compliance with M.G.L. c. 21A, §§ 2 and 8, St. 1987, c. 584, M.G.L. c. 21H, M.G.L. c. 111, §§ 150A and 150A½, and/or 310 CMR 19.000, in the handling, management, transfer, processing, storage, treatment, disposal, use or reuse of solid waste.

(1) Access to Facilities and Properties. At all reasonable times and without prior notice, personnel or authorized representatives of the Department may enter any facility or other property where solid waste has been, is being, or may be, placed, disposed, stored, transferred, handled, managed, processed, treated, used or reused, for the purposes of: protecting the public health, safety or the environment; preventing or abating nuisances; assessing, preventing or remediating damage to the environment; or determining or enforcing compliance; provided that personnel or authorized representatives of the Department present Department-issued identification and receive the consent of the owner, operator or person in control

of said facility or property. Notwithstanding the foregoing, personnel or authorized representatives of the Department may enter a facility or property without such consent as authorized by the conditions of any authorization, determination, modification, permit, or other approval, by the conditions of any consent order or other consented to enforcement document, if emergency conditions require immediate entry, or as otherwise authorized by law.

(2) During Inspection. After entry, personnel or authorized representatives of the Department may investigate, sample, photograph, or inspect any records, condition, equipment, practice, operation or property and make examinations and evaluations of a facility or other property specified in 310 CMR 19.007(1) to determine and enforce compliance with M.G.L. c. 21A, §§ 2 and 8, St. 1987, c. 584, M.G.L. c. 21H, M.G.L. c. 111, §§ 150A and 150A½ and/or 310 CMR
19.000 or take or arrange for actions authorized by M.G.L. c. 21H, § 4.

(3) Access to Information. Where necessary to ascertain facts relevant to compliance or to actual or potential harm to public health or safety, actual or potential nuisances, or actual or potential damage to the environment that may be caused by the handling, management, transfer, processing, storage, treatment, disposal, use or reuse of solid waste or relevant to the truth, accuracy and completeness of any submittals to the Department, including but not limited to, the authority of any responsible official, the Department may request and any person shall, within a reasonable time, furnish the requested information and shall permit said Department personnel or authorized representatives to have access to and to copy or to take images of, all records relating thereto.

(4) Duty to Cooperate. The owner and operator of a facility or other property and the person possessing information as specified in 310 CMR 19.007(3) shall in no way restrict, impede, or delay an inspection or requests for information by personnel or authorized representatives of the Department where such inspection and requests are made pursuant to a reasonable request in accordance with 310 CMR 19.007 or with the conditions of any authorization, consent determination, modification, permit, or other approval, or pursuant to the conditions of any order or other consented to enforcement document, or as otherwise authorized by law.

(5) Warrants. Upon denial of access or if the Department cannot locate with reasonable efforts the owner, operator or person in control of a facility or property, or upon refusal of a person to provide information requested, the Department may seek, from a court, judge, justice or magistrate, a warrant authorizing personnel or authorized representatives of the Department to conduct a reasonable search of the facility or property, or to obtain the information requested.
310 CMR 19.007(5) shall not preclude the Department from gaining access through other legal means, including, but not limited to, a court order or injunctive relief.

19.008: Accurate and Timely Submittals

(1) Accurate Submittals. No person shall make any false, inaccurate, or misleading statement in any application, document, information or statement which that person submits or is required to submit to the Department pursuant to 310 CMR 19.000, or any permit, order or approval issued by the Department.

(2) Timely Submittals. Any application, document, information or statement which any person is required to submit to the Department shall be submitted within the time period prescribed in
310 CMR 19.000, or any permit, order or approval issued by the Department unless otherwise specified by the Department.

19.009: Accurate and Complete Record Keeping

No person shall make any false or misleading statement in any record, report, plan, file, log, or register which that person keeps or is required to keep, pursuant to 310 CMR 19.000, or any permit, order, or approval issued by the Department. Any record keeping which any person is required to perform shall be promptly, fully, and accurately performed and shall otherwise be in compliance with 310 CMR 19.000, and any permit, order or approval issued by the Department.

19.010: Accurate Monitoring

No person shall falsify, tamper, or render inaccurate any monitoring device or method which any person maintains, or which is required to be maintained pursuant to 310 CMR 19.000, or any permit, approval or order issued by the Department. Any monitoring which any person is required to perform shall be promptly, fully and accurately performed and shall otherwise be in compliance with 310 CMR 19.000, and any order, permit or approval issued by the Department.

19.011: Signatories, Certification and Engineer's Supervision

(1) Signatories and General Certification. Any application for a permit, authorization to construct, authorization to operate, permit modification, and any determination, certification, report and any other document submitted to the Department pursuant to 310 CMR 19.000, shall be signed by the appropriate responsible official. Any person required by 310 CMR 19.000 or any order or other enforcement document issued by the Department, to submit any document to the Department shall identify himself or herself by name, profession, and relationship to the applicant and legal interest in the facility, and make the following statements:

I, [name of responsible official], attest under the pains and penalties of perjury that:

(a) I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification statement; (b) based on my inquiry of those persons responsible for obtaining the information, the information contained in this submittal is, to the best of my knowledge, true, accurate, and complete;

(c) I am fully authorized to bind the entity required to submit these documents and to make this attestation on behalf of such entity; and

(d) I am aware that there are significant penalties, including, but not limited to, possible administrative and civil penalties for submitting false, inaccurate, or incomplete information and possible fines and imprisonment for knowingly submitting false, inaccurate, or incomplete information; and

(e) (for a responsible official submitting a third-party inspection report pursuant to 310 CMR 19.018(8)(b)1.) The facility [name of facility] provided any information required by 310 CMR 19.018 and requested by the third-party inspector in a timely fashion and any employee or contractor of [name of facility] did not unduly influence the third-party inspector; and

(f) (for a responsible official submitting a transfer station certification pursuant to 19.035(4)):

1. I have accurately stated whether the transfer station is in compliance with its permit and all other applicable requirements in 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities and 19.000 including, but not limited to, 310 CMR 19.043;

2.I have accurately identified any and all violations of 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or 19.000 or the terms and conditions of any permits or other approvals issued thereunder by the Department;

3. If the transfer station is not in compliance, I have stated what the owner and operator will do to return the transfer station to compliance and the date by which compliance will be achieved; and,

4. Plans and procedures to maintain compliance are in place at the transfer station and will be maintained even if processes or operating procedures are changed.

(2) Engineering Supervision. 310 CMR 19.011(2) does not apply to any documents submitted to the Department pursuant to 310 CMR 19.018. All papers pertaining to design, construction, operation, maintenance, or engineering of a site or a facility shall be completed under the supervision of a Massachusetts registered professional engineer knowledgeable in solid waste facility design, construction and operation and shall bear the seal, signature and discipline of said engineer. The soils, geology, air modeling, air monitoring and groundwater sections of an application or monitoring report shall be completed by competent professionals experienced in the fields of soil science and soil engineering, geology, air modeling, air monitoring and groundwater, respectively, under the supervision of a Massachusetts registered professional engineer. All mapping and surveying shall be completed by a registered surveyor.

19.012: Determinations by the Department

(1) Burden. Where an applicant is seeking a permit, determination, authorization or approval from the Department the applicant has the burden of establishing, on the basis of credible evidence from a competent source, such facts as are necessary to meet the conditions and criteria set forth in the applicable provisions of 310 CMR 19.000.

(2) Additional Information. In addition to such submissions as the applicant may make, the Department may accept and rely upon credible evidence from other competent sources.

19.013: Exemptions

(1) Facilities and Operations Not Subject to 310 CMR 19.000. Any facility or operation exempt from site assignment by 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities, is exempt from the requirements of 310 CMR 19.000, with the exception of 310 CMR 19.017, which applies to any person disposing or contracting for disposal or transport of solid waste or restricted materials listed in Table 310 CMR 19.017(3).

(2) Permit Exemptions for Facilities Undertaking Actions Pursuant to M.G.L. c. 21E. Solid waste management facilities undertaking an emergency action or remedial action pursuant to M.G.L. c. 21E, and the regulations promulgated thereunder, shall not be required to obtain any additional permits or authorizations pursuant to 310 CMR 19.000, in order to carry out the actions ordered or directed by the Department pursuant to M.G.L. c. 21E and any regulations or policies promulgated thereunder.

19.014: Prohibition on Open Dumps and Dumping Grounds and Illegal Disposal of Solid Waste

(1) No person shall establish, construct, operate or maintain a dumping ground or operate or maintain a landfill in Massachusetts in such manner as to constitute an open dump. For the purpose of 310 CMR 19.014, the phrase "establish, construct, operate or maintain" shall include without limitation, disposing or contracting for the disposal of refuse in a dumping ground or open dump.

(2) No person shall dispose or contract for the disposal of solid waste at any place in Massachusetts which has not been approved by the Department pursuant to M.G.L. c.111, § 150A, 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or 310 CMR 19.000.

(3) No person shall dispose or contract for the disposal of solid waste at any facility in Massachusetts that is not approved to manage the particular type of solid waste being disposed.

19.015: Compliance

No person shall construct, modify, operate or maintain a facility except in compliance with a site assignment, permit or plan approved by the board of health or the Department, as applicable, and any authorizations issued by the Department and all conditions included in a permit, approval or authorization for said facility.

19.016: Post-closure Use

No person shall use a solid waste management facility site for any purpose after closure without:

(a) obtaining a written approval from the Department for any post-closure use on a landfill's final cover or affecting an appurtenance to said landfill, including but not limited to, appurtenances required for the management of leachate, landfill gas and stormwater; or

(b) submitting a valid certification in accordance with 310 CMR 19.035 for a post-closure use at a transfer station which is not a C&D transfer station; or

(c) obtaining a presumptive approval in accordance with 310 CMR 19.034 for any other type of post-closure use at a solid waste facility not subject to 310 CMR 19.016(1)(a) or (b).

19.017: Waste Bans

(1) Purpose. The Department may restrict or prohibit the disposal, or transfer for disposal, of certain components of the solid waste stream when it determines that:

(a) disposal of the material presents a potential adverse impact to public health, safety or the environment; or

(b) a restriction or prohibition will result in the extension of the useful life or capacity of a facility or class of facilities or reduce its environmental impact; or

(c) a restriction or prohibition will promote reuse, waste reduction, or recycling.

(2) General and Specific Restrictions. Where the Department makes a determination to restrict or prohibit the disposal, or transfer for disposal, of a particular material it may:

(a) require as a condition of issuance of a permit that a facility prohibit or limit the disposal, or transfer for disposal, of particular types of material.

(b) require as a condition of continued operation under an existing plan approval or permit that a facility or a class of facilities prohibit or limit the disposal, or transfer for disposal, of particular types of material; or

(c) determine that a specific facility or class of facilities are not approved for the disposal of particular types of material and may not contract for the disposal of particular types of material. For the purpose of 310 CMR 19.017 disposal or contract for disposal shall include, but not be limited to:

1. entering into an agreement to dispose or transport for disposal of materials restricted from disposal in violation of 310 CMR 19.000;
2. depositing restricted materials for collection, contracting for the collection of such materials or collecting or transporting such materials in a manner which results in the disposal of materials in violation of 310 CMR 19.000; or
3. intentionally contaminating or co-mingling with solid waste pre-sorted material restricted from disposal which would result in the need to dispose of said material in

violation of 310 CMR 19.000.

(3) Compliance with Waste Restrictions.

(a) Effective on the dates specified in 310 CMR 19.017(3): Table restrictions on the disposal or transfer for disposal of the materials listed therein shall apply as specified. No person shall dispose, transfer for disposal, or contract for disposal or transport of the restricted material, except in accordance with the restriction established in 310 CMR 19.017(3): Table. Any person who disposes, transfers for disposal or contracts for disposal or transport of restricted material may be subject to enforcement by the Department pursuant to 310 CMR 19.081.

(b) No landfill, transfer facility or combustion facility shall accept the restricted material except to handle, recycle or compost the material in accordance with a plan submitted pursuant to 310 CMR 19.017(6) and approved by the Department.

(c) On the effective date of the restrictions on Cathode Ray Tubes (CRTs), specified in 310 CMR 19.017(3): Table, all persons shall segregate CRTs from the solid waste stream.

Table 310 CMR 19.017(3)

Restricted Material

Effective Date of Restriction for Landfills or Com- bustion Facilities

Effective Date of Restriction for Transfer Facilities

Restriction

Lead Batteries December 31, 1990 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Leaves December 31, 1991 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Tires December 31, 1991 April 1, 2000 Ban on disposal or transfer for disposal of whole tires only at landfills. Tires must be shredded prior to disposal in landfills.

White Goods December 31, 1991 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Other Yard Waste December 31, 1992 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Aluminum Containers December 31, 1992 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Metal or Glass Containers

December 31, 1992 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Single Polymer Plastics December 31, 1994 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Recyclable Paper December 31, 1994 April 1, 2000 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Cathode Ray Tubes April 1, 2000 April 1, 2000 Ban on disposal, incineration, or transfer for disposal, at a solid waste disposal facility

Asphalt Pavement, Brick and Concrete

July 1, 2006 July 1, 2006 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Metal July 1, 2006 July 1, 2006 Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

Wood July 1, 2006 July 1, 2006 Ban on disposal or transfer for disposal at landfills

Clean Gypsum Wallboard

Commercial Organic Material		
July 1, 2011	July 1, 2011	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
October 1, 2014	October 1, 2014	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility

(4) Criteria for Determinations of Waste Restrictions on Other Materials. In determining whether to restrict or prohibit the disposal of other materials the Department may consider:

(a) the nature and degree of potential adverse impacts;
(b) the quantities of restricted materials generated;
(c) the availability of non-disposal management options for the restricted materials;
(d) the economic impact on the facility, class of facilities or generators subject to the restriction;
(e) such other factors as the Department deems relevant to such a determination.

(5) Exceptions. The Department may allow a facility or person to temporarily dispose or temporarily contract for the disposal of restricted materials, with prior notification and approval of the Department, under the following circumstances:

(a) the material is contaminated or is otherwise not acceptable for recycling or composting, provided that the person who contaminated or rendered the material unfit for recycling or composting takes any action necessary to prevent a recurrence of the conditions which contaminated or rendered the material unfit; or
(b) the recycling or composting operation or end user to which the restricted material is normally sent declines to accept the material or is prohibited from accepting the material as a result of an administrative or judicial order, provided that an alternative recycling or composting operation or storage facility which will accept the material cannot be found within a reasonable time.

(6) Waste Ban Plan Submissions.

(a) The permittee or operator shall submit a plan, or modify an existing approved plan to include newly banned materials, which describes the actions to be taken to comply with the restrictions imposed at 310 CMR 19.017(3). The plan shall be submitted to the appropriate regional office of the Department.
(b) The waste ban plan shall address the following:
1. Ongoing waste stream monitoring of all incoming loads, including:
   a. monitoring procedures;
   b. unacceptable quantities and de minimus acceptable quantities; and
   c. record keeping.
2. Comprehensive load inspections, including:
   a. loads not subject to comprehensive load inspections;
   b. load selection;
   c. inspection procedures;
   d. unacceptable quantities and de minimus acceptable quantities; and
   e. record keeping.
3. Facility response to failed loads, including:
   a. communication; and
   b. failed load disposition.
4. Other compliance plan elements, including:
   a. training;
   b. signage; and
   c. annual waste ban report.

(c) In determining the adequacy of a plan the Department may consider, without limitation: the anticipated quantities and sources of restricted materials; the contractual terms which affect the delivery of said materials; the expected maximum and minimum percentages of diversion of said materials prior to delivery to the facility and capture of said materials at the facility; the design, operational, educational, informational, financial and marketing mechanisms to be employed to achieve compliance with the restriction; and the weighing and record keeping systems by which the Department can verify compliance with the restriction.
(d) Facilities shall submit such plans at least 90 days prior to the effective date of the ban. The schedule shall not limit the Department from requiring submission of a plan as part of an application for a new or existing facility permit or modification of a permit or plan approval.

(7) Compliance with Waste Ban Plan. Failure to comply with approved plans submitted pursuant to 310 CMR 19.017(6) or applicable permit conditions shall constitute a violation of 310 CMR 19.000. The Department may allow de minimis quantities of restricted materials, as determined by the Department, to be disposed by the facility. The Department may require, in lieu of an enforcement action described

in 310 CMR 19.081, a modified plan to be submitted when restricted materials are being disposed of in excess of approved amounts.

19.018: Third-party Inspections

(1) Purpose. 310 CMR 19.018 sets forth third-party inspection requirements for specific types of facilities.

(2) Applicability.

(a) The third-party inspection requirements at 310 CMR 19.018 shall apply to the following types of facilities and to individuals who conduct third-party inspections at such facilities:

1. active landfills;
2. closed landfills;
3. handling facilities;
4. combustion facilities; and
5. other solid waste activities or facilities, as determined by the Department.

(b) Effective Date. The third-party inspection requirements of 310 CMR 19.018 shall be effective 180 days from February 14, 2014.

(c) Existing Third party Inspection Requirements. Where a facility has an existing third-party inspection requirement established in a permit or enforcement document issued prior to February 14, 2014 the facility shall use that inspection frequency (in the existing permit or enforcement document) if it is more frequent than the frequency specified in
310 CMR 19.018. All other requirements of 310 CMR 19.018 shall apply to such third-party inspections.

(d) Nothing in 310 CMR 19.000 shall be construed to limit the Department from determining that more frequent third-party inspections or more stringent requirements for third-party inspections are required for a facility. When deemed necessary by the Department, such alternate inspection frequency or more stringent requirements shall be set forth in the facility's permit, authorization to operate, or other written approval, order or other document issued by the Department.

(3) Types of Inspections. The owner and operator of a facility listed at 310 CMR 19.018(2)(a) shall have the following types of third-party inspections conducted at the facility in accordance with the performance standards and other requirements of 310 CMR 19.018:

(a) facility operation and maintenance inspections;

(b) waste ban inspections at any facility with a waste ban compliance plan approved by the Department in accordance with 310 CMR 19.017; and

(c) any other third-party inspection as directed by the Department.

(4) General Requirements for Owners and Operators.

(a) Each owner and operator of a facility shall ensure that the facility:

1. is inspected by a third-party inspector who is registered with the Department pursuant to 310 CMR 19.018(5);
2. is inspected according to the frequency and the performance standards set forth in 310 CMR 19.018(6) and (7); and
3. submits copies of all third-party inspection reports to the Department in accordance with 310 CMR 19.018(8).

(b) The owner and operator shall not conduct their own third-party inspections and shall not retain any of the following individuals to conduct such third-party inspection:

1. a person with daily on-site responsibility for the operation or management of the facility to be inspected;
2. a person with a financial interest in such facility;
3. a spouse, parent, child, or sibling of the owner or operator;
4. the spouse, parent, child, or sibling of any employee of the owner or operator;
5. an employee of the owner or operator; provided that a municipal owner or operator may retain as a third-party inspector a municipal employee from a department, board or office of the municipality that is separate from the department, board or office of the municipality that owns or operates the facility (e.g., a municipal engineer or board of health agent may inspect a transfer station managed by the municipality's department of public works).

(c) The owner and operator shall allow the third-party inspector full access to the facility and its records related to any solid waste activities carried out at the facility, for the purpose of performing any activity related to conducting the third-party inspection or preparing the third-party inspection report, provided that the owner and operator may deny the third-party inspector access to confidential or proprietary business information. The owner and operator shall in no way restrict, impede, or delay a third-party inspection.

(d) The owner and operator shall inform the third-party inspector when the owner or operator or any of his or her employees learns of the date of the third-party inspection in advance of the third-party inspection.

(e) The owner and operator shall provide true, accurate and complete information which is not misleading to the third-party inspector.

(5) General Requirements, Registration and Qualifications for Third Party Inspectors.

(a) Third-party Inspector Requirements. Each individual performing inspections pursuant to 310 CMR 19.018 shall have the continuing duty to meet the following performance standards to ensure that his or her registration is maintained pursuant to 310 CMR 19.018(5):

1. be registered according to the process set forth in 310 CMR 19.018(5)(b) prior to conducting any third-party inspection pursuant to 310 CMR 19.018;
2. file with the Department an updated qualifications statement every two years that is signed and certified in accordance with 310 CMR 19.011(1);
3. file with the Department an updated qualifications statement within 30 days when there is a change in the individual's licensure status or professional standing;
4. complete all training requirements required under 310 CMR 19.018;
5. personally conduct and complete third-party inspections in accordance with the performance standards in 310 CMR 19.018(6) and (7);
6. prepare accurate and complete third-party inspection reports in accordance with the performance standards in 310 CMR 19.018(6) and (7) and submit third-party inspection reports to facility owners and operators in accordance with the requirements of 310 CMR 19.018(8);
7. not make any false, inaccurate, incomplete or misleading statements in any third-party inspection report; and
8. provide any information regarding third-party inspections to the Department upon request as soon as possible but in no event more than seven business days following receipt of the request.

(b) Registration. To be eligible to conduct a third-party inspection required by 310 CMR 19.018, an individual shall register with the Department in advance by filing a qualifications statement. The qualifications statement is a self-certification by an individual, on a form provided by the Department, documenting that he or she meets or exceeds the minimum qualification requirements set forth at 310 CMR 19.018(5)(c) for the specific type or types of third-party inspection that said individual may be retained to conduct. The qualifications statement shall include:

1. all relevant professional licenses and certifications that the individual currently holds, including but not limited to:
   a. Registered professional engineer (PE);
   b. Registered sanitarian (RS);
   c. Solid waste operator license(s);
   d. Solid Waste Association of North America (SWANA) certification(s);
   e. Licensed site professional (LSP); or
   f. Asbestos inspector licensure and certification by the Massachusetts Department of Labor Standards;
2. specific academic degrees that the individual has received;
3. specific solid waste training that the individual has successfully completed, such as SWANA training or Department waste ban training; and
4. relevant experience in the solid waste management field.

(c) Third-party Inspector Qualifications. An individual may qualify to conduct one or more types of third-party inspection, as follows:

1. General Qualifications. In order to be qualified to conduct any type of third-party inspections pursuant to 310 CMR 19.018, a third-party inspector shall have in-depth knowledge and understanding of solid waste management laws, regulations and requirements applicable to the specific type or types of third-party inspections that said individual may be retained to inspect;
2. Waste Ban Inspector Qualifications. In order to be qualified to conduct a waste ban inspection at a facility pursuant to 310 CMR 19.018(7), the third-party inspector shall have successfully completed the Department's waste ban training course and any subsequent training required by the Department.
3. Facility Operation and Maintenance Inspector Qualifications. In order to be qualified to conduct a facility operation and maintenance inspection pursuant to 310 CMR 19.018(6), a third-party inspector shall, at a minimum, have the following combination of credentials, experience and training:
   a. Credentials.
      i. be a registered Massachusetts professional engineer in good standing, or a registered Massachusetts sanitarian in good standing, or a Massachusetts licensed site professional in good standing, each of which must have three or more years of full-time professional experience, or part-time equivalent, as set forth 310 CMR 19.018(5)(c)3.b.; or

ii. have a Bachelor's degree in engineering or in a physical or biological science with three or more years of full-time professional experience, or part-time equivalent, as set forth in 310 CMR 19.018(5)(c)3.b.; or

iii. have a Bachelor's degree with five or more years of full-time professional experience, or part-time equivalent, as set forth in 310 CMR 19.018(5)(c)3.b.

b. Experience. The third-party inspector shall have full-time professional experience, or part-time equivalent experience, of the following type(s) in the solid waste management field:

i. managing a solid waste facility;

ii. designing or engineering solid waste facilities;

iii. inspecting solid waste facilities; or

iv. other solid waste experience regarding the operation or management of solid waste facilities.

c. Training. The third-party inspector shall have successfully completed any training required by the Department.

4. C&D Processing Facility Operation and Maintenance Inspector Qualifications. In order to conduct a facility operation and maintenance inspection of a C&D waste processing facility or C&D waster transfer facility, a third-party inspector shall, at a minimum, have all of the credentials, training and experience set forth in 310 CMR 19.018(5)(c)1. and 3. and either shall have an Asbestos Inspector certification from the Massachusetts Department of Labor Standards or sub-contract with an individual who has such certification for conducting asbestos-related inspection activities.

(d) List of Registered Third-party Inspectors.

1. The Department shall create and maintain a list of those individuals who have registered as third-party inspectors.

2. After the first submittal of a qualifications statement by an individual for the purpose of being listed as a third-party inspector pursuant to 310 CMR 19.018(5), the Department may make a written determination, including the reasons therefore, not to list that individual if the Department determines in its sole discretion that the qualifications statement:

a. is incomplete;

b. does not contain information sufficient to demonstrate that the individual meets the minimum qualifications set forth at 310 CMR 19.018(5) to conduct at least one of the types of third-party inspections required therein; or

c. contains information that is not true, accurate or otherwise contains false or misleading information.

(e) Removal from List or Change in Listed Qualification Status.

1. The Department may make a written determination, including the reasons therefore, to remove an individual from the list of third-party inspectors or to change the status of the third-party inspector's qualifications (e.g., to reflect a change in status from qualified for all inspection types to qualified for certain types of third-party inspections), if the Department determines in its sole discretion that the third-party inspector:

a. has submitted a qualifications statement that is not true, accurate or otherwise contains false or misleading information;

b. has failed to meet one or more of the requirements listed at 310 CMR 19.018(5)(a);

c. is no longer qualified to conduct one or more types of third-party inspections;

d. has a pattern of conducting inspections that do not meet the regulatory requirements; or

e. has a pattern of submitting reports that do not meet the required standards.

2. Any determination by the Department pursuant to 310 CMR 19.018(5) shall be in writing and shall state the reason(s) for removing the individual from the list of third- party inspectors or changing the status of the individual's qualifications.

3. A third-party inspector may at any time notify the Department that he or she wants to be removed from the list of registered third-party inspectors or change his or her status.

(f) Reconsideration and Appeal Rights.

1. Any individual who is omitted or removed from the list of registered third-party inspectors by the Department, or whose status on the list the Department has changed, may submit a written request to the Department for reconsideration of its determination. Said request shall be postmarked within 21 days of the issuance of the Department's determination. The Department may request a meeting with the individual. The Department shall respond in writing to the reconsideration request and shall state the reasons for omitting or removing the individual. Such determination on the request for reconsideration shall not become effective until 22 days after issuance or after issuance of a final decision in an adjudicatory hearing, whichever is later. Failure to submit a

written request for reconsideration in a timely manner shall be deemed to be a waiver of the individual's right to request an adjudicatory hearing.

2. Any individual who receives a determination on reconsideration pursuant to 310 CMR 19.018(5)(f)1. has the right to request an adjudicatory hearing from the Department. Any such individual shall be deemed to have waived such right unless the individual delivers, within 21 days of the date of issuance of the Department's written determination on reconsideration, a request for an adjudicatory hearing that complies with the requirements of 310 CMR 1.01: Adjudicatory Proceeding Rules for the Department of Environmental Protection. Any individual who is aggrieved by a final decision in an adjudicatory hearing regarding a determination on reconsideration issued pursuant to 310 CMR 19.018(5)(f)1. may obtain judicial review thereof in accordance with the provisions of M.G.L. c. 30A, § 14.

(6) Performance Standards for a Third-party Facility Operation and Maintenance Inspection.

(a) General Performance Standards.

1. During a facility operation and maintenance inspection, a third-party inspector shall assess a facility's operation and maintenance practices and procedures to determine whether the facility is in compliance with all applicable requirements, including, but not limited to, requirements set forth in:

a. 310 CMR 19.000;

b. the facility's operation and maintenance plan;

c. orders or other enforcement documents issued to the facility; and

d. other solid waste permits, approvals, determinations and authorizations issued to the facility by the Department.

2. Prior to conducting a third-party facility operation and maintenance inspection, the third-party inspector shall identify and review all solid waste requirements applicable to the operation and maintenance of the facility, including but not limited to those requirements identified in 310 CMR 19.018(6)(a)1.

3. During each third-party inspection, in order to complete an assessment of the facility's compliance with all applicable requirements as set forth in 310 CMR 19.018(6)(a)1., the third-party inspector shall examine and evaluate the facility's solid waste activities, equipment, operations, practices, procedures, and records relevant to the type of third-party inspection being conducted, including without limitation:

a. the status and condition of operating and monitoring equipment, structures, appurtenances and devices related to the solid waste activities carried out at the facility;

b. each operational aspect of the facility related to solid waste handling, processing, recycling, storage and disposal, including but not limited to:

i. vehicle weighing and recording of scale data;

ii. tipping areas and the unloading of incoming materials;

iii. inspection and handling of incoming and outgoing waste, recyclable materials and other materials regulated by the Department; and

iv. types and quantities of waste and materials received or stored at the facility;

c. status of all facility record-keeping required by;

i. 310 CMR 19.000;

ii. the facility's operation and maintenance plan;

iii. orders or other enforcement documents issued to the facility; and

iv. other solid waste permits, approvals, determinations and authorizations issued to the facility by the Department;

v. provided that the owner and operator may deny the third-party inspector access only to confidential or proprietary business information;

d. material or waste handling areas and equipment including storage areas for recyclable materials, waste or residue; and

e. the condition of the facility, including evidence of dust, litter, odors, and other nuisance conditions, security measures such as fencing and gates, access roads marked and maintained, storm water management controls and any management system(s).

4. Where a third-party inspector observes that the operation or maintenance of the facility deviates from the aforementioned applicable requirements, he or she shall document all such deviations and recommend corrective actions for the facility to take to return to compliance with such requirements.

5. Third-party inspections shall be unannounced and randomly timed during the facility's normal operating hours, as follows:

a. Inspection days shall be determined randomly from among the planned operating days of the facility during the inspection period specified in 310 CMR 19.018(6)(b).

b. The third-party inspector shall keep the selected dates of third-party inspections confidential and shall not notify the owner or operator, or any employee or individual affiliated with or related to the owner or operator, of such dates prior to arriving at the facility to conduct a third-party inspection.

c. The third-party inspector shall postpone any inspection for which the owner or operator or any of his or her employees learns of the date of inspection in advance.

(b) Frequency. The owner and operator of a facility shall ensure that a third-party inspector conducts a facility operation and maintenance inspection in accordance with the following frequency and time intervals:

1. at an active landfill at least once in every two-month period, with at least 20 days between consecutive inspections;

2. at a closed landfill at least once every two calendar years, with at least six months between consecutive inspections;

3. at a handling facility, other than a C&D waste processing facility or C&D waste transfer station;

a. At a facility permitted to accept less than 50 tons, per day at least once every calendar year, with at least four months between consecutive inspections; and

b. At a facility permitted to accept 50 tons or more per day at least twice every calendar year, with at least two months between consecutive inspections;

4. at a C&D waste processing facility or a C&D waste transfer station at least once in each quarter (three-month period), with at least 20 days between consecutive inspections; and

5. at a combustion facility at least once in each quarter (three-month period), with at least 20 days between consecutive inspections.

(c) Additional Performance Standards for a Third-party Facility Operation and Maintenance Inspection of an Active Landfill.

1. In addition to complying with the general performance standards set forth in 310 CMR 19.018(6)(a), a third-party inspector shall examine and evaluate an active landfill's compliance with:

a. the operation and maintenance requirements set forth at 310 CMR 19.130 and 310 CMR 19.131, as applicable;

b. the environmental monitoring requirements (including, but not limited to, reporting frequencies) set forth at 310 CMR 19.132;

c. the requirements for maintenance of environmental control and monitoring systems set forth at 310 CMR 19.133;

d. the landfill gas recovery facility operation and maintenance requirements set forth at 310 CMR 19.121, if applicable; and

e. the applicable requirements of any beneficial use determination(s) governing the beneficial use of solid waste at the facility.

(d) Additional Performance Standards for a Third-party Facility Operation and Maintenance Inspection of Closed Landfill.

1. In addition to complying with the general performance standards described in 310 CMR 19.018(6)(a), a third-party inspector shall examine and evaluate a closed landfill's compliance with:

a. the landfill post-closure requirements set forth at 310 CMR 19.142;

b. the conditions set forth in the facility's closure permit(s);

c. the conditions of any post-closure use permit(s); and

d. the requirements set forth at 310 CMR 19.016 and 310 CMR 19.143, as applicable, governing post-closure use activities.

(e) Additional Performance Standards for a Third-party Facility Operation and Maintenance Inspection of Handling Facility, Except C&D Waste Processing Facility or a C&D Waste Transfer Station.

1. The performance standards in 310 CMR 19.018 apply to a handling facility that is not a C&D waste processing facility or a C&D waste transfer station, which is addressed in 310 CMR 19.018(6)(f).

2. In addition to complying with the general performance standards described in 310 CMR 19.018(6)(a), a third-party inspector shall examine and evaluate the compliance of a handling facility with:

a. the requirements for stormwater controls, equipment and weighing facilities set forth at 310 CMR 19.205;

b. the operation and maintenance requirements set forth at 310 CMR 19.207;

c. the applicable requirements of any beneficial use determination(s) governing the beneficial use of solid waste at the facility.

(f) Additional Performance Standards for a Third-party Facility Operation and Maintenance Inspection of a C&D Waste Processing Facility or a C&D Waste Transfer Station.

1. The performance standards in 310 CMR 19.018(6)(f) only apply to a C&D waste processing facility or a C&D waste transfer station. They do not apply to other types of handling facilities, which are addressed in 310 CMR 19.018(6)(e).

2. In addition to complying with the general performance standards described in 310 CMR 19.018(6)(a), a third-party inspector shall examine and evaluate the compliance of a C&D waste processing facility or a C&D waste transfer station with:

a. the requirements for stormwater controls, equipment and weighing facilities set forth at 310 CMR 19.205;

b. the operation and maintenance requirements set forth at 310 CMR 19.206, if applicable, and 310 CMR 19.207;

c. the facility's suspect asbestos-containing material (ACM) inspection and management protocol; and

d. the applicable requirements of any beneficial use determination(s) governing the beneficial use of solid waste at the facility.

3. The third-party inspector shall observe random incoming waste loads and collect ACM samples from suspect materials and send those sample(s) for analysis in accordance with the facility's approved ACM inspection and management protocol, if any.

(g) Additional Performance Standards for a Third-party Facility Operation and Maintenance Inspection of a Combustion Facility.

In addition to complying with the general performance standards described in 310 CMR 19.018(6)(a), a third-party inspector shall examine and evaluate the compliance of a combustion facility with:

(a) the operation and maintenance requirements set forth at 310 CMR 19.207;

(b) the ash handling and disposal conditions set forth in the combustion facility's permit and its operation and maintenance plan;

(c) the applicable requirements of any beneficial use determination(s) governing the beneficial use of solid waste at the facility.

(7) Performance Standards for Third-party Waste Ban Inspections.

(a) General. The owner and operator of a facility that has an approved waste ban compliance plan pursuant to 310 CMR 19.017 shall have the facility inspected by a qualified third-party waste ban inspector to assess compliance with the waste bans at 310 CMR 19.017 by the facility and by the haulers and generators delivering waste to the facility.

(b) Exemptions.

1. An owner and operator of a handling facility that does not accept loads greater than five cubic yards is exempt from 310 CMR 19.018(7); and

2. An owner and operator of a facility that participates in the Class II Recycling Program in accordance with the terms of 310 CMR 19.300 is exempt from 310 CMR 19.018(7).

(c) Performance Standards.

1. Prior to conducting each third-party waste ban inspection, the third-party inspector shall identify and review all requirements applicable to waste ban compliance at the facility, including but not limited to, the facility waste ban compliance plan and the requirements of 310 CMR 19.017.

2. During an inspection and for the minimum number of loads as required pursuant to 310 CMR 19.018(7)(e), a third-party inspector shall examine and evaluate the compliance of the facility with its approved waste ban compliance plan, as follows:

a. Visually monitor all incoming loads received at the facility during the waste ban inspection;

b. Identify all failed loads received during the waste ban inspection;

c. Record all identified failed loads using photographs, weigh slips, and standardized waste tracking forms provided by the Department. Such forms may include, but are not limited to, hauler and generator information (to the extent known) and the percentage of the load that is comprised of waste ban material(s); and

d. Conduct a comparative analysis of the percentage of failed loads identified by the third-party inspector with the percentage of failed loads documented pursuant to the facility's on-going load inspections conducted over the immediately preceding inspection period.

3. A third-party waste ban inspection shall be unannounced and randomly timed during the facility's normal operating hours, as follows:

a. Inspection days shall be selected in accordance with 310 CMR 19.018(7)(d).

b. The third-party inspector shall keep the selected dates of third-party inspections confidential and not notify the owner or operator, or any employee or individual affiliated with or related to the owner or operator, of such dates prior to arriving at the facility to conduct a third-party inspection.

4. Where a third-party inspector observes that waste ban compliance at the facility deviates from the applicable requirements set forth at 310 CMR 19.018(7)(c)1., the third-party inspector

shall document all such deviations and recommend corrective actions for the facility to take to return to compliance with such requirements.

(d) Frequency. The owner and operator of a facility shall ensure that a third-party inspector conducts a waste ban inspection in accordance with the following frequency and time intervals:

1. at an active solid waste landfill: at least once in every two-month period, with at least 20 days between consecutive inspections;

2. at a handling facility other than a C&D processing facility or C&D waste transfer station:

a. at a facility permitted to accept less than 50 tons of waste per day, at least once every calendar year, with at least four months between consecutive inspections;

b. at a facility permitted to accept 50 tons or more of waste per day, at least twice every calendar year, with at least two months between consecutive inspections;

3. at a C&D waste processing facility or a C&D waste transfer station at least once in each quarter (three-month period), with at least 20 days between consecutive inspections; and

4. at a combustion facility at least once in each quarter (three-month period), with at least 20 days between consecutive inspections.

(e) Minimum Loads.

1. Once the third-party inspector begins a waste ban inspection, the third-party inspector shall observe and document each and every load, until the following minimum number of loads, containing at least five cubic yards of material each, have been observed:

a. For a facility permitted to accept from 1 to 99 tons of waste per day, four vehicle loads;

b. For a facility permitted to accept greater than 99 but less than or equal to 299 tons per day, eight vehicle loads;

c. For a facility permitted to accept greater than 299 but less than or equal to 499 tons per day, 12 vehicle loads;

e. For a facility permitted to accept greater than 499 but less than or equal to 999 tons per day, 16 vehicle loads; or

f. For a facility permitted to accept more than 999 tons per day, 20 vehicle loads.

2. As an alternative to the minimum loads set forth at 310 CMR 19.018(7)(e)1., for a facility that has operated below the facility's permitted capacity for the previous year, the third-party inspector may apply the average actual daily receipt of waste (in tons) over the preceding year (instead of the permitted tonnage amount) to the minimum load criteria set forth above at 310 CMR 19.018(7)(e)1.

(8) Third-party Inspection Reports, Record-keeping Requirements and Procedures.

(a) Third-party Inspector Report Submittal and Certification Requirements. A third-party inspector who has performed a third-party inspection pursuant to 310 CMR 19.018 shall:

1. prepare an accurate and complete third-party inspection report which presents the results of his or her inspection in accordance with the performance standards set forth at 310 CMR 19.018(6) and (7) and which meets the requirements set forth at 310 CMR 19.018(8)(b);

2. sign and certify his or her inspection report on a form or forms provided by the Department, and include the following statements in the report;

I, [name of third-party inspector], attest under the pains and penalties of perjury that:

(a) I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification statement;

(b) based on my inquiry of those persons responsible for obtaining the information, the information contained in this submittal is, to the best of my knowledge, true, accurate, and complete;

(c) have been able to conduct the third-party inspection and prepare the third-party inspection report without being influenced by the facility owner or operator and, [if the third-party inspector is a municipal employee,] by his or her municipal employer, by any co-worker or by any elected or appointed official of the municipality; and

(d) I am aware that there are significant penalties, including, but not limited to, possible administrative and civil penalties for submitting false, inaccurate, or incomplete information and possible fines and imprisonment for knowingly submitting false, inaccurate, or incomplete information; and

3. submit to the owner and operator such third-party inspection report.

(b) Third-party Inspector Report Content Requirements.

1. Facility Operation and Maintenance Inspection Report. For each facility operation and maintenance inspection, the third-party inspector shall prepare a third-party inspection report that describes and reports in detail the results of his or her inspection of the facility's compliance with all applicable requirements, including, but not limited to:

a. any deviation from compliance with the operation and maintenance requirements contained in the applicable requirements set forth at 310 CMR 19.018(6) through (7); b. the status and condition of operating and monitoring equipment, structures, appurtenances and devices;
c. the status and condition of each operational aspect of the facility, including but not limited to, waste handling, processing, recycling, storage and disposal of waste and materials;
d. a summary of all waste and materials received by and handled at the facility, including all loads identified and rejected during the applicable inspection period specified at 310 CMR 19.018(6)(b) or (7)(d);
e. the status of the facility's compliance with applicable record-keeping requirements;
f. the estimated volumes of all materials and wastes stored at the facility at the time of the inspection;
g. the analytical results of all sample(s) collected by the third-party inspector during the inspection, including chain of custody documentation (e.g., for suspect ACM sampling at C&D waste processing facilities);
h. the condition of the facility, including but not limited to evidence of dust, litter, odors, and other nuisance conditions, security measures such as fencing and gates, property marked and maintained, access roads, and storm water management controls and leachate management systems;
i. any corrective action(s) proposed by the third-party inspector to be taken by the owner or operator, with recommended schedules for implementing the corrective action(s); and
j. any additional information as required by the Department on a facility-specific basis.

2. Waste Ban Compliance Inspection Report. For a waste ban compliance inspection conducted pursuant to 310 CMR 19.018(7), the third-party inspector shall prepare a third-party inspection report that describes and reports in detail the results of his or her inspection, including but not limited to:
a. any deviation from compliance with the waste bans at 310 CMR 19.017 by the facility or haulers and generators delivering waste to the facility; and
b. a comparative analysis of the percentage of failed loads identified by the third-party inspector and the percentage of failed loads documented pursuant to the on-going load inspections conducted over the immediately preceding inspection period in accordance with the facility's approved waste ban compliance plan.

3. Report Format. Each third-party inspection report shall be submitted in the format specified by the Department.

4. Duty of Third-party Inspectors to Provide Information. Upon request of the Department, a third-party inspector shall provide a copy of any third-party inspection report prepared by him or her to the Department within seven business days. Upon request, a third-party inspector shall furnish any other information, documents or records associated with such inspection and allow the Department access to and to copy all records relating to the facility within seven business days.

(c) Owner and Operator Requirements.

1. Reports and Certifications. The owner and operator of a facility shall submit each third-party inspection report to the Department and the board of health of the municipality in which the facility is located no later than 30 days following the date of the inspection. A responsible official of the inspected facility shall sign and certify such report in accordance with 310 CMR 19.011(1). Notwithstanding the foregoing, nothing in 310 CMR 19.018 relieves any person of any duty to report or provide notice of any information that such person is required to report in a shorter timeframe pursuant to any statute, regulation, permit, approval, determination, authorization, order or other requirement.

2. Corrective Actions. In the event that a third-party inspection report contains a recommendation for corrective action(s), the owner or operator shall submit, along with the inspection report, the following:
a. a written report documenting the completion of the corrective action(s);
b. documentation or explanation why corrective action is not needed; or
c. a plan and schedule for completing the corrective action(s), on a form provided by the Department. The owner or operator may elect to correct deviations identified in the third-party inspection report in a manner that is different than that recommended by the third-party inspector, so long as the facility is brought back into compliance with applicable requirements.

3. Deficiency Notice. In the event that the Department issues a written deficiency notice to the owner or operator regarding any submittal required by 310 CMR 19.018, the owner or operator shall, within 21 days of the date of issuance of the Department's notice, provide a written response to the

Department that describes how the facility intends to correct the deficiencies identified by the Department and provides a compliance schedule.

4. Records. A copy of each third-party inspection report shall be maintained at the facility in accordance with the record-keeping requirements of 310 CMR 19.000. The owner and operator shall make third-party inspection reports available to personnel or authorized representatives of the Department for review at the facility upon request.

19.028: Requirements for Construction, Operation, Modification or Expansion of a Solid Waste Management Facility

No person shall construct, operate, maintain, expand or modify a facility to store, process, transfer, treat or dispose of solid waste except in accordance with:

(1) a valid site assignment;

(2) a solid waste management facility permit ("permit") and any applicable facility expansion permit issued in accordance with 310 CMR 19.032;

(3) an authorization to construct the facility issued by the Department in accordance with 310 CMR 19.041;

(4) an authorization to operate the facility issued by the Department in accordance with 310 CMR 19.042 or, for a transfer station which is not a C&D waste transfer station, a certification in accordance with 310 CMR 19.035; and

(5) any applicable modification permit pursuant to 310 CMR 19.033 or 19.034.

19.029: Applicable Permit and Certification Procedures for Construction, Operation, Modification or Expansion of a Solid Waste Management Facility

(1) Use of Permit Procedure at 310 CMR 19.032. The permit procedure set forth at 310 CMR 19.032 shall be used to review the following:

(a) an application for a new facility;

(b) an application for expansion of a handling facility, including a transfer station; (c) an application for expansion of a combustion facility;

(d) an application for lateral expansion of a landfill;

(e) an application for vertical expansion of a landfill; or

(f) any other application the Department deems appropriate.

(2) Use of Permit Procedure at 310 CMR 19.033. Except as specified at 310 CMR 19.029(3) or (4) the permit procedure set forth at 310 CMR 19.033 shall be used to review the following:

(a) an application for a permit modification;

(b) an application for corrective action (including but not limited to assessment); (c) a closure plan;

(d) a post-closure plan;

(e) an application for post-closure use on the final cover of a landfill or affecting an appurtenance of a facility;

(f) an application for a Beneficial Use Determination; or

(g) any other application the Department deems appropriate.

(3) Use of Presumptive Approval Procedure at 310 CMR 19.034. Except as specified at 310 CMR 19.029(2) and (4) the presumptive approval procedure set forth at 310 CMR 19.034 shall apply to the following proposed activities or modifications:

(a) any administrative change at a facility;

(b) a post-closure use that:

1. does not affect the facility's appurtenances, or
2. is not located on the final cover of a landfill;

(c) acceptance of a special waste pursuant to 310 CMR 19.061;

(d) a minor operational or equipment change, such as, but not limited to, a change, substitution, or addition of processing equipment (e.g. diesel to electric) or a change in the facility's layout; and

(e) any other activity or modification the Department deems appropriate.

(4) Use of Certification Procedure at 310 CMR 19.035 for Transfer Station (That Is Not a C&D Waste Transfer Station). The certification procedure at 310 CMR 19.035 shall be used for:

(a) the operation of a new or expanded transfer station;

(b) the acquisition of a transfer station (in addition to the certification required pursuant to 310 CMR 19.044);

(c) the modification in the design, construction, operation, maintenance, closure, or post- closure use of a transfer station;

(d) when a certification has not been submitted within the previous five years; or

(e) a transfer station with a valid permit or approval issued prior to February 14, 2014.

19.030: Application for a Solid Waste Management Facility Permit

(1) General. Any person intending to construct, operate or maintain a solid waste management facility shall file an application for a permit.

(2) Application. An application for a permit shall contain sufficient information so that the Department can evaluate whether the application meets the applicable review criteria at 310 CMR 19.038 and at a minimum shall include:

(a) a completed application on a form as may be provided by the Department;

(b) such additional or alternative information as required in other parts of 310 CMR 19.000 governing the permitting of specific types of solid waste management facilities.

(c) applicant identification which shall include such information and documentation as the Department deems necessary to fully identify all persons having a legal or financial interest in, or operational responsibility for, the site or facility; those persons' legal status; those persons' prior ownership or operating history of solid waste facilities; and other relevant information regarding the applicant's competency to own and/or operate a facility;

(d) a solid waste management facility plan ("Plan") for the particular type of solid waste management facility that includes such maps, data, information and documents as required in the applicable facility specific regulations. The Plan shall, at a minimum, be comprised of the following components:

1. a site plan which shall include such maps, diagrams, reports and other information the Department deems necessary to accurately locate the proposed site and facility, identify its geographical characteristics, identify the zoning of the site, and evaluate the potential impact of the construction and operation of the proposed facility on surrounding land uses, traffic flow, surface water bodies, wetlands, water supplies, and flood zones;

2. a waste ban plan as required at 310 CMR 19.017(5);

3. a facility design plan which shall provide such diagrams, reports, studies and other information as the Department deems necessary to evaluate the feasibility and potential impacts of the facility on public health, safety and the environment. The facility design plan shall address all aspects of the facility design and shall include:

a. a detailed description of the type and size of the proposed facility;

b. the nature and amount of refuse to be handled on a daily and weekly basis;

c. a detailed description of the design of the facility, including recycling and composting components, site improvements and all systems and other appurtenances thereto necessary to comply with:

i. the operation and maintenance requirements;

ii. the closure and post-closure requirements; and

iii. permit approval criteria;

d. provision to minimize the impacts of site and facility construction; and

e. other design provisions the Department deems necessary on a site or facility specific basis to ensure proper design;

4. an operation and maintenance plan which shall provide such diagrams, reports, studies, and other information as the Department deems necessary to evaluate the ability of the proposed operation and maintenance procedures to ensure good solid waste management practices and to protect public health and safety and the environment. The operation and maintenance plan shall include:

a. a detailed description of the proposed waste handling methods and techniques, and sequence of operations for the facility;

b. a description of the procedures to be employed to comply with the operation and maintenance requirements for the specific type of facility and the permit approval criteria;

c. a detailed description of the environmental monitoring and sampling protocols and procedures and inspection and maintenance of the environmental monitoring systems;

d. a tracking and reporting system by which the Department can verify compliance with recycling requirements and with bans on acceptance of certain types of solid waste or recyclable materials which have been imposed pursuant to 310 CMR 19.017 and are in effect at the time the permit is granted;

e. a compliance and inspection plan to ensure operation of the facility is in compliance with the permit and all applicable regulations; and

f. other operation and maintenance provisions that the Department deems necessary on a site or facility specific basis to ensure proper operation and maintenance;

5. a closure and post-closure plan which shall provide such diagrams, reports, studies and other information as the Department deems necessary to describe and evaluate the procedures the applicant proposes to use to close the facility and maintain and care for the site during the post-

closure period in a manner that minimizes the impacts to public health and safety and the environment. A closure and post-closure plan shall include:

a. a description of the activities, and the sequence of activities necessary to close the facility;

b. a description of measures to be utilized to comply with the closure and post-closure requirements set forth in 310 CMR 19.045 and other applicable sections of 310 CMR 19.000 ;

c. a description of proposed subsequent use of the site and/or facility, if any; and

d. other provisions that the Department deems necessary on a site or facility specific basis to ensure proper closure of the facility.

(e) a public health report, if any, as submitted by the Department of Public Health pursuant to the Site Assignment Regulations, 310 CMR 16.17: Application Review by the Department of Public Health;

(f) sufficient documentation that the proposed facility will be located within the boundaries of a valid site assignment;

(g) sufficient documentation that:

1. the MEPA process does not apply;

2. the MEPA process does apply and the Secretary has determined that an Environmental Impact Report is required; or

3. the MEPA process has already been completed and the Secretary has issued a certificate or a determination that no EIR is required.

(3) Filing and Confidentiality.

(a) The applicant shall file one copy of the application or registration with the Department in the appropriate Regional Office.

(b) Any information submitted pursuant to 310 CMR 19.000 may be claimed as confidential by the applicant in accordance with the provisions of 310 CMR 3.00: Access to and Confidentiality of Department Records and Files, except information regarding the name and address of the permittee and data related to the potential impact of the proposed activity on public health, safety and the environment.

(4) Variance. The application shall clearly state whether a variance is requested, as provided in 310 CMR 19.080.

(5) Presentation of Information. Information set forth in the application for a permit shall be current, presented clearly and concisely using forms, as may be provided by the Department, and supported by appropriate references to technical and other documents made available to the Department. The application shall contain sufficient data and other relevant information to allow the Department to determine, independent of additional information, whether to issue the Permit.

(6) Signatory. An application shall be signed and certified in accordance with 310 CMR 19.011(1).

(7) Engineering Supervision. All papers pertaining to design, construction, operation, maintenance, or engineering of a site or a facility shall bear the seal and signature of a Massachusetts registered supervising engineer or other applicable person as required at 310 CMR 19.011(2).

19.032: Permit Procedure for a New Facility or Expansion Permit Application

(1) General. 310 CMR 19.032 describes the permit procedure for a permit application for a new facility, an expansion of an existing facility, or for any other application the Department deems appropriate as specified in 310 CMR 19.029(1).

(2) Draft Decision.

(a) The Department shall prepare a draft decision. A draft decision for granting a permit shall include all appropriate conditions, standards, and requirements necessary to establish a new facility or to conduct approved activities at an existing facility.

(b) Each draft decision shall be accompanied by a fact sheet briefly describing:

1. the facility or activity which is the subject of the draft decision;

2. the type and quantity of wastes which are to be handled;

3. the reasons for the terms and conditions set forth therein; and

4. the reasons why requested variances or alternatives to required standards are or are not proposed to be approved.

(c) Distribution of the Draft Decision. The Department shall send a copy of the draft decision and the accompanying fact sheet to the applicant, the local board of health, abutting board of health, if any, and, on written request, to any other person.

(d) Description of Procedures. A description of the procedures for reaching a final decision on the permit application shall accompany the copy of the draft decision and shall include:

1. the beginning and ending dates of the comment period and the address where comments will be received;

2. any other procedures by which the public may participate in the process leading to a final permit decision; and

3. the name and telephone number of an individual to contact for additional information.

(3) Public Notice.

(a) The Department shall cause public notice to be given when:

1. a draft decision on a facility permit application has been prepared; or

2. a public hearing on a draft decision has been scheduled. Public notice in this case shall be given at least 21 days prior to the hearing date.

(b) Notice of More than One Permit. A public notices may describe more than one permit or permit action.

(c) Method of Notice. Public notice shall be given by the following methods:

1. By mailing notice to:

a. the applicant;

b. the board of health of the municipality in which the facility is to be located or the permitted activity is proposed;

c. the board of health of any municipality within ½ mile of the proposed facility ("abutting board of health"); and

d. abutters of the facility site.

2. By publication, paid for by the applicant, in a daily or weekly newspaper of general circulation in the locality affected by the facility.

(d) Content of Notice. A public notices shall, at a minimum, contain the following information:

1. a description of the proposed facility including the type of facility, proposed tonnage, location and hours of operation;

2. the identity and mailing address of the applicant;

3. the public location where the application can be inspected; and

4. the time period for written comments on the application and the address to which comments should be mailed, and, if a public hearing is to be held, the public hearing information set forth at 310 CMR 19.032(5).

(4) Comment Period.

(a) A public notice issued pursuant to 310 CMR 19.032(3) for a draft decision shall allow at least 30 days for public comment. The comment period shall begin on the date the public notice is first published in a newspaper as specified at 310 CMR 19.032(3)(c)2. or on a later date specified in the public notice.

(b) Written Comments. During the public comment period, any interested person may submit written comments on the draft decision to the office of the Department processing the permit request.

(c) Extending or Reopening the Public Comment Period. The Department may extend or reopen the public comment period to allow for the issuance of a modified draft decision or to give interested persons an opportunity to comment on the information or arguments submitted. If the Department gives such an extension, public notice thereof shall be given in the manner prescribed in 310 CMR 19.032(3). Such notice shall specify any new issues to be considered.

(5) Public Hearing.

(a) Circumstances Requiring Hearing. The Department shall schedule a public hearing within the municipality wherein the proposed facility is to be located when:

1. the applicant requests a public hearing;

2. the Commissioner determines that there is sufficient public interest in unresolved issues of concern; or

3. the Department prepares a modified draft decision with substantial revisions from the original draft decision as a result of comments received pursuant to 310 CMR 19.032(4). Copies of the modified draft decision shall be distributed in accordance with 310 CMR 19.032(2)(c).

(b) Content of Public Hearing Notice. Public notice of the public hearing shall be given in the manner described in 310 CMR 19.032(3) and shall include:

1. the date, time, and place of the public hearing; and

2. the nature and purpose of the public hearing.

(c) Public Hearing Procedures.

1. Hearing Officer. The Department shall designate a representative to conduct the public hearing. The Hearing Officer shall have authority to ensure an orderly presentation of issues, comments, data, and arguments, and to ensure an adequate and comprehensible record of the proceedings. The Hearing Officer may, at his or her discretion, without limitation of the foregoing:

a. define relevant issues, receive and consider relevant matter and exclude irrelevant or unduly repetitive matter;

b. determine the order in which persons wishing to do so may present oral comments;

c. conduct appropriate examination of persons offering oral comments;

d. establish a reasonable time limit for all persons wishing to offer oral comments; e. require the applicant or any other person intending to present studies or exhibits for consideration at the hearing to file such material within a reasonable time in advance of the hearing;

f. require any person who refers to or relies upon written information or expert opinion in offering comments to provide copies of such material within a reasonable time after the hearing;

g. permit an opportunity for oral rebuttal of comments received;

h. allow a reasonable time after the hearing for providing written comment or rebuttal; and

i. order adjournment, recess, or rescheduling of the hearing.

2. Participation in the Hearing. Any person may attend and observe the public hearing. Any person wishing to offer oral comments may do so upon filing a written statement containing the name, address, and telephone number of an authorized representative to whom correspondence may be addressed for purposes of the hearing.

3. Authorized Representative. An individual may appear on his or her own behalf. A duly authorized officer or employee may represent a corporation; a duly authorized member may represent a partnership, joint venture or association; and an authorized trustee may represent a trust. Any person shall have the right to be accompanied, represented and advised by an authorized agent or attorney.

4. Conduct of Hearings. The hearings shall be as informal as may be reasonable and appropriate under the circumstances. The Hearing Officer shall ensure that the conduct of persons at the hearing will at all times be orderly.

5. Withdrawal of Request for Hearing. The applicant or any other person who requested a hearing may withdraw the request, or may elect to submit any comments or documents without a hearing, by filing with the Department a written withdrawal. If notice of a hearing has already been published pursuant to 310 CMR 19.032(3), such withdrawal shall be filed at least ten days prior to the scheduled hearing, and notice of the withdrawal shall be provided in the same manner specified in 310 CMR 19.032(3).

6. Recordings and Transcripts. The proceedings at the hearing shall be recorded either electronically or stenographically. Transcripts or electronic copies shall be supplied to any person, upon request, at his or her own expense. Any person, upon request, may order a stenographer to transcribe the proceedings or the Department's electronic recording at his or her own expense. In such event, a transcription shall be provided to the Department at no expense to the Department, and upon such other terms as the Hearing Officer shall order.

(6) Issuance of the Final Decision on a Permit Application.

(a) Issuance and Public Notice. After the close of the public comment period, or, if applicable, the close of the public hearing, whichever is later, the Department shall issue a final decision on the permit application. Notice of the Department's final decision and summary response to comments shall be given to the applicant by electronic transmission upon agreement by the applicant, or, if not, by first class mail. Notice shall also be provided to the board of health, any abutting board of health and each person who has requested notice of the final decision.

(b) Effective Date. Unless otherwise stated in the permit, the permit shall be effective upon issuance.

(c) Summary Response to Comments. At the time the decision is issued, the Department shall prepare a summary of the major comments on the draft decision and a response to comments and shall describe any major changes made to the draft decision as a result of comments received.

(d) Legal Challenges.

1. Appeal. Any person aggrieved by the final permit decision may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and c. 30A not later than 30 days following the date of issuance of the final permit decision to the applicant. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the final permit decision by a court of competent jurisdiction, the final permit decision shall be effective in accordance with 310 CMR 19.032(6)(b).

2. Notice of Action. Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for

the regional office which processed the permit application, if applicable, at least five days prior to the filing of an appeal.

3. No allegation shall be made in any judicial appeal of a final permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

19.033: Permit Procedure for an Application for a Permit Modification or Other Approval

(1) General. 310 CMR 19.033 describes the permit procedure for a permit application for certain modifications to a facility or other permit application as specified in 310 CMR 19.029(2).

(2) Issuance of Permit Decision. The Department shall mail a copy of its permit decision on an application to the applicant, the board of health of the municipality in which the facility is located, the board of health of any municipality within ½ mile of the proposed facility and any other person who has requested in writing that the Department provide a copy of the permit decision.

(3) Effective Date. Unless otherwise stated in the permit decision, the permit decision shall be effective upon its issuance.

(4) Review of Decision.

(a) Provisional Decision. The Department may defer the effective date of a permit decision for the purpose of obtaining comments by issuing a provisional permit decision. Such a provisional decision shall be accompanied by a notice stating that written comments may be submitted to the Department for a period of at least 21 days after the date of issuance of the provisional decision. Prior to the effective date established therein, the Department shall issue a final permit decision at the end of the comment period.

(b) Where no provisional decision is issued, an applicant aggrieved by the Department's permit decision, within 21 days of the issuance of the Department's permit decision to the applicant, may file a written request, with the appropriate regional office of the Department, that the permit decision be deemed a provisional decision, and a written statement of the basis on which the applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the permit decision shall be deemed a provisional decision. Such a request shall reopen the administrative record, and the Department shall issue a final permit decision after the end of the comment period. Failure by an applicant to exercise the right provided in 310 CMR 19.033(4)(b) shall constitute a waiver of the applicant's right to appeal.

(5) Legal Challenges.

(a) Appeal. Any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said permit decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A no later than 30 days following the date of issuance of the final permit decision to the applicant. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the final permit decision by a court of competent jurisdiction, the final permit decision shall be effective in accordance with 310 CMR 19.033(3).

(b) Notice of Action. Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application, if applicable, at least five days prior to the filing of an appeal.

(c) No allegation shall be made in any judicial appeal of a final permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

19.034: Presumptive Approval Procedure

310 CMR 19.034 describes the procedure for the Department's presumptive approval of certain activities at or modifications to a facility. Any activity or modification specified in 310 CMR 19.029(3) may be made without prior written approval from the Department provided that:

(1) at least 45 days prior to commencing such activity or modification, the owner or operator submits to the Department and the board of health a written description of the proposed activity or modification on an application form provided by the Department;

(2) within 45 days of receipt of the form, the Department has not determined, in a letter to the owner and operator, that 310 CMR 19.034 does not apply to the proposed activity or modification or that additional information is needed to make that determination; and

(3) within 45 days of completion of the modification, the owner or operator submits to the Department as-built plans and/or a report describing the modification, provided that no additional documentation is necessary where there was no physical modification to the facility.

19.035: Transfer Station Certifications

(1) Qualifications for Transfer Station Certification. To be eligible to submit a transfer station certification, a transfer station must have a valid facility permit. Any expiration date contained in the transfer station permit shall have no force and effect after the owner or operator of the transfer station submits a valid certification pursuant to 310 CMR 19.035.

(2) Certification Filing Schedule. The responsible official for a transfer station that is not a C&D waste transfer station shall submit a certification to the Department in accordance with 310 CMR 19.035 by the earliest of the following applicable deadlines:

(a) 30 days prior to the operation of a new transfer station;

(b) 30 days prior to the operation of a transfer station in accordance with its permit for an expansion;

(c) 30 days prior to a modification in the design, construction, operation, maintenance, closure, or post-closure use of the transfer station;

(d) when a certification has not been submitted within the previous five years; (e) 30 days after the acquisition of a transfer station; or

(f) 120 days after February 14, 2014 for operation of a transfer station with a valid permit or approval issued prior to February 14, 2014 that does not have a certification.

(3) Form. The certification shall be submitted on a form supplied by the Department. The certification shall address compliance with the permit(s) issued to the transfer station, the applicable requirements of 310 CMR 19.000, including but not limited to the review criteria at 310 CMR 19.038(2)(a)1. through 11. and shall include all information regarding any changes at the transfer station relating to the design, construction, operation, maintenance, closure and post-closure use of the transfer station since the last certification was submitted.

(4) Certification Statement. The responsible official for the transfer station shall submit a certification in accordance with 310 CMR 19.011(1).

19.036: Department's Modification, Suspension or Revocation of a Permit

(1) General. The Department may rescind, suspend, or modify a permit when it determines that the operation or maintenance of a facility results in a threat to the public health, safety or the environment in accordance with the provisions of M.G.L. c.111, § 150A and after a hearing in accordance with M.G.L. c. 30A, § 11.

(2) Scope of Determination of Threat. In considering whether the continued operation of a facility presents a threat to the public health and safety or the environment the Department may consider:

(a) the likelihood of a discharge or release of pollutants from the facility;

(b) the actual or potential impacts from a discharge or release of pollutants from the facility; or

(c) the potential adverse impacts on the Commonwealth's natural resources from the disposal of restricted materials pursuant to 310 CMR 19.017.

19.038: Review Criteria for a New or Expanded Facility Permit or Permit Modification

(1) Applicability of Permitting Criteria. The criteria the Department shall apply when reviewing a permit application or an application for a permit modification are as follows:

(a) New or Expanding Landfills. A permit application for a new landfill or landfill expansion submitted pursuant to 310 CMR 19.032 shall comply with the criteria set forth at 310 CMR 19.038(2)(a), (c) and (d).

(b) New or Expanding Combustion Facility. A permit application for a new or expanding combustion facility submitted pursuant to 310 CMR 19.032 shall comply with the criteria set forth at 310 CMR 19.038(2)(a) and (b).

(c) New or Expanding Handling Facility. A permit application for a new or expanding handling facility submitted pursuant to 310 CMR 19.032 shall comply with the criteria set forth at 310 CMR 19.038(2)(a)1. through 11., 13. and 14., and (b).

(d) Modification of a Landfill, Combustion Facility and or Handling Facility. An application submitted pursuant to 310 MR 19.033 or 19.034. as applicable, for a modification of a landfill, combustion facility or handling facility not addressed at 310 CMR 19.038(1)(a), (b), (c), or (e) shall comply with the criteria set forth at 310 CMR 19.038(2)(a)1. through 12., except 310 CMR 19.038(2)(a)12. does not apply to a handling facility.

(e) Post-closure Use. A permit application submitted pursuant to 310 CMR 19.033 or 19.034, as applicable, for the post-closure use of a facility shall comply with the criteria set forth at 310 CMR 19.038(2)(a)1., 3., 4., 6., 8., and 10.

(2) Criteria for Review of Applications for a Permit or Permit Modification.

(a) General Criteria. In accordance with the provisions of 310 CMR 19.038(1) the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification:

1. the applicant has received certification from the Secretary of Environmental Affairs that the applicant has complied with M.G.L. c. 30, §§ 61 through 62H (MEPA) process;
2. the facility is located within the boundaries of a valid site assignment and is proposed to be constructed, operated and maintained in accordance with the terms and conditions of that site assignment;
3. the design, construction, operation, and maintenance of the facility and its environmental monitoring systems are in compliance with requirements set forth in 310 CMR 19.000, and such policies as the Department establishes governing solid waste management facilities;
4. the design, construction, operation, and maintenance of the facility constitutes a threat to the public health, safety or the environment;
5. on a site on which the Department determines it infeasible to adequately conduct appropriate environmental monitoring, no leachate or contaminated surface run off shall enter ground or surface waters;
6. the facility design and operation includes components and measures which will assure compliance with other applicable state and federal laws, regulations and policies, including without limitation, 314 CMR 3.00 through 12.00 (water pollution control);
310 CMR 22.00: Drinking Water and 27.00: Underground Water Source Protection (water supply); 310 CMR 7.00: Air Pollution Control (air quality); and 40 CFR 257 and 258;
7. the facility is in compliance with the waste bans established at 310 CMR 19.017;
8. violations of applicable statutes and regulations, judicial orders or administrative order or conditions of a prior plan approval/permit issued by the Department are corrected, and any fines and penalties associated with any of the above, which are related to the site or facility have been paid or are pending administrative or judicial appeal;
9. the construction, operation and maintenance of the facility does not represent a bird hazard;
10. the ground support for the structural components of the facility is adequate;
11. whether the construction, operation, and maintenance of the facility:
    a. will have an adverse impact on Endangered, Threatened, or Special Concern species listed by the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife in its database;
    b. will have an adverse impact on an Ecologically Significant Natural Community as documented by the Natural Heritage and Endangered Species Program in its database; or
    c. will have an adverse impact on the wildlife habitat of any state Wildlife Management Area.
12. the yearly and lifetime capacity potentially created by the proposed facility or expansion in relation to the reasonably anticipated disposal capacity requirements and reduction/diversion goals of the Commonwealth and the geographic area(s) which the site will serve;
13. the extent to which the facility operations, alone or in conjunction with other facilities, maximizes diversion or processing of each component of the anticipated waste stream in order to first reduce adverse impacts and utilize materials and only thereafter to extract energy from the remaining solid waste prior to final disposal; and
14. the extent to which the facility operations, alone or in conjunction with other facilities, will contribute to the establishment and maintenance of a statewide integrated solid waste management system which will protect the public health and environment and conserve the natural resources of the Commonwealth.

(b) Combustion Facilities and Handling Facilities. In addition to the criteria set forth under 310 CMR 19.038(2)(a), the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification for combustion facilities and handling facilities site assigned before June 8, 2001. Facilities or expansions of facilities site assigned in accordance

with the criteria at 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities that were promulgated on or after June 8, 2001 shall comply with the siting criteria of that site assignment:

1. the construction, operation and maintenance of the facility, if located or proposed to be located in a Zone II area or Interim Wellhead Protection Area does not result in an adverse impact to an existing or potential public or private water supply well;
2. the waste handling areas are not within the following distances unless, as applicable, a waiver has been obtained under 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or a variance is obtained under 310 CMR 19.080:
   a. 100 feet of the nearest edge of the property boundary, provided that a shorter distance consistent with the necessary operating and maintenance requirements of the facility may be approved for that portion of the waste handling area which borders a solid waste management facility;
   b. 250 feet of an existing or potential private water supply well;
   c. 250 feet of an occupied residential dwelling, prison, bedded health care facility, lower educational institution or children's pre-school, excluding equipment storage or maintenance structures, if a solid waste handling facility, and 500 feet if a solid waste combustion facility;
   d. a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, and the regulations promulgated thereunder at 310 CMR 10.00: Wetlands Protection, including the 100 year floodplain;
   e. 500 feet upgradient or 250 feet downgradient of a surface drinking water supply.

(c) Landfills. In addition to the criteria set forth under 310 CMR 19.038(2)(a) the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification for a landfill site assigned before June 8, 2001. Facilities or expansions of facilities site assigned in accordance with the criteria at 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities that were promulgated on or after June 8, 2001 shall comply with the siting criteria of that site assignment:

1. the landfill is not located:
   a. in the Zone II area of an existing or potential public water supply well;
   b. within 15,000 feet upgradient of an existing public water supply well unless a preliminary Zone II determination has been completed and approved by the Department and the Department determines that the landfill is not located in the Zone II area;
   c. in the Interim Wellhead Protection Area of an existing or potential public water supply well, unless a preliminary Zone II delineation has been approved by the Department and the Department determines that the landfill is not located in the Zone II area;
   d. in the recharge area for a sole source aquifer, unless:
      i. there are no existing or potential public ground water supplies downgradient of the site;
      ii. there are no existing or potential private ground water supplies downgradient of the site; however, the applicant may have the option of providing an alternative public water supply to replace all the existing or potential downgradient private groundwater supplies; and
      iii. there is a sufficient existing or potential public water supply to meet the municipality's projected needs.
2. the leachate containment structure of a landfill shall not be located within a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, including the 100 year floodplain;
3. the outermost limits of the waste deposition area for new landfills or expansions of landfills shall not be within the following distances unless, as applicable, a waiver has been obtained under 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or a variance has been obtained under 310 CMR 19.080:
   a. 100 feet of the nearest edge of the property boundary, provided that a shorter distance consistent with the necessary operating and maintenance requirements of the facility may be approved for that portion of the waste deposition area which borders a solid waste management facility;
   b. 500 feet of a private water supply well;
   c. 500 feet of an occupied residential dwelling, bedded health care facility, prison or lower educational institution or children's pre-school, excluding equipment storage or maintenance structures;
   d. a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, and the regulations promulgated thereunder at 310 CMR 10.00: Wetlands Protection, including the 100 year floodplain;
   e. 2500 feet upgradient or 500 feet downgradient of a surface drinking water supply; f. 250 feet upgradient of a perennial watercourse that drains to a surface drinking water supply where the landfill is within one mile of the surface drinking water supply; or
   g. 250 feet of a lake, pond or river (not including a stream) as defined in 310 CMR 10.00: Wetlands Protection, other than a drinking water supply; or

(d) Additional Landfill Criteria. In addition to the criteria set forth at 310 CMR

19.038(2)(a) and (c), the Department shall consider whether the following criteria, in reviewing an application for a permit or a modification for a landfill, have been met:

1. the landfill does not represent a threat to public health, safety or the environment due to concentration or migration of explosive gases, excluding gas control or recovery system components, at the facility or beyond the facility property boundary;
2. the landfill is not located in a seismic impact zone unless all containment structures are designed to resist the maximum horizontal acceleration in lithified earth material for the site;
3. the landfill is not located in an unstable area unless engineering measures have been incorporated into the landfill's design to ensure the integrity of structural components, including but not limited to liners, leachate collection systems and final covers, will not be disrupted. The owner or operator shall consider the following factors, at a minimum, when determining whether an area is unstable:
    a. on-site or local soil conditions that may result in significant differential settling;
    b. on-site or local geologic or geomorphologic features; and
    c. on-site or local human-made features or events (both surface and subsurface); and
4. the landfill is not located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates that an alternative setback of less than 200 feet will prevent damage to the structural integrity of the landfill.

19.041: Authorization to Construct

(1) General. The following shall not be constructed except in accordance with a valid authorization to construct issued by the Department in writing:

(a) a new or expanded facility for which a permit has been issued;
(b) modifications to a facility for which a permit modification has been issued, except for a transfer station that is not a C&D waste transfer station; or
(c) a new phase in the case of a landfill being developed in phases.

(2) Filing. The owner or operator shall file a request for an authorization to construct in writing with the Department in the appropriate Regional Office. However, unless otherwise indicated, the Department shall consider an application for a solid waste management facility permit or an application to modify a permit to constitute a request for an authorization to construct.

(3) Issuance. In general, the Department shall issue an authorization to construct when the solid waste management facility permit or permit modification is issued, except in the case of phased construction of a landfill where an authorization to construct may be required for each phase and except where the Department determines that any of the following permits has not been applied for, as applicable, or granted at the time the solid waste management facility permit is to be granted:

(a) Massachusetts Surface Water Discharge Permit for point source discharges to surface waters pursuant to M.G.L. c. 21, § 43 and 314 CMR 3.00: Surface Water Discharge Permit Program;
(b) ground water discharge permit pursuant to M.G.L. c. 21, § 43 and 314 CMR 5.00: Ground Water Discharge Permit Program;
(c) storm water discharge permit pursuant to M.G.L. c. 21, § 43, and 40 CFR 122 and 314 CMR 9.00: 401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States Within the Commonwealth;
(d) sewer connection permit for the discharge of collected and or pre-treated leachate into a municipal sewer system as required by 314 CMR 7.00: Sewer System Extension and Connection Permit Program;
(e) Federal Water Pollution Control Act section 404 dredge and fill permit relative to surface water pursuant to the Federal Water Pollution Control Act; and
(f) other local, state and federal permits, approvals or authorizations that are required for the construction of the facility.

(4) Sunset. If construction of the facility or first phase thereof has not been completed or no solid waste has been processed or disposed at the facility within three years of the date of issuance of an authorization to construct the authorization shall expire. The owner or operator may apply to the Department for an extension of the authorization at any time prior to or after it expires.

(5) Enforcement. The issuance of an authorization to construct shall not limit the Department's right to take enforcement action, including, without limitation, the suspension, revocation or modification of the permit or revocation of the authorization to construct if 310 CMR 19.000 or any condition of the permit or authorization to construct is violated.

(6) Deed Notice. In accordance with M.G.L. c. 111, § 150A, the owner or operator of a facility shall record a notice of the authorization to construct permit in the registry of deeds or, if the site is registered land, in the registry section of the land court for the district wherein the land lies. The notice shall be captioned "Notice

of Authorization to Construct a Solid Waste Facility" and shall contain a title reference citing the source of title of the land on which the facility is to be constructed (i.e., the deed with book and page number if recorded land; probate number if acquired through a probate proceeding; and certificate of title number if registered land).

19.042: Authorization to Operate

(1) General. No person shall operate a facility, or if a new or existing facility is developed in phases, operate in any new phase of a facility, without a valid authorization to operate issued by the Department in writing.

(2) Transfer Station Exclusion. 310 CMR 19.042(1) does not apply to a transfer station, except a C&D waste transfer station.

(3) Filing. The applicant shall file a request for an authorization to operate in writing with the Department in the appropriate Regional Office.

(4) Issuance. An authorization to operate shall only be issued after the Department is persuaded by the applicant that:

(a) appropriate financial assurance has been secured in accordance with 310 CMR 19.051; (b) as-built plans, signed and stamped by a registered professional engineer, have been submitted where required by the Department;

(c) the deed notice regarding the authorization to construct a solid waste facility has been recorded or registered as required pursuant to 310 CMR 19.041(6); and

(d) the construction of the facility or phase thereof is complete and the facility is operational. For the purposes of 310 CMR 19.042 a facility shall be considered complete when:

1. the facility has been constructed and prepared in conformance with the approved design plan required under 310 CMR 19.030(3), including the recycling and composting components of that plan;
2. the ditches, drains, roads, fences, water lines, collection systems, and other appurtenances shown on the approved plans are complete and functional;
3. all equipment needed for normal operation of the facility is available and fully operational;
4. all site preparation for the first six months of operation of a new facility or appropriate period for the phase, if applicable, is completed;
5. sufficient number of qualified staff and supervision is available to carry out the normal operation and maintenance of the facility in accordance with approved plans;
6. approved recycling and composting activities will be implemented as approved in accordance with an implementation schedule approved by the Department;
7. the applicant has provided proof of receipt of all applicable other state, local and federal permits that are required for the operation of the facility; and
8. the facility is otherwise in compliance with all applicable portions of 310 CMR 19.000.

(5) Renewal of an Authorization to Operate.

(a) General. An operator planning to continue to use a facility after the expiration date, if any, of the authorization to operate established pursuant to 310 CMR 19.042 shall:

1. submit an application for renewal of an authorization to operate, at least 180 days prior to the date of expiration, which shall include all appropriate information relating to the operation of the facility including, without limitation,

a. a discussion of any changes in operation and monitoring of the facility during the previous authorization period;

b. a narrative summary of the monitoring data for the prior five years of operation; c. a report covering the entire monitoring history of the facility including a detailed outline of the facility's monitoring program, all monitoring results organized in a clear and concise table with an explanation of any missing or non-representative data, an analysis of any trends, any proposals for upgrading the monitoring program, and a discussion of monitoring results;

d. a report containing information on leachate generation rates and the management or fate of that leachate, changes in operation and equipment, operational problems and proposed solutions, and plans to upgrade or improve facility operations to better comply with environmental laws and regulations and a record of all violations of requirements of 310 CMR 19.000 or permit conditions during the authorization period;

e. a determination, with documentation, of the remaining approved capacity or life expectancy of the facility;

f. documentation that the facility has been and will continue to be meeting its recycling and waste restriction requirements;

g. adequate financial assurance has been established; and

h. a demonstration that the facility is operating in compliance with all applicable requirements of 310 CMR 19.000.

2. notify the municipality in which the facility is located as well as the municipalities that are under contract to the facility.

(b) Issuance. The Department, upon review of a renewal application, shall determine whether the applicant has satisfactorily complied with all terms, conditions and requirements of the facility permit, the expiring authorization to operate and 310 CMR 19.000.

1. If the Department determines that the applicant has complied hereunder, the authorization to operate may be reissued.

2. If the Department determines that the applicant has not complied hereunder, or other circumstances exist which indicate noncompliance with any provisions of 310 CMR 19.000 or the permit or any authorizations, the Department shall take appropriate action to secure compliance including, but not limited to, a denial of reissuance. If the Department refuses to renew the authorization the permittee shall have a right to a hearing in accordance with M.G.L. c. 30A, § 13.

(c) Conditions and Terms of a Renewal. The Department may include all conditions of the original authorization to operate and pursuant to 310 CMR 19.036 may establish new conditions for the authorization to operate based on the owner's and operator's record of compliance with applicable laws and regulations, the site assignment, plan submissions, public health and environmental impacts of the facility, revisions of 310 CMR 19.000, the facility financing requirements and remaining capacity of the facility.

(6) Enforcement. The issuance of an authorization to operate shall not limit the Department's right to take enforcement actions, including, without limitation, the suspension, revocation or modification of the permit or revocation of the authorization to operate, if any provision of 310 CMR 19.000 or any condition of the permit, authorization to operate or any order issued by the Department is violated.

19.043: Conditions for Permits and Other Approvals

(1) Items Subject to Conditions. The Department may grant a permit or an authorization subject to such conditions as are necessary to ensure compliance with 310 CMR 19.000 or to protect the public health, safety, or the environment including, without limitation: the period of time for which a permit or authorization is valid, phased development of construction or operations, minimum recycling or composting requirements, the kind or type of waste allowed, site assignment conditions, inspection, financial assurance, technical data gathering, data analysis, quality control, quality assurance, sampling, monitoring, reporting and verification.

(2) Condition(s) on Amount of Solid Waste Accepted. Every permit or authorization to operate shall contain one or more limits on the amount of solid waste which the facility can accept during a fixed period of time, not to exceed one year.

(3) Liability. No permit shall be issued except upon the condition that the holder shall be liable jointly and severally with the owner or operator for any civil or administrative penalties assessed or orders entered by the Department arising from any improper facility operation, maintenance, closure, post-closure or other activities performed in violation of the Department's regulations and applicable statutes. The Department may, in its sole discretion, enforce said condition against the holder in any enforcement action taken pursuant to applicable statutes or regulations. Nothing in 310 CMR 19.043 shall:

(a) limit the liability of owners or otherwise legally responsible parties from these or any other applicable statutes or regulations;

(b) limit the right of the Department to issue notices, orders, or levy penalties for violations of these and other applicable regulations or permit conditions, to facility owners, holders, or otherwise legally responsible parties;

(c) bar any otherwise valid agreement to insure, hold harmless or indemnify the holder for any liability arising out of operation of the facility;

(d) limit the liability of owners or otherwise legally responsible parties for damages to natural resources of the Commonwealth or reimbursement of the Commonwealth for any cleanup costs for the facility site incurred by the Commonwealth; or

(e) affect the right of the holder to seek contribution from any joint wrongdoer.

(4) Financial Conditions. The Department may condition a permit or authorization on the applicant submitting such proof as the Department deems necessary to establish that at the time of permit and during the projected operating period the applicant shall have adequate funds to operate and maintain the facility in compliance with applicable statutes and regulations and permit conditions. Such financial conditions

may require, without limitation, the periodic submission to the Department of approved operating budgets and fee schedules and may compel the cessation of operations and closure of the facility in the absence of adequate financial ability.

(5) Standard Conditions. The following conditions shall apply to all owners and operators:

(a) Duty to Comply. The owner and operator shall comply at all times with the terms and conditions of the permit or other approval, 310 CMR 19.000, M.G.L. c. 111, § 150A, and all other applicable state and federal statutes and regulations, including, but not limited to, the permit review criteria at 310 CMR 19.038(2)(a)1. through 10.

(b) Duty to Maintain. The owner and operator shall always operate and maintain all facilities, environmental control and monitoring systems, vehicles and equipment as required by 310 CMR 19.000 or by the facility permit or other approval.

(c) Duty to Halt or Reduce Activity. The owner and operator shall halt or reduce activity whenever necessary to maintain compliance with 310 CMR 19.000 or the conditions of the permit or other approval, or to prevent an actual or potential threat to the public health, safety or the environment.

(d) Duty to Mitigate. The owner and operator shall remedy and shall act to prevent all potential and actual adverse impacts to persons or the environment resulting from non-compliance with 310 CMR 19.000 or terms or conditions of the permit or other approval. The owner and operator shall repair at his own expense all damages caused by such non-compliance.

(e) Duty to Provide Information. The owner and operator shall furnish to the Department, within a reasonable time, any information which the Department may request and which is deemed by the Department to be relevant in determining whether cause exists to modify, revoke, or suspend a permit or other approval, or to determine if the owner and operator are complying with 310 CMR 19.000 or the permit or other approval.

(f) Entries and Inspections. The owner and operator shall allow personnel or authorized representatives of the Department, without warrant, upon presentation of Department- issued identification to enter the facility to:

1. investigate, sample and inspect any records, condition, equipment, operation, practice or property at the facility relating to regulated activities;
2. to determine and enforce compliance with M.G.L. c. 21A, §§ 2 and 8, St. 1987, c. 584, M.G.L. c. 21H, M.G.L. c. 111, §§ 150A and 150A½ and/or 310 CMR 19.000.

(g) Records. All records and copies of all reports required by 310 CMR 19.000 shall be kept by the owner or operator for at least three years. This period shall be automatically extended for the duration of any enforcement action. This period also may be extended by order of the Department. All recordkeeping shall be in compliance with 310 CMR 19.009. (h) Signatory Requirement. All reports, and information requested or ordered by the Department, shall be signed by a responsible official of the owner or operator in accordance with 310 CMR 19.011(1).

(i) Duty to Inform. The owner and operator shall have a continuing duty to immediately:

1. correct any incorrect facts in an application, report or other document submitted to the Department;
2. report or provide to the Department any omitted facts which should have been submitted to the Department at any time;
3. report to the Department, in advance, each planned change in the facility or activity which might result in non-compliance with a term or condition or a permit or approval;
4. report to the Department each change in the information listed in the application filed pursuant to 310 CMR 19.030;
5. report by the next business day any emergency condition (such as, but not limited to, a fire) that will have an extended impact on facility operations or pollution control, unless required to notify on a different schedule in accordance with 310 CMR 19.132 or
310 CMR 40.0000: Massachusetts Contingency Plan; and
6. notify the Department of any change in the owner's or operator's name or mailing address.

(j) Notification of Bankruptcy. The owner and operator shall notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding pursuant to Title 11 (Bankruptcy) of the United States Code in which the owner or operator is named as debtor within ten days after commencement of the proceeding.

19.044: Transfer of Permits

General. No sale, assignment, or transfer of the rights or privileges, or effective control of such rights or privileges, granted under a permit to establish, expand, construct, operate or maintain a facility shall be valid until a responsible official of the transferee submits a transfer certification (on a form prepared by the Department) in accordance with 310 CMR 19.011(1) to the Department indicating:

(a) proof that notice that the facility is operating or was operated has been recorded in the registry of deeds, or if the site is registered land, in the registry section of the land court for the district wherein the land lies. The notice shall be captioned "Notice of Solid Waste Facility" and shall contain a title reference citing the source of title of the land on which the facility is to be constructed (i.e., the deed with book and page number if recorded land; probate number if acquired through a probate proceeding; and certificate of title number if registered land). This notice shall be incorporated either in full or by reference into all future deeds, and any other instrument of transfer, which convey an interest in and/or a right to use the land on which the facility or a portion thereof, is located;

(b) the agreement provides that the transferee is responsible to correct any and all conditions at the site or facility which result in a threat to public health, safety or the environment or constitute violations of the site assignment, laws, regulations or conditions of the permit, approvals, or authorizations existing at the time of transfer whether or not such conditions are the subject of a Department enforcement action prior to the date of the transfer. A transfer of a permit shall not relieve previous owners of liability for the site under M.G.L. c. 21E or c. 21H; and

(c) the transferee has obtained financial assurance as required under 310 CMR 19.051. Where financial assurance is required no transferee shall operate without said financial assurance.

19.045: Facility Closure and Post-closure

(1) General. Any facility that stops accepting solid waste voluntarily or in accordance with any permit, authorization or order issued by the Department or a court of competent jurisdiction or under any other circumstances shall comply with the requirements of 310 CMR 19.045.

(2) Notification of Voluntary Closure. The owner and/or operator shall notify the Department no later than six months prior to the date that the facility will stop accepting solid waste.

(3) Compliance with Regulations. Closure activities shall be carried out in compliance with all applicable regulations and the permit. Landfills shall meet the specific closure requirements established at 310 CMR 19.140: Landfill Closure Requirements.

(4) Completion of Closure. A facility shall be deemed closed on the date of the Department's written determination that the closure of the facility has been completed in accordance with the final closure/post-closure plan.

19.050: Private Facility Tax

(1) Authority. 310 CMR 19.050 is promulgated pursuant to M.G.L. c. 16, § 24A, and St. 1987, c. 584.

(2) Resource Recovery Facilities. The operator of a privately owned or operated resource recovery facility shall pay a tax in accordance with 310 CMR 19.050(5) and M.G.L. c. 16, § 24A to the municipality in which the facility is located. This tax shall be in lieu of all taxes, fees, charges or assessments imposed by the municipality in which the facility is located, except for real estate taxes imposed solely upon the land on which the facility is located. For purposes of 310 CMR 19.050, "resource recovery facility" means a facility utilizing processes for reclaiming the material or energy value from solid wastes.

(3) Landfills. The owner or operator of a landfill, where that person is other than a town or agency of the commonwealth, shall pay a tax in accordance with 310 CMR 19.050(5) and M.G.L. c. 16, § 24A to the municipality in which the facility is located. This tax shall be in lieu of all taxes, fees, charges or assessments imposed by the municipality in which the facility is located, except for real estate taxes imposed solely upon the land on which the facility is located. Where the owner and operator are both private and separate entities the operator shall pay said tax.

(4) Exceptions. The owners or operators of the following facilities are not subject to the provisions of 310 CMR 19.050:

(a) landfills used by the owner for the sole disposal of solid waste generated from the owner's premises; and

(b) the combustion facility located in Saugus pursuant to St. 1985, c. 84 for which there is a pre-existing agreement.

(5) Amount of the Tax.

(a) Base Rate. The tax rate shall be $1.00 per ton of solid waste processed. For the purposes of 310 CMR 19.050 the term "processed" means the acceptance or handling of solid waste or other discarded materials subject to 310 CMR 19.000 at a combustion facility or landfill.

(b) Annual Inflation Adjustment. The tax rate shall be adjusted each January 1st by the percentage change of the Boston Consumer Price Index for all urban consumers (BCPI) for the previous 12 months

computed using the September to September figures for the BCPI. The first adjustment shall be made on January 1, 1981 and further adjustments shall be made every succeeding January 1.

(6) Reporting and Payment.

(a) General. All persons subject to the requirements of 310 CMR 19.050 shall file a tonnage report on a form as may be supplied by the Department on or before the 20th of each month.

(b) Content. The tonnage report shall indicate the total tons of solid waste processed at the facility in the preceding calendar month and the amount of tax owed.

(c) Filing. The tonnage report shall be signed and certified in accordance with 310 CMR 19.011 and submitted to the board of health in the municipality in which the facility is located.

(d) Payment. The payment of any tax owed pursuant to the requirements of 310 CMR 19.050 is due on the due date of the tonnage report.

19.051: Financial Assurance Requirements

(1) Applicability. The provisions of 310 CMR 19.051 apply to:

(a) landfills; and

(b) other facilities which the Department determines on a facility specific base should provide such financial assurance.

(2) Financial Responsibility for Closure, Post-Closure and Corrective Action.

(a) The owner or operator of a facility identified in 310 CMR 19.051(1) shall establish or obtain, and continuously maintain, financial assurance that is adequate to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.00 governing the closure of the facility and its post-closure maintenance. An owner or operator of a facility shall meet this financial assurance obligation by using any of the methods authorized in 310 CMR 19.051 (an approved financial assurance mechanism) and shall file with the Department and maintain in current form approved documents constituting or evidencing compliance with this obligation. Where the Department establishes a form for a financial assurance instrument the instruments submitted must be identical to the approved form. Where the Department does not establish a form the applicant shall submit a draft of the proposed financial assurance mechanism for Department approval.

(b) An approved financial assurance mechanism shall be in full effect on or before the date that an owner or operator of a facility receives an authorization to operate under 310 CMR 19.042 and shall remain in full force and effect until the owner or operator obtains a release from this obligation pursuant to the provisions of 310 CMR 19.051(11). The Department shall not issue or renew an authorization to operate unless an owner or operator first complies with the provisions of 310 CMR 19051 and may, pursuant to 310 CMR 19.081, revoke an approval, permit or authorization previously issued or take other appropriate enforcement should an owner or operator fail to remain in compliance with the provisions of 310 CMR 19.051.

(c) The initial and revised amounts of an approved financial assurance mechanism shall be no less than the estimate of the cost of closure and post-closure maintenance of the facility submitted to and approved by the Department according to the provisions of 310 CMR 19.051(5). No financial assurance mechanism shall be terminated by an owner or operator without the approval of the Department.

(d) An approved financial assurance mechanism shall be structured so that the Department shall be a party to said mechanism to the extent that it shall have the right to obtain, without the consent of the owner or operator, exclusive direction and control over the transfer, use and disbursement of the secured funds or performance benefits to perform approved closure and post-closure maintenance or secure reimbursement for costs incurred for so performing upon its determination that an owner or operator has failed in whole or in part to carry out closure or post-closure requirements in accordance with 310 CMR 19.000 or any plan or permit conditions or orders issued hereunder.

(e) Effective April 9, 1994, the Department may order the owner or operator of a municipal solid waste landfill required to perform corrective action under 310 CMR 19.151 to establish or obtain, no later than 120 days after the corrective action remedy has been selected, and continuously maintain financial assurance which is adequate to assure the Department that the owner or operator is at all times capable of complying with the provisions of 310 CMR 19.000 governing the performance of corrective actions. Except as may be expressly provided herein or in an order of the Department, the provisions of 310 CMR 19.000 governing the estimation, establishment, revision, release and approved mechanisms of closure and post closure financial assurance shall also apply to corrective action financial assurance.

(3) Transfer of Permit, Authorization, or Other Interest. No person may transfer or obtain by any form of transfer any permit, authorization, or interest in the ownership, possession, or operation of a facility without first complying with the applicable provisions of 310 CMR 19.051.

(4) Demonstration of Compliance with Financial Assurance Requirements.

(a) Existing Landfills. An owner or operator of an existing landfill shall:

1. as a condition of continued operation under a prior plan approval or approval of an application for a permit, modification or authorization to operate provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure of any portion of the facility which has received waste but has not been closed in accordance with an approved plan as well as the post-closure maintenance of any such area and the closure and post-closure maintenance costs of the area currently approved to accept waste; and

2. as a pre-condition to obtaining subsequent authorization to operate or expansion modifications provide the Department with documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of the closure and post-closure maintenance of each subsequent operating phase.

3. The Department may allow an existing facility owner or operator a conditional grace period to meet the financial assurance requirements described in 310 CMR 19.051(4)(a)1. for inactive areas of the facility provided the owner or operator demonstrates that during the time the applicant owned or operated the facility a closure performance bond or another approved financial assurance mechanism in accordance with 310 CMR 19.25(4): Completion of Landfill (1971 Landfill Regulations) was maintained, and that an approved closure and post-closure trust fund or Enterprise fund is established and is fully funded over a pay-in period which is not greater than the approved life of the current operating phase of the facility minus one year or the life of the facility minus one year if it does not operate in phases. For the purpose of 310 CMR 19.051 an inactive area is an area on which waste has been disposed, which has not closed in accordance with Department approved plans and which has not been approved for further waste disposal.

4. A private owner or operator of an existing landfill, shall make the submission described in 310 CMR 19.051(4)(a) upon the earlier of filing an application for a solid waste management facility permit in accordance with the schedule set forth at 310 CMR 19.020(3), an application to operate or an application for a permit or modification to expand facility capacity.

5. A public owner or operator of an existing landfill shall make the submissions described in 310 CMR 19.051(4)(a) upon written notice or order from the Department.

6. In lieu of submitting all or part of the financial assurance mechanism the owner or operator may, no later than the dates set forth at 310 CMR 19.051(4)(a)4. or 5. submit plans for final closure of the inactive portions of the facility and complete closure of said areas in accordance with approved plans on an expedited schedule to be determined by the Department.

(b) New Landfills. An applicant for a permit to construct and operate a landfill shall:

1. in addition to the submission required by 310 CMR 19.030, provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure and post-closure maintenance of the first operating phase of the proposed landfill and, if additional costs are involved, of the entire facility; and

2. as a pre-condition to obtaining an authorization to operate under 310 CMR 19.042 for each subsequent phase, provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure and post-closure maintenance of each subsequent operating phase of the proposed landfill and, if additional costs are involved, of the entire facility.

(c) Other Solid Waste Management Facilities. A person seeking authorization to operate a solid waste management facility other than a landfill shall, where required by the Department and as a pre-condition to obtaining an authorization to operate under 310 CMR 19.042, provide to the Department documents constituting or evidencing approved financial assurance mechanisms adequate to defray the cost of closure and post-closure maintenance of the facility.

(5) Estimation of Costs for Closure and Post-Closure Maintenance.

(a) An owner or operator of a proposed solid waste management facility required to provide an approved financial assurance mechanism shall prepare and submit to the Department, as a part of the permit application required under 310 CMR 19.030 a written estimate, unadjusted for time, inflation, return on invested funds, or other purely financial factors, of the cost of a third party closing and performing post-closure maintenance of the facility. This estimate shall be based upon the closure and post-closure plans for the facility required under 310 CMR 19.000 and equal the cost of closing the facility and providing post-closure maintenance at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure most expensive.

(b) An owner or operator of an existing facility required to provide an approved financial assurance mechanism shall prepare and submit to the Department, as a part of the permit application required

under 310 CMR 19.030(4), an application to operate or application for a modification to expand capacity, a written estimate, unadjusted for time, inflation, return on invested funds, or other purely financial factors, of the cost of closing and providing post-closure maintenance of those portions of the facility in which waste has been disposed and not closed in accordance with an approved plan, the area in which it is currently authorized to operate and, if appropriate, the proposed expansion area. This estimate shall be based upon the closure and post-closure plans for the facility required under 310 CMR 19.000 and equal the cost of closing the facility and providing post-closure maintenance at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure most expensive.

(c) A written estimate which conforms to the requirements set forth in 310 CMR 19.051(5)(a) or (b) shall be submitted with each application for authorization to operate in a subsequent operating phase or application for an expansion of capacity.

(d) Where a facility is operated or is to be operated in phases an owner or operator may allocate proportions of the estimate of the cost of closure and post-closure maintenance to each such phase for the purpose of complying with the requirements of 310 CMR 19.051(4)(a) or (b). Such an allocation may not result in the under-estimation of the cost of closure and post-closure of any such phase or of the entire facility at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure maintenance most expensive. Where the facility is to be developed in phases the estimate shall include in the estimate the cost of integrating the closed phases into prospective phases.

(e) The Department shall review the estimate submitted and notify the applicant if it determines the estimate to be adequate. The Department may determine upon review of an estimate that its amount is inadequate to defray either or both the cost of closure or post-closure maintenance of the facility. Upon such a determination, the Department may require the applicant to submit a revised estimate or it may adjust the estimate and use the adjusted estimated cost rather than the estimated cost to establish the minimum amount of the financial assurance mechanism. If the Department determines to adjust the estimate and it increases the amount of the estimate by 10% or more, the provisions of 310 CMR 19.051(7) apply to the estimate as if it were a revised estimate determined pursuant to the provisions of that sub-section.

(f) An owner or operator of a facility may propose that the estimate of the cost of closing the facility or of providing post-closure maintenance prepared and submitted to the Department in accordance with the provisions of 310 CMR 19.051(5)(a), (b) or (c) be adjusted by the consideration or application of such financial factors as may reasonably affect the determination of the amount of money required to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.000 governing the closure of the facility and its post-closure maintenance. If the Department determines to adjust the estimated cost, the adjusted estimated cost, rather than the estimated cost shall be the minimum amount of the financial assurance mechanism.

(g) All submitted estimates shall be certified by a Massachusetts registered professional engineer except as otherwise approved by the Department.

(6) Revision of Estimates of Closure and Post-Closure Costs.

(a) An owner or operator of a facility shall revise the estimate of the cost of closure and post-closure maintenance submitted to the Department pursuant to 310 CMR 19.051(5) every year and every second year shall submit the revised estimate in written form, accompanied by a detailed explanation of its method of calculation, to the Department on or before June 1 of the year to which the revised estimate relates.

(b) Unless otherwise approved by the Department, a revision of the estimate of the cost of closure and post-closure maintenance of a facility shall be computed using the following formula:

Revised Present Estimate of Cost: Cp = Co x Ip/Io + CoC where: Cp = (present) revised cost estimate
Co = (original) cost estimate as filed pursuant to 310 CMR 19.051(5) Ip = (present) index value
Io = (original) index value at time of filing pursuant to 310 CMR 19.051(5) and where the index is the so-called "Construction Cost Index" published in the periodical Engineering News Record.
CoC = Change in compliance costs as a result of changes in site conditions, changes in law, regulations, permit conditions, judicial or administrative orders or other significant changes.

(c) An owner or operator of a facility shall, in addition to submitting to the Department the adjustment pursuant to 310 CMR 19.051(6)(a), revise the estimate of the cost of closure and post-closure maintenance of a facility and submit such revised estimate to the Department within 30 days of the date that the Department approves a modification of the facility permit pursuant to 310 CMR 19.039 or 310 CMR 19.040 which would affect said closure or maintenance costs.

(d) An owner or operator of a facility shall maintain records of the calculation and determination of the original and all revisions of the estimate of the cost of closure and post-closure maintenance of

a solid waste management facility until such time as the owner or operator obtains a release from the obligation imposed by 310 CMR 19.051(2).

(7) Increase in the Amount of Financial Assurance.

(a) An owner or operator of a facility shall, upon determining a revised estimate of the cost of closure or post-closure maintenance of the facility exceeds by 10% the amount of the applicable approved financial assurance mechanism, promptly notify the Department of the determination and either:

1. increase the amount of the applicable financial assurance mechanism to an amount equal to the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility; or

2. secure and maintain in compliance with the requirements of 310 CMR 19.051 an additional approved financial assurance mechanism in an amount equal to the difference between the amount of the existing applicable approved financial assurance mechanism and the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility. An owner or operator of a facility shall file with the Department and maintain in current form those documents constituting or evidencing compliance with this requirement within 60 days of determining a revised estimate of the cost of closure or post-closure maintenance of the facility that exceeds by 10% the amount of the applicable approved financial assurance mechanism. In the event that the revised estimate is a biennial estimate determined pursuant to the provisions of 310 CMR 19.051(6), an owner or operator shall make such filing no later than June 1 of the year to which the revised estimate applies.

(b) The Department may review the estimate submitted and notify the applicant if it determines the estimate to be adequate. The Department may determine upon review of an estimate that its amount is inadequate to defray either or both the cost of closure or post-closure maintenance of the facility. Upon such a determination, the Department may require the applicant to submit a revised estimate or it may adjust the estimate and use the adjusted estimated cost rather than the estimated cost to establish the minimum amount of the financial assurance mechanism.

(8) Decrease in the Amount of Financial Assurance. An owner or operator of a solid waste management facility may, upon determining a revised estimate of the cost of closure or post-closure maintenance of the facility, decrease the amount of the applicable financial assurance mechanism to an amount equal to the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility, having first requested and received the written approval of the Department. The Department shall approve the decrease upon its determination that the proposed decreased amount of the financial assurance mechanisms equals or exceeds the necessary cost of closure or post-closure maintenance.

(9) Procedure Governing the Use of Assured Funds.

(a) The Department shall notify the owner, operator and persons who are parties to the financial assurance mechanism whenever the Department has determined that the owner or operator is not in compliance due to a failure to close or conduct post-closure maintenance in accordance with the applicable regulations, permits or orders. No less than 21 days after such notification the Department may exercise its rights under the financial assurance mechanism to secure control over and direct the transfer, use and disbursement of the security for the purpose of effecting closure and post-closure maintenance including but not limited to:

1. directing the holder of the financial assurance mechanism to perform actions intended to bring the facility into compliance; and

2. directing the holder of the financial assurance mechanism to reimburse the Department for actions it or its agents has performed to bring the facility into compliance.

(b) After beginning final closure, an owner or operator or any other person authorized by the Department to perform closure may request reimbursement for closure expenditures by submitting itemized bills or other adequate proof of the performance of the work in accordance with the approved closure or post-closure plans. After making a determination that the work has been performed in compliance with the plan(s) the Department may direct the holder of the funds under the financial assurance mechanism to reimburse the party performing the work or release a proportionate amount of the secured funds. The Department may withhold reimbursement or release of such amounts it deems prudent until it determines, in accordance with 310 CMR 19.051(11) that the owner or operator is not required to maintain financial assurance for closure or post-closure.

(10) Cancellation or Termination of an Approved Financial Assurance Mechanism. An owner or operator of a facility may apply to the Department for reduction, cancellation or termination of an outstanding financial assurance mechanism established pursuant to 310 CMR 19.051(2). The application shall detail one of the following reasons in support of the application: the substitution of an alternative assurance mechanism, transfer of an interest in the facility in accordance with 310 CMR 19.044, an approved decrease in the amount of required financial assurance in accordance with 310 CMR 19.051(8), activities which have taken place under 310 CMR 19.051(9)(b) or the Department's termination of the financial assurance obligation by granting a release to the owner or operator pursuant to the provisions of 310 CMR 19.051(11).

(11) Release from Financial Assurance Requirements.

(a) Closure. The owner or operator of a facility shall be released in whole or in part from the requirement to provide financial assurance for closure upon receiving written notification from the Department that closure has been completed in accordance with the closure plan and permit conditions and in compliance with 310 CMR 19.000. An owner or operator of a facility may subsequently submit to the Department such documents as may be necessary to cancel or terminate the approved financial assurance mechanism that the owner or operator is no longer obligated to maintain.

(b) Post-Closure. The owner or operator of a facility shall be released in whole or in part from the obligation to provide and maintain a financial assurance mechanism for post-closure maintenance of the facility upon receiving written notification from the Department that the post-closure period has expired and that post-closure maintenance of the facility has been completed in compliance with 310 CMR 19.000. An owner or operator of a facility may subsequently submit to the Department such documents as may be necessary to cancel or terminate a financial assurance mechanism that the owner or operator is no longer obligated to maintain.

(12) Approved Financial Assurance Mechanisms. The owner or operator of a facility may meet the obligation to maintain financial assurance that is adequate to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.000 governing the closure of the facility and its post-closure maintenance through the use of one or more of the approved financial assurance mechanisms specified in 310 CMR 19.051(12).

(a) Closure, Post-Closure or Corrective Action Trust Fund.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by establishing a closure or post-closure trust fund that conforms to 310 CMR 19.051(12)(a) and by sending an originally signed duplicate of the trust agreement to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. The trustee shall be a bank or other financial institution that has the authority to act as a trustee and whose trust operations are regulated and examined by the Massachusetts Commissioner of Banking.

3. The schedule of assets in the trust agreement shall be updated within 60 days after a change in the amount of the current closure or post-closure maintenance estimate which is the subject of the trust agreement.

4. Payments into the trust fund shall be made as follows:

a. The first payment shall be made prior to obtaining an authorization to operate as set forth in 310 CMR 19.042. The owner or operator shall submit a receipt from the trustee for this payment to the Department as evidence of payment.

b. The private owner or operator of a facility shall make a first payment in an amount equal to the approved closure and post-closure estimate for the facility submitted pursuant to 310 CMR 19.051(5). Payments to the trust as a condition of approval of subsequent permits or authorizations to operate shall be made in amount(s) equal to the approved closure and post-closure maintenance estimates submitted pursuant to 310 CMR 19.051(5).

c. A municipal owner of a facility shall make a first payment which shall at least be equal to either the total current closure and post-closure maintenance cost or the current closure or post-closure maintenance cost estimate, divided by the number of years in the pay-in period. The pay-in period may not be greater than the authorized operating life of the current phase minus one year. Payments to the trust as a condition to approval of subsequent authorizations to operate shall be made in amount(s) equal to the approved closure and post-closure maintenance estimates submitted pursuant to 310 CMR 19.051(5).

d. Subsequent payments by a municipal owner shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment is calculated by the formula:

5. For an owner or operator making payments into a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund shall be at least equal to one half of the current cost estimate for corrective action, divided by the number of years in the corrective action program in case of corrective action for known releases. This latter period of time is known as the pay-in-period. The amount of subsequent payments shall be determined by the following formula:

Next payment = (RB-CV) / Y

where RB is the most recent estimate of the required trust fund balance for corrective action [i.e. total costs that will be incurred during the second half of the corrective action period], CV is the current value of the trust fund, and Y is number of years remaining on the pay-in-period.

6. Notwithstanding the provisions of 310 CMR 19.051(2)(d), a trust fund for a facility owned by a municipality shall be an approved financial assurance mechanism without providing to the Department the right to obtain exclusive direction and control over the trust fund assets provided that

the documents establishing the trust require that the funds paid into the trust cannot be withdrawn, transferred, encumbered or disbursed for any purpose other than to meet Department approved closure and post-closure obligations without the prior written consent of the Department.

7. If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in 310 CMR 19.051(12) the owner's or operator's first payment must equal the amount that the trust fund would contain if the trust fund had been established initially and payments made in compliance with 310 CMR 19.051(12)(a).

(b) Enterprise Fund

1. A municipal owner may satisfy the requirements of 310 CMR 19.051(2) by establishing a separate account which qualifies as an "Enterprise Fund" pursuant to M.G.L. c. 44, § 53F½ for the purpose of reserving funds to meet its obligation to conduct approved closure and post-closure maintenance and by sending an originally signed duplicate of the documents establishing the fund to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. Payments shall be made into the reserve fund in accordance with procedure set forth at 310 CMR 19.051(12)(a)4.c. and d.

3. Notwithstanding the provisions of 310 CMR 19.051(2)(d), an Enterprise Fund Account shall be an approved financial assurance mechanism without providing to the Department the right to obtain exclusive control over the Fund provided that the documents establishing the account require that the funds paid into the closure reserve account cannot be withdrawn, transferred, encumbered or disbursed for any purpose other than to meet Department approved closure and post-closure obligations without the prior written consent of the Department.

(c) Surety Bond Guaranteeing Payment.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by obtaining and filing a surety bond that conforms to 310 CMR 19.051(12)(c) and by sending an originally signed duplicate of the bond to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the United States Department of the Treasury, or licensed, approved or authorized by the Massachusetts Division of Insurance to secure such risks.

3. An owner or operator who uses a surety bond to satisfy the requirements of 310 CMR 19.051 shall also establish a standby trust fund. Under the terms of the surety bond, all payments made thereunder are deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund shall meet the requirements in 310 CMR 19.051(12)(a), except that:

a. an originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

b. until the standby trust fund is funded pursuant to the requirements of 310 CMR 19.051, the following are not required:

i. payment into the trust fund as specified in 310 CMR 19.051(12)(a);

ii. annual valuations as required by the trust agreement; and

iii. notices of nonpayment as may be required by the trust agreement.

4. The surety bond shall provide the owner or operator shall be in default if the responsible party:

a. fails to fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of closure of the applicable phase; or

b. fails to fund the standby trust fund in an amount equal to the penal sum within 21 days after the Department or a court of competent jurisdiction issues an order to begin closure; or

c. fails to provide an alternate financial assurance mechanism as specified in 310 CMR 19.051(12), and obtain the Department's written approval of the financial assurance mechanism provided, within 90 days after receipt by the owner or operator of a notice of cancellation of the surety bond from the surety.

5. Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator is in default as defined by the bond.

6. The penal sum of the bond shall equal the current approved closure and post-closure cost estimate.

7. Under the terms of the bond, the surety may cancel the bond by sending written notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not take effect, however, until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by the later return receipt.

(d) Surety Bond Guaranteeing Performance.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by obtaining and filing a surety bond that conforms to 310 CMR 19.051(12)(d) and by sending an originally

signed duplicate of the bond to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the United States Department of the Treasury, or licensed, approved or authorized by the Massachusetts Division of Insurance to secure such risks.

3. The Department may require a surety to establish a standby trust under the terms and conditions set forth at 310 CMR 19.051(12)(c)3.

4. The surety bond shall provide the owner or operator shall be in default if the responsible party:

a. fails to perform closure in accordance with the closure/post-closure plan and other requirements of the permit for the facility whenever required to do so, and perform post-closure maintenance in accordance with the closure/post-closure plan and other requirements of the permit for the facility; or

b. fails to provide an alternate financial assurance mechanism pursuant to 310 CMR 19.051(12), and obtain the Department's written approval of the financial assurance mechanism provided, within 90 days after receipt by the owner or operator of a notice of cancellation of the surety bond from the surety.

5. Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator is in default as defined by the bond. When the owner or operator does not perform closure or post-closure maintenance in accordance with approved closure/post-closure plans or applicable permit conditions, the surety shall become liable on the bond obligation to perform closure and post-closure maintenance as guaranteed by the bond and deposit the amount of the penal sum of the bond into the standby trust if one is required to be established.

6. The penal sum of the bond must equal the current closure and post-closure maintenance cost estimates.

7. Under the terms of the bond, the surety may cancel the bond by sending written notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not take effect, however, until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by later return receipt.

8. The surety need not be liable for deficiencies in the performance of closure by the owner or operator for which the Department has released the owner or operator from the requirements of closure and post-closure maintenance, or portions thereof, pursuant to 310 CMR 19.051(11).

(e) Closure and Post-Closure Insurance.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051 by obtaining closure insurance that conforms to the requirements of 310 CMR 19.051(12)(e) and by submitting a certificate of such insurance to the Department within the applicable time period set forth at 310 CMR 19.051(4). The Department may require submission of a duplicate of the complete insurance policy.

2. At minimum, the insurer shall be licensed to transact the business of insurance or authorized or approved to provide insurance as an excess or surplus lines insurer in the Commonwealth of Massachusetts.

3. The insurance policy shall be issued for a face amount at least equal to the current approved closure and post-closure cost estimate. The term "face amount" means the total amount the insurer is obligated to pay pursuant to the policy. Actual payments by the insurer shall not change the face amount, although the insurer's future liability may be lowered by the amount of such payments.

4. The insurance policy shall guarantee that funds in an amount equal to the face amount of the insurance policy shall be available to close a phase or facility whenever final closure of a phase or facility occurs and to conduct post-closure maintenance. The policy shall also guarantee that once final closure or post-closure maintenance begins, the insurer shall be responsible for paying out funds up to an amount equal to the face amount of the insurance policy, upon the direction of the Department, to such persons as the Department may specify in writing.

5. The insurance policy shall provide that the insurer may not cancel, terminate, or fail to renew the closure or post-closure maintenance insurance policy except for the insured's failure to pay the premium or the insurer's refusal to write solid waste management facility closure or post-closure maintenance insurance coverage in Massachusetts. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring closure insurance policy except in the event of a refusal to write such coverage. If there is a failure to pay the premium or a refusal to write such coverage, the insurer may elect to cancel, terminate, or fail to renew the closure or post-closure maintenance insurance policy by sending notice by certified mail to the owner or operator to the Department. No cancellation shall occur until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by later return receipt. No cancellation, termination, or failure to renew may occur, and the

closure insurance policy shall remain in full force and effect, in the event that on or before the date of expiration:

a. the Department deems the facility abandoned;

b. the permit is suspended or revoked and application for a new permit or authorization is denied;

c. closure is ordered by the Department or a court of competent jurisdiction; or

d. the owner or operator is named a debtor in a voluntary or involuntary bankruptcy proceeding; or

e. the premium due is paid prior to the effective date of cancellation if the cancellation was based on failure to pay the premium; or

f. the insurer continues to write solid waste management facility closure or post-closure maintenance coverage in Massachusetts if the cancellation was based on refusal to write said coverage.

6. Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent shall not be unreasonably withheld.

7. For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85% of the most recent investment rate of the equivalent coupon-issue yield announced by the U.S. Treasury for 26 week Treasury certificates.

(f) Closure and post-closure letter of credit.

1. An owner or operator may satisfy the requirement of 310 CMR 19.051(2) by obtaining an irrevocable standby letter of credit that conforms to the requirements of 310 CMR 19.051(12)(f) and by submitting an executed copy of the letter of credit to the Department within the applicable time period set forth at 310 CMR 19.051(4). The institution issuing the letter of credit shall be an entity which has the authority to issue letter of credit and whose letter-of-credit operations are regulated and examined by the Massachusetts Commissioner of Banking or other institution approved by the Department.

2. An owner or operator who uses a letter of credit shall also establish a standby trust fund. Under the terms of the letter of credit, all payments made thereunder shall be deposited by the issuing institution directly in the standby trust fund in accordance with instruction from the Department. The standby trust shall meet the requirements of 310 CMR 19.051(12)(a) except that:

a. an originally signed duplicate of the trust agreement shall be submitted to the Department with the letter of credit; and

b. until the standby trust is funded pursuant to the requirements of 310 CMR 19.051 the following are not required:

i. payment into the trust fund as specified in 310 CMR 19.051(12)(a);

ii. annual valuations as required by the trust agreement; and

iii. notices of nonpayment as may be required by the trust agreement.

3. The letter of credit shall be accompanied by a letter from the owner or operator which shall state:

a. the letter of credit number;

b. the name of the issuing institution;

c. the date of issuance of the letter of credit;

d. the name and address of the facility; and

e. the amount of funds assured by the letter of credit for closure of the facility.

4. The letter of credit shall be irrevocable and shall be issued for a period at least equal to the sum of one year plus:

a. the estimated period of time required to complete closure of any unclosed inactive areas and the current operating phase; or

b. the term of the permit if the facility is not operated in approved phases.

The letter of credit shall provide that the expiration will be automatically extended for a period of at least one year unless, not later than 120 days before the current expiration date pursuant to the terms of the letter of credit, the issuing institution notifies both the owner or operator and the Department by certified mail of the decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days shall not begin before the date when both the owner and operator and the Department have received notice, as shown by the later return receipt.

5. The letter of credit shall be issued in an amount at least equal to the current closure and post-closure cost estimate except as provided in 310 CMR 19.051(8).

(13) Use of Multiple Financial Assurance Mechanisms. An owner or operator may with Department approval satisfy the requirements of 310 CMR 19.051, by establishing more than one financial assurance mechanism per Massachusetts facility. These financial assurance mechanisms shall be limited to the mechanisms set forth at 310 CMR 19.051(12). These mechanisms shall be in compliance with 310 CMR 19.051(12) except that the combination of mechanisms, rather than each mechanism, which provide for an amount equal to the required financial assurance. If an owner or operator uses a trust fund in combination with any other financial assurance mechanism, it shall use the trust fund for those financial assurance mechanisms for which the establishment of a trust fund is required. A single standby trust fund may be used for two or more mechanisms. The Department may use any or all of the mechanisms to provide for closure of the facility.

(14) Use of a Financial Assurance Mechanism for Multiple Facilities.

(a) An owner or operator may use a financial assurance mechanism specified in 310 CMR 19.051 to meet the requirements of said section for more than one Massachusetts facility.

(b) The amount of funds available through the financial assurance mechanism shall be no less than the sum of funds that would be available if a separate mechanism has been established and maintained for each facility. In directing funds available through the financial assurance mechanism for closure or post-closure maintenance of any facility covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

19.060: Beneficial Use of Solid Waste

(1) Summary. 310 CMR 19.060 establishes the Department's rules for the beneficial use of solid waste and classification of a solid waste as a secondary material. Included in this subsection are general standards and permit procedures for beneficial use activities. In order to identify specific standards and permit procedures, proposed uses of secondary materials are divided into four categories:

(a) Category 1 - Commercial Products;
(b) Category 2 - Regulated Systems;
(c) Category 3 - Restricted Applications; and,
(d) Category 4 - Unrestricted Applications.

(2) Burden of Proof.

(a) The applicant must demonstrate to the Department's satisfaction that the proposed secondary materials and uses are beneficial and pose an insignificant potential hazard to public health, safety or the environment.

(b) The Department may grant a beneficial use determination, and may allow a beneficial use determination to remain in effect, only to the extent, and only while, the Department is satisfied that such secondary materials and uses are beneficial and pose an insignificant potential hazard to public health, safety or the environment.

(3) Determination of Applicability.

(a) Any person who desires a determination whether 310 CMR 19.060 applies to a facility or operation that proposes to store, process or use a secondary material may submit to the Department a request for a determination of applicability. The applicant shall provide the following forms and information to the Department:

1. Submit a Request for Determination of Applicability to the Department using the appropriate forms provided by the Department.
2. Provide a detailed description of the facility that proposes to store, process, or otherwise handle the secondary material. In the case of a manufacturing facility, a general description of the facility's manufacturing system shall be submitted, including process flow diagrams. The complexity and degree of detail of the description will vary depending on the magnitude and complexity of the process.
3. Describe the feedstock or product the proposed secondary material is replacing.
4. Provide a detailed description of similar products currently and historically produced by the facility.
5. Provide a characterization of the proposed secondary material. The scope of the characterization shall be sufficient for the Department to adequately determine adverse impacts and risks to public health, safety and the environment, including, but not limited to, nuisance conditions. This shall include:
   a. A physical characterization of the proposed secondary material including, but not limited to, matrix and gradation, where applicable.
   b. Chemical characterization of the proposed secondary material including the results of analytical testing for those hazardous materials that reasonably may be thought to be present.
6. Describe any previous licenses, permits, authorizations, or other approvals for recycling or beneficial use of the proposed secondary material.

(b) The Department shall issue a determination of applicability within 45 days of the receipt of the request.

(4) Processing of Secondary Materials. When the processing of a proposed secondary material is necessary for its beneficial use the Department shall determine the type and amount of processing allowable which does not constitute a solid waste processing activity. If the Department determines that processing of the secondary material constitutes a solid waste processing activity then the processing shall be subject to the provisions of 310 CMR 16.00 and 19.000.

(5) General Application Requirements. A copy of the beneficial use permit application shall be filed with the Department. In addition, a copy shall be filed with the board of health of jurisdiction when the proposed use is limited to a specific location. The application shall be filed on a form supplied by the Department and contain the following information as determined or modified at the pre-application meeting where a pre-application meeting has been held. Items in 310 CMR 19.060(4)(a) through (i) must be included as part of the pre-application package. The final permit application package must include the data as required in 310 CMR 19.060(4)(j):

(a) A description of the proposed secondary material and its proposed use;

(b) A description of how the proposed utilization will result in a viable and beneficial substitution for a commercial product or commodity;

(c) A detailed physical and chemical characterization plan of both the secondary material proposed for beneficial use and of the final product including:

1. A detailed list of the chemical constituents found in the product(s) from which the proposed secondary material is derived;
2. A statistically valid, representative sampling plan consistent with guidance in "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460, and other applicable guidance as may be stipulated by the Department. The sampling plan shall include all hazardous materials including Critical Contaminants of Concern (CCCs) that reasonably may be thought to be present in the proposed secondary material. CCCs shall be separately listed.
3. A quality assurance and quality control plan, ensuring that appropriate procedures are followed and documented, using guidance contained in EPA/600/R-02/009, December 2002, Guidance on Quality Assurance Project Plans and other applicable guidance as may be provided by the Department.

(d) A detailed description of the proposed facility that will store, process, or otherwise handle the proposed secondary material. In the case of a manufacturing facility, a general description of the facility's manufacturing system related to the proposed use of secondary material shall be submitted, including process flow diagrams. The complexity and degree of detail of the description will vary depending on the magnitude and complexity of the process generating the proposed secondary material. Any interim handling facilities or collection centers not located at the site of processing and not otherwise approved to store or handle the proposed secondary material pursuant to 310 CMR 16.00 and 19.000 shall be identified and described pursuant to this section;

(e) Information indicating the annual quantities, by weight and/or volume, of the secondary material proposed for beneficial use;

(f) A description of any risk management techniques being considered, including any deed or other use limitations, location restrictions, best management practices or engineering controls;

(g) Identification of the proposed location of use, if applicable, or types of locations where the proposed secondary material will be used (e.g. highway rights-of-way, industrial zoned properties, etc.);

(h) Identification of storage requirements necessary for maintaining sufficient inventory to meet market demand;

(i) If hazardous materials, including CCCs, are identified during the pre-application or application process the project proponent shall prepare and submit a Toxics Reduction Plan (TRP) that details options to minimize the concentration of hazardous material that could be released to the environment. The TRP shall document steps that will be taken to implement economically and technologically feasible options; and,

(j) Submission of all appropriate data derived from the sampling plan required in accordance with 310 CMR 19.060(4)(c)3. The Applicant must include a statistically valid analysis of the concentration and distribution of all hazardous materials that may be contained in the proposed secondary material.

(6) Demonstration Projects. The Department may grant temporary approval for a pilot project or demonstration project pursuant to 310 CMR 19.062: Demonstration Projects or Facilities. The application requirements for a pilot project or demonstration project will be determined on a case-by-case basis by the Department.

(7) Record Keeping. The permittee shall maintain records and shall submit reports to the Department as required in the permittee's Beneficial Use Determination permit. Reports shall summarize beneficial use

activities during the past year, including the quantity of secondary material received or distributed for beneficial use, the sources of the secondary material received, and the results of any required testing or on-going characterization and any other information required as a condition of the permit.

(8) Public Participation. The Department shall accept comments from Boards of Health and other interested parties regarding the application for a period not less than 21 days before issuing a final determination.

(9) General Beneficial Use Determinations. The Department may issue general beneficial use determinations, as general permits, that apply to a specific beneficial use of a secondary material, providing the reuse complies with the Reuse Criteria listed in 310 CMR 19.060(12). Any person or entity may use the secondary material as identified in the general beneficial use determination as long as the person or entity adheres to the requirements and conditions contained therein.

(10) Effect of Determinations. A determination of beneficial use means the secondary material is not classified as a solid waste only when used in accordance with the Department's determination of beneficial use.

(11) Pre-application.

(a) Applicants for a Beneficial Use Determination may request a pre-application meeting with the Department, the purpose of which is for the Applicant to describe the proposed beneficial use activity and obtain guidance on the application process and content from the Department.

(b) The Applicant shall submit general application information, as described in General Application Requirements, 310 CMR 19.060(4), to the Department at least ten business days prior to the pre-application meeting. Information submitted for purposes of pre-application shall be sufficient to assign the application to the appropriate beneficial use category as described in section 310 CMR 19.060(12) through (15).

(12) General Standards.

(a) If the applicant intends to use the proposed secondary material as a substitute for a virgin material in manufacturing, the proposed secondary material shall conform to industry specifications for the virgin material it is replacing or impart properties that result in the product meeting applicable industry performance specifications.

(b) If the applicant intends to use the proposed secondary material as a product, it shall meet or exceed the applicable industry-accepted specifications or performance standards for that product. Where no industry-accepted specifications or performance standards exist, the mixing of proposed secondary materials with other materials to produce a product must be a necessary component of the product.

(c) Any proposed processing and beneficial use shall not cause an adverse impact or significant risk to public health, safety and the environment, including, but not limited to, nuisance conditions. All beneficial use applications must demonstrate that the proposed reuse meets all of the criteria identified in 310 CMR 19.060(13): Reuse Criteria.

(d) The proposed secondary material shall not be handled or utilized in a manner that will result in the proposed secondary material becoming a solid waste;

(e) The proposed beneficial use shall be successfully completed in compliance with applicable rules and regulations.

(13) Reuse Criteria.

(a) No significant risk to public health shall be created.

(b) No significant adverse environmental impacts shall be created.

(c) No condition shall be treated that adversely impacts public health, safety, or the environment.

(d) Reuse may not result in increases in the environmental concentrations of any critical contaminants of concern (CCCs), including persistent, bioaccumulative toxins (PBT) and other priority chemical pollutants as may be identified by the Department.

(e) Reuse shall be in compliance with all applicable requirements of the Department.

(14) Category 1 -- Use of Secondary Materials in Commercial Products.

(a) Applicability. Products manufactured from secondary materials or secondary materials that are directly used as products are considered commercial products when: the product is used in a manner that is consistent with industry accepted product specifications or performance standards; and is controlled and managed throughout its lifecycle in a manner that effectively limits potential for illegal or inadvertent disposal or releases of hazardous material to the environment and exposure to people. Products intended for uncontrolled land-application may not be reviewed in accordance with this category. Adverse impact or significant risk to public health, safety and the environment, including, but not limited to, nuisance conditions can be evaluated by demonstrating compliance with the reuse criteria as outlined at 310 CMR 19.060(12)(b).

(b) Demonstrating Compliance with the Reuse Criteria. The use and processing of the proposed secondary material must comply with the Reuse Criteria specified in 310 CMR 19.060(13). This determination shall be based upon a comparative analysis of the product manufactured using the proposed secondary material as compared to the traditionally used feedstock or product it is replacing. If the nature and concentration of hazardous materials, including CCCs, are comparable,

further assessment will not be required. Uses of proposed secondary materials that reasonably may be anticipated to significantly increase risks to public health, safety and the environment, above that of the traditional feedstock or the product in the same application, cannot be reviewed in accordance with 310 CMR 19.030(14)(b).

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall submit the following information:

1. A physical characterization of the commercial product;
2. A list of constituents (including hazardous materials) contained in the product manufactured using traditional materials or products;
3. A comparative analysis of the product manufactured using the proposed secondary material versus the traditionally used material it is replacing for the following:
   a. Hazardous materials, including CCCs (on a weight and concentration basis);
   b. Processing required for use;
   c. Actual use, including, but not limited to, storage and handling prior to the actual use;
   d. Location(s) used; and,
   e. Management or processing during its lifecycle, including, but not limited to, any destructive practices that reasonably may be expected to be employed in recycling or disposing of the proposed secondary material;

(15) Category 2 -- Use of Secondary Materials in Regulated Systems.

(a) Applicability. Beneficial use of secondary materials at facilities permitted, approved or ordered by the Department shall be deemed adequately regulated for purposes of 310 CMR 19.000, provided the person does so in compliance with the terms and conditions of any such permit, order or approval and the following:

1. Any aspect of the use of proposed secondary materials not covered by the permit, order, or approval shall be reviewed in accordance with M.G.L. c. 111, § 150A, 310 CMR 19.000, and 310 CMR 16.00;
2. The storage, transfer, processing, treatment, use and disposal of the proposed secondary material shall be achieved using best management practices that prevent adverse impacts and significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions.

(b) Demonstrating Compliance with the Reuse Criteria. Compliance with the Reuse Criteria can be demonstrated by meeting appropriate numerical standards, risk management criteria and other applicable requirements as identified by the Department.

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall provide sufficient information to evaluate the potential for significant proposed risks from the storage, transfer, processing, treatment activities, use and final disposal of the secondary material not governed by the existing approval.

(16) Category 3 -- Use of Secondary Materials in Restricted Applications.

(a) Applicability. Secondary materials that are beneficially used in applications that utilize risk management techniques in order to prevent adverse impact or significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions shall be reviewed in accordance with 310 CMR 19.060(16).

(b) Demonstrating Compliance With the Reuse Criteria. Compliance with the Reuse Criteria can be achieved by demonstrating that release and exposure pathways are adequately controlled through the use of risk management procedures (e.g. engineering controls; use limitations, etc.) If adequate control of such pathways cannot be demonstrated, a reuse specific assessment is required, as described at 310 CMR 19.060(16)(b)1. or 2. Compliance with the Reuse Criteria has been achieved if no concentration of any hazardous material is greater than the Upper Concentration Limit as described in 310 CMR 40.0996 and conditions specified in either 310 CMR 19.060(16)(b)1. or 2. are met:

1. The concentrations of all hazardous materials are at or below background, as determined by a statistically valid and appropriate background concentration sample data set of Massachusetts soils; or,
2. No concentration of a Hazardous Material contained in, or release resulting from the use of, a proposed secondary material, as appropriate, exceeds acceptable limits as demonstrated using one of the following approaches:
   a. Numerical Standards Approach. Hazardous material concentrations may not exceed applicable standards and guidelines as stipulated by DEP. If an appropriate DEP standard or guideline does not exist for all constituents in all relevant media, then a guideline may be proposed by the applicant developed using protocols consistent with those used in the derivation of existing DEP standards and guidelines for that medium. In addition to the standards and guidelines, the applicant shall demonstrate that the reuse will not lead to exceedence of the Massachusetts Drinking Water Quality Standards at 310 CMR 22.00;

Massachusetts Air Quality Standards at 310 CMR 7.00; Massachusetts Contingency Plan Method 1 Standards at 310 CMR 40.0970; and, Massachusetts Surface Water Quality Standards at 314 CMR 4.00.

b. Total Waste Reuse Risk Approach. Using this approach, Total Waste Reuse cancer and non-cancer risks shall be determined as follows:

i. Total cancer risks and non-cancer risks shall be calculated for all appropriate exposure pathways and receptors.

ii. The assessment shall be performed in a manner consistent with scientifically acceptable risk assessment practices as detailed in guidance published by the Department.

iii. A condition of no significant risk to human health has been achieved if:

- No Exposure Point Concentration of any hazardous material is greater than applicable public health or environmental standards; and,
- Total Waste Reuse Risk (the aggregate risk attributable to all hazardous materials) results in excess lifetime cancer risk of less than five-in-one million and a non-cancer cumulative hazard index of less than 0.5.

3. Public Health and Safety. A level of no significant risk to public health and safety exists or has been achieved if the use of the proposed secondary material will not pose a threat of physical harm or bodily injury to people and will not create nuisance conditions, including, but not limited, to noxious odors and noise, in the foreseeable future.

4. Environment. A level of no significant risk of harm to the environment exists, or has been achieved, if there is no indication of the potential for biologically significant harm (at the subpopulation, community, or system-wide level), either currently or for any foreseeable period of time, to Environmental Receptors as described at 310 CMR 40.0000 considering their potential exposures to the proposed secondary material.

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall submit the following:

1. Characterization. The application shall include risk characterization information, the scope and level of effort of which shall depend on the proposed secondary material, the beneficial use, and the specific exposure assumptions identified. The characterization shall be of sufficient scope and adequately documented to demonstrate compliance with the Reuse Criteria at 310 CMR 19.060(13).

2. Location. If the Department determines during the pre-application review that the location of the beneficial use activity must be identified in order to manage risks posed by the beneficial use activity, a U.S.G.S. 7.5 minute topographic map or smaller scale equivalent map clearly marking the location(s) of the beneficial use activities.

3. End of Use Management. A description of how the proposed secondary material may be managed when removed or processed during its lifecycle.

(d) Property Owner Notification. The Applicant shall prepare and record, when required by permit term or condition, a record in the Registry of Deeds, Land Court, or other permanent record approved by the Department that shall:

1. Provide notice to holders of any interest(s) in a property or a portion thereof (including without limitation, owners, lessees, tenants, mortgagee, and holders of easement rights) of the existence and location of the secondary material at such property and the conditions for continued beneficial use and ultimate disposal, if applicable;

2. Outline management options if removed, modified, or processed during its lifecycle to prevent adverse impacts and significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions; and

3. Provide reference to the Department beneficial use application file by including the permit application transmittal number and file location.

(17) Category 4 -- Use of Secondary Material in Unrestricted Applications.

(a) Applicability. Secondary materials that are beneficially used in applications that do not limit exposure to potential human or environmental receptors from secondary material constituents are reviewed in accordance with 310 CMR 19.060(17) when constituents have the potential to adversely impact or create a risk to public health, safety, or the environment, including, but not limited to, nuisance conditions when improperly stored, treated, transported, disposed of, used, or otherwise managed.

(b) Demonstrating Compliance With the Reuse Criteria. Compliance with the Reuse Criteria shall be made on the basis of provisions detailed in 310 CMR 19.060(16)(b), using conservative, unrestricted general exposure assumptions (e.g. residential exposures including sensitive receptors) in order to protect public health, safety and the environment.

(c) Application Requirements. In addition to the general permit application requirements identified at 310 CMR 19.060(5) the application shall include characterization information, the scope and level of effort of which shall depend on the proposed secondary material, the beneficial use, and the general

exposure assumptions identified with this category of use. The characterization shall be of sufficient scope and adequately documented to demonstrate compliance with 310 CMR 19.060(13): Reuse Criteria.

19.061: Special Waste

(1) General. The management of special waste shall not result in adverse impacts to the public health, safety or the environment or result in nuisance conditions. Management of a special waste comprises the receipt, handling, storage, processing, treatment and/or disposal of such special waste.

(a) Except as provided at 310 CMR 19.061(3), the owner and operator of a facility may manage a special waste without prior written approval from the Department.

(b) The owner and operator of a facility with an existing special waste(s) approval issued before February 14, 2014 may continue to manage such special waste in accordance with the existing approval(s) or, alternatively, may manage special waste in accordance with 310 CMR 19.061provided that:

1. an owner or operator of a transfer station that is not a C&D waste transfer station submits a certification in accordance with 310 CMR 19.035; or

2. an owner or operator of any other type of facility makes a submission in accordance with 310 CMR 19.034.

(2) Exclusions. The following special wastes are not subject to the management requirements of 310 CMR 19.061(3):

(a) Asbestos waste that consists of:

1. intact and unbroken vinyl asbestos tile (VAT);

2. asphaltic asbestos-containing siding products and asphaltic asbestos-containing roofing materials such as roofing felts and roofing shingles [1]; or

3. other asbestos waste excluded by the Department in writing from the management requirements of 310 CMR 19.061(3).

(b) Medical or biological waste that has been rendered non-infectious in accordance with 105 CMR 480.000: Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII), and is packaged, labeled and otherwise managed in accordance with 105 CMR 480.000: Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII).

(3) Management Requirements for Asbestos Waste, Medical or Biological Waste, and Sludge.

(a) General Requirements. The following requirements shall apply to any facility handling or disposing asbestos waste, medical or biological waste, or sludge unless such material has been excluded pursuant to 310 CMR 19.061(2):

1. at least 45 days prior to accepting asbestos waste, medical or biological waste, or sludge, the facility owner or operator submits to the appropriate Regional Office of the Department and the board of health of the municipality where the facility is located:

a. a certification in accordance with 310 CMR 19.035 for a transfer station which is not a C&D waste transfer station; or

b. a presumptive approval application in accordance with 310 CMR 19.034 for any other type of facility.

2. The submission shall include:

a. the type and quantity of asbestos waste, medical or biological waste, or sludge intended to be managed on a daily, weekly, monthly and yearly basis; and

b. the intended methods to be employed for managing the asbestos waste, medical or biological waste or sludge.

(b) Specific Requirements for Managing Asbestos Waste. In addition to the requirements at 310 CMR 19.061(1) and (3)a., asbestos waste shall be managed as follows:

1. Asbestos waste shall not be accepted for disposal at a solid waste combustion facility;

2. Asbestos waste that has not been properly wetted, containerized and labeled according to 310 CMR 7.15: U Asbestos shall not be accepted at any facility;

3. Asbestos waste that has been properly wetted, containerized and labeled shall be managed so as to maintain the integrity of the containers and to prevent emissions of asbestos fibers to the ambient air; and

4. Landfill Specific Requirements. In addition to the above requirements, any owner and operator of a landfill that receives asbestos waste shall observe the following requirements:

a. Asbestos waste shall be immediately disposed in the landfill and shall not be stored at the landfill prior to placement in the landfill;

b. Asbestos waste shall be placed in the landfill in such manner as to prevent the release of asbestos fibers to the ambient air during placement;

c. Asbestos waste placed in the landfill shall immediately be covered by sufficient amounts of either solid waste that does not contain asbestos or daily cover material, to assure that no asbestos fibers are released to the ambient air during or subsequent to compaction;

d. Accurate records shall be maintained of the surveyed location(s) in the landfill of all asbestos waste. Locations of asbestos waste deposition shall be noted in the Notice of Landfill Operation required pursuant to 310 CMR 19.141. Locations of asbestos waste deposition shall also be included whenever information regarding the facility is recorded in the chain of title for the property on which the landfill operates pursuant to M.G.L. c. 111, § 150A;

e. Areas of the landfill containing asbestos waste shall be clearly marked by the operator;

f. Areas of the landfill containing asbestos waste shall not be excavated unless written approval is issued by the Department; and

g. Compliance with the applicable requirements of 40 CFR 61.154. Other asbestos-containing roofing shingles and siding products such as those containing a cementitious binding characterized as being hard and brittle are subject to the management requirements of 310 CMR 19.061(3).

(c) Requirements for Managing Medical or Biological Waste. In addition to the requirements at 310 CMR 19.061(1) and (3)a., any owner and operator of a facility managing medical or biological waste shall manage such waste as follows:

1. Medical or biological waste shall be treated, packaged, labeled and disposed of in accordance with 105 CMR 480.000: Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII).

2. Landfills. Medical or biological waste shall not be disposed in a landfill unless the waste is rendered non-infectious in accordance with 105 CMR 480.000: Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII).

(d) Requirements for Managing Sludge. In addition to the requirements at 310 CMR 19.061(1) and (3)a., any owner and operator of a facility shall manage sludge as follows:

1. General Requirements. Disposal of any sludge shall comply with the following requirements:

a. a sludge may be accepted at a disposal facility only after recycling or other reuse options, such as land application, conversion and composting, have been investigated by the applicant or by the generator of such sludge;

b. a sludge accepted at a facility shall not contain free draining liquids; and

c. a sludge disposed at a landfill shall contain a minimum of 20% solids.

2. Landfill Requirements for Sewage Treatment and Water Treatment Sludges. In addition to the requirements set forth at 310 CMR 19.061(3)(d)1., any owner or operator of a landfill shall ensure that sewage treatment and water treatment sludge disposed at a landfill shall be incorporated into the active face of a landfill in a 3:1 mixture of solid waste to sludge or placed in a designated area and covered immediately.

19.062: Demonstration Projects or Facilities

(1) Applicability. Any person who wishes to establish a demonstration project at a permitted solid waste management facility or establish a demonstration solid waste management facility for the purpose of demonstrating the effectiveness and utility of a new or innovative solid waste management technology shall submit an application to the Department for a demonstration project permit and notify the board of health of jurisdiction.

(2) Application Requirements. An application for a demonstration project permit shall include:

(a) a detailed description of the proposed activity, including:

1. a discussion of the objectives of the project;
2. a discussion of the purposes for undertaking the project;
3. an analysis indicating the benefits of the proposed new technology;
4. a description of the applicability of the new technology to solid waste management in general;
5. a description of how the applicant intends to provide for the receipt and treatment or disposal of those types and quantities of solid waste proposed to be necessary for purposes of determining the efficiency and performance capabilities of the technology or process; and
6. a technical analysis indicating environmental, public health and safety benefits and risks from the proposed new technology;

(b) a set of plans which shall include:

1. a site plan indicating the location of the project or facility;
2. an operational plan outlining operational details of the project or facility, the particular types of equipment required for proper operation and a discussion of measures to be taken to ensure the protection of public health, safety or the environment;

3. a corrective action plan which indicates how conventional solid waste management technology shall be utilized in the event of failure of the proposed technology; and

4. a data collection and analysis plan which outlines all data collection and analysis procedures, protocols and reporting formats required to document and evaluate whether the demonstration project has achieved its objectives.

(c) a project timetable; and

(d) such other descriptions, plans or information as the Department deems necessary to review the demonstration project.

(3) Department Review of an Application. The Department shall not grant a permit for a demonstration project unless:

(a) the application is complete and accurate;

(b) the facility has a valid site assignment where required pursuant to the Site Assignment Regulations at 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities; (c) the facility has a valid permit and necessary authorizations issued by the Department, if applicable;

(d) the project can be adequately accommodated at a permitted facility without interfering with or disrupting normal operations of the facility, where the project is to be located at a permitted facility;

(e) the demonstration project or facility has merit and seeks to improve operational aspects of a facility, produce significant cost savings or serve to increase protection of human health and the environment;

(f) the proposed demonstration project will not cause or contribute to pollution of the air, water or other natural resources of the Commonwealth; and

(g) the applicant has provided adequate proof of financial assurance as specified in 310 CMR 19.062(5).

(4) Department Evaluation of Demonstration Projects. The Department shall review all data and reports submitted by the applicant and other relevant information to determine if the demonstration project has satisfactorily achieved its objectives and if the project has adequately protected public health, safety and the environment.

(5) Financial Assurance. Applicants proposing demonstration facilities may be required to provide proof of financial assurance to the Department prior to receiving a demonstration facility permit. If financial assurance is required the applicant must comply with the financial assurance requirements set forth in 310 CMR 19.051 and:

(a) provide sufficient financial assurance to cover costs of removing solid wastes, residuals and storage piles and to properly close the demonstration project site; and

(b) provide sufficient financial assurance to ensure completion of all aspects of the proposed study in a manner acceptable to the Department including all monitoring costs, should the applicant default on the completion of the demonstration project.

(6) Demonstration Project Permit Limitations. The following permit limitations shall apply to any demonstration project permit:

(a) a demonstration project permit shall be valid for no more than two years from the date of issuance, unless renewed as provided for in 310 CMR 19.062(7); and

(b) the permit shall be valid only for the site approved by the Department and subject to the conditions established by the Department in the demonstration project permit.

(7) Renewal of Permit. The Department may renew a demonstration project permit for a maximum of two one year periods upon request by the applicant.

(8) Termination of the Permit. A demonstration project permit shall terminate:

(a) automatically at the end of the period specified in the demonstration project permit unless the applicant has requested a renewal of the permit and said renewal has been granted by the Department; or

(b) automatically at the end of the renewal period should the applicant have received a renewal of the permit from the Department in accordance with 310 CMR 19.062(7); or

(c) at any time the Department has determined that the project does not adequately protect public health, safety or the environment.

(19.070: Operator Certification Requirements: Reserved)

19.080: Variances

(1) General. The Department recognizes that the literal application of 310 CMR 19.000 to all persons and activities may impose significant hardships in individual situations, frustrate the underlying legislative and regulatory purposes, or adversely affect the public interest. Therefore, in the exercise of the Department's discretion and upon a proper and timely demonstration, a variance from the application of specific provisions of 310 CMR 19.000, other than those that embody statutory requirements, may be available in an individual case to a person whose activities are governed by them.

(2) Required Demonstration. A variance request shall include, at a minimum, the following information demonstrating, to the Department's satisfaction, that:

(a) compliance with the provision would, on the basis of conditions unique to the applicant's particular situation, impose unreasonable economic, technological or safety burdens on the applicant or the public;

(b) substitute measures will provide the same or greater degree of protection to public health, safety and the environment as the application of the regulation(s) from which a variance is requested; and

(c) the desired relief may be granted without substantial detriment to the public interest and without nullifying or substantially derogating from the intent of 310 CMR 19.000.

(3) Reasonable or Necessary. Where circumstances are appropriate, the Department may request the applicant to establish, in addition to the criteria listed in 310 CMR 19.080(2), either or both of the following:

(a) that no reasonable conditions or alternatives exist that would allow the project to proceed without the requested variance; and/or

(b) the variance is necessary to accommodate an overriding community, regional, state, or national public interest.

(4) Request for Variance. A request for a variance may be made only by or on behalf of a person whose activities are governed by 310 CMR 19.000 and who seeks relief from their application prior to taking any action subject to and in conflict with them and does so in a timely manner. The request shall be made in writing and must contain, at a minimum, the information necessary to establish the showing required by 310 CMR 19.080(2) and, where required by
310 CMR 19.080(3), in the form prescribed in 310 CMR 19.080(4)(a) through (d):

(a) specific reference, by citation to Code of Massachusetts Regulations, to each regulatory provision from which relief is sought;

(b) an analysis and evaluation, prepared by a qualified professional, of all known technically accepted alternative methods of pursuing the activity in compliance with 310 CMR 19.000 including a detailed explanation as to each such alternative of the factual circumstances that render it unreasonable within the meaning of 310 CMR 19.080(1);

(c) a detailed description, prepared by a qualified professional, of the substitute measures intended to provide the same or greater degree of protection to the public health, safety and the environment as the application of the regulation(s) from which a variance is requested would provide, accompanied by an opinion, including the basis on which that opinion was formed, that the substitute measures will in fact perform their intended function; and

(d) evidence that an overriding public interest is associated with the project which justifies a variance from the regulation(s) if required by the Department pursuant to 310 CMR 19.080(3)(b).

(5) Filings. A person requesting a variance from 310 CMR 19.000 must file a request with the Regional Director of the appropriate regional office and contemporaneously serve copies of it upon the board of health and all abutters of the property upon which the activity is or may be located. Filing and service may be made by hand or by using a suitable form of mail addressed to the person to be served and requiring the return of a signed receipt.

(6) Initial Action. The Regional Director, after considering a request for a variance, requesting and receiving such additional information as may be required, and holding a public hearing should public interest in the matter or the technical complexity or uniqueness of the issues warrant doing so, shall grant or refuse the request in whole or in part. Should the Regional Director determine to grant the request in whole or in part, the determination will include a specific finding that the request makes the showing required by 310 CMR 19.080(2); a specific statement that the application of certain specified regulation(s) is altered or waived; and a specification of the requirements or conditions imposed, if any. The determination of the Regional Director is final unless, within 21 days, an appeal is taken to the Commissioner pursuant to the provisions of 310 CMR 19.080(7). The Regional Director shall notify by mail the person requesting the variance, the board of health, and any abutter who has requested notice of the determination of the action taken upon the request.

(7) Appeal to the Commissioner.

(a) A person requesting a variance from the application of 310 CMR 19.000, the board of health where the affected property is located, or any aggrieved party may appeal the determination of the Regional Director to the Commissioner.

(b) An appeal is taken by delivering a request for a hearing to the Commissioner within the time period established by 310 CMR 19.080(6) that identifies the request for a variance, states the determination of the Director upon it, specifies why the party is aggrieved and the grounds for the appeal. The Department shall hold a hearing upon and determine the appeal pursuant to the provisions of 310 CMR 1.00. In any such proceeding it shall be the burden of the person requesting the variance to demonstrate how the criteria are met.

(c) Notice of an appeal shall be given to the applicant by the party appealing the decision concurrently with filing the appeal.

(8) Expiration, Modification or Suspension of a Variance. Any variance or other modification made pursuant to 310 CMR 19.080 may be subject to such qualification, revocation, suspension, or expiration as the

Department expresses in the variance. A variance or other modification made pursuant to 310 CMR 19.080 may otherwise be revoked, modified, or suspended pursuant to 310 CMR 19.039 or 19.040.

19.081: Enforcement Provisions

(1) Wherever 310 CMR 19.000, or any approvals or orders issued pursuant thereto, requires that the owner and/or operator shall take action or refrain from taking action, the owner and operator shall be jointly and severally liable such that the Department may take action for any violations of 310 CMR 19.000 against the owner, the operator or both.

(2) General. No standard, requirement or condition established in 310 CMR 19.000 or provision of any permit, authorization, modification, determination, or other approval or order or other enforcement document issued pursuant to 310 CMR 19.000, shall be construed to limit any right of the Department to take enforcement action pursuant to any other authority. Any failure by any person whose activities are governed by M.G.L. c. 111, § 150A and 310 CMR 19.000, to comply fully with the provisions thereunder or the terms and conditions of any order, permit, authorization, modification, determination, or other approval or order or other enforcement document issued pursuant to 310 CMR 19.000, or with the terms of a site assignment, shall constitute a violation of M.G.L. c. 111, § 150A and 310 CMR 19.000. It shall also be a violation of 310 CMR 19.000 for any person to:

(a) Fail to submit a certification, log, application for a permit or permit modification, plan, report, third-party inspection report, or any other document within the time period specified in 310 CMR 19.000 or in any approval, order, or permit issued by the Department;

(b) Provide or cause to be provided any false, inaccurate, incomplete or misleading information, in any certification, log, application for a permit or permit modification, plan, report, third-party inspection report, third-party inspector qualifications statement, or any other document which that person is required to submit to the Department pursuant to 310 CMR 19.000;

(c) Provide any false, inaccurate, incomplete or misleading information to a third-party inspector or influence a third-party inspector to provide any false, inaccurate, incomplete or misleading information in any certification, third-party inspection report or other submittal to the Department pursuant to 310 CMR 19.000;

(d) Alter or misrepresent the findings or recommendations made by a third-party inspector in a third-party inspection report submitted to the Department pursuant to 310 CMR 19.018; (e) Hold himself or herself out as a responsible official when he or she is not fully authorized to bind the entity he or she claims to bind;

(f) Fail to comply fully with the applicable standards, requirements or conditions established in 310 CMR 19.000 or with the provisions of any permit, authorization, modification, determination, or other approval or order issued, or with the terms and conditions of any certification submitted, pursuant to 310 CMR 19.000;

(g) Act without submitting a certification in accordance with 310 CMR 19.000 or without a permit or other approval issued pursuant to 310 CMR 19.000 or site assignment where one is required; or

(h) Violate any other provision of 310 CMR 19.000.

(3) Action by the Department. Whenever the Department has cause to believe that a violation has occurred, it may without limitation:

(a) order the owner or operator of the site or facility, or any other person responsible for the violation, to cease operations until the violation is corrected to the satisfaction of the Department, or until such person obtains a site assignment, solid waste facility permit, and any other applicable approval pursuant to 310 CMR 19.000, or other applicable permit pursuant to 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities;

(b) order the owner or operator of the site or facility, or any other person responsible for the violation, to cease immediately or at a specified date all illegal activity, and to comply fully with M.G.L. c. 21A, §§ 2 and 8, St. 1987, c. 584, M.G.L. c. 21H, M.G.L. c. 111, §§ 150A and 150A½, 310 CMR 19.000, or any permit, authorization, certification, determination, or approval submitted or issued pursuant to 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities or 310 CMR 19.000;

(c) order the owner or operator of the site or facility, or other person responsible for the violation, to take appropriate remedial measures, immediately or by a specified date , to bring the site or facility into compliance to the satisfaction of the Department or to protect public health or safety or the environmental resources of the Commonwealth, including without limitation, closure of the site or facility;

(d) commence proceedings pursuant to 310 CMR 19.036 to rescind, suspend, revoke, or modify a permit;

(e) commence proceedings pursuant to M.G.L. c. 111, § 150A to rescind, suspend, or modify a site assignment;

(f) issue a notice of non-compliance or assess a civil administrative penalty pursuant to M.G.L. c. 21A, § 16 and 310 CMR 5.00: Administrative Penalty or initiate an enforcement action in accordance with applicable statutes and regulations;

(g) refer the matter to the Attorney General for civil or criminal action pursuant to any applicable statute; or

(h) take such other action as provided by 310 CMR 19.000 or other applicable statutory or regulatory authority as the Commissioner deems appropriate.

(4) Service of Notices and Orders. Service in all civil administrative penalty actions is governed by 310 CMR 5.00: Administrative Penalty. The Department serves an order according to the following procedure except for processes, notices, and orders issued in the course of an adjudicatory hearing, which are governed by the provisions of 310 CMR 1.00: Adjudicatory Proceedings:

(a) Service of an order may be made via hand delivery or mail. Service of an order when made by any form of mail requiring the return of a receipt signed by the person to be served is complete upon receipt by the person or by any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service. The fact and date of service is established by the returned receipt or by affidavit of the person who hand delivery the order.

(b) The Department may make service of an order in any other manner, including any form of telecommunications or publication, that is reasonably calculated to give actual notice of the order to the person to be served. The Department may uses such alternative or substitute methods of service when the recipient refuses to accept service by the means set forth in 310 CMR 19.081(4)(a) or when exigent circumstances require its doing so. The fact and date of service in such cases is established by such records as may be available.

(5) Right to Adjudicatory Hearing. Subject to the provisions of 310 CMR 19.081(6), a person who is the subject of an order issued pursuant to 310 CMR 19.081(3) shall have the right to an adjudicatory hearing on such order pursuant to 310 CMR 1.01: Adjudicatory Proceeding Rules for the Department of Environmental Protection. Any right to an adjudicatory hearing concerning assessment of a civil administrative penalty shall be determined in accordance with the provisions of 310 CMR 5.00: Administrative Penalty.

(6) Waiver of Right to Adjudicatory Hearing. Any person who is the subject of an order issued pursuant to 310 CMR 19.081(3) shall be deemed to have waived the right to an adjudicatory hearing, unless, within 21 days of the date of service of the order, the Department receives a written statement setting forth the basis for the request, subject to and in compliance with the applicable provisions of 310 CMR 1.01: Adjudicatory Proceeding Rules for the Department of Environmental Protection.

(7) Burden of Persuasion. In an adjudicatory hearing under 310 CMR 19.081(5), the burden shall be on the person conducting the solid waste activities regulated pursuant to 310 CMR 19.000 to persuade the Department that:

(a) the solid waste activity does not create public nuisance conditions and does not pose a threat to public health, safety or the environment; and

(b) the person conducting the solid waste activities is and will continue to be in compliance with M.G.L. c. 111, § 150A and 310 CMR 19.000.

19.082: Penalties

(1) General. A person who or which violates the provisions of M.G.L. c. 111, § 150A or 310 CMR 19.000 is subject to judicially imposed criminal and civil penalties as well as civil administrative penalties imposed by the Department. Each day that a violation occurs or continues constitutes a separate violation.

(2) Penalties.

(a) A violation may be punished under the statute by the imposition of a penalty that does not exceed $25,000 for each day of violation.

(b) A violation may be punished pursuant to the provisions of M.G.L. c. 21A, § 16, and 310 CMR 5.00: Administrative Penalty, by the administrative imposition of a penalty of no less than $100 and not more than $25,000 for each day of violation.

(c) A violation may be punished under the statute by a fine of not more than $25,000, or by imprisonment for not more than two years in a house of correction.

(3) Punishment. Punishment imposed under the statute is in addition to any other penalty prescribed by law.

19.083: Enforcement of Minimum Recycling Requirements

(1) The Department may allow the acceptance of recyclable or compostable materials where such acceptance will result in the facility not meeting the 25% recycling requirement established at 310 CMR 19.038(2)(d), with prior notification and approval of the Department, under the following circumstances:

(a) the material is contaminated or is otherwise not acceptable for recycling or composting because it is commingled with solid waste, provided that the person(s) who contaminated or commingled the material with solid waste is promptly notified and take(s) necessary actions to prevent a reoccurrence of the conditions which caused the disposal; or

(b) the recycling or composting operation or end user to which the restricted material is normally sent declines to accept the material or is prohibited from accepting the material as a result of an administrative or judicial order, provided that an alternative recycling or composting operation or storage facility or end user which will accept the material cannot be found within a reasonable period of time.

(2) Failure to comply with approved plans submitted pursuant to 310 CMR 19.030(3) or (4) or applicable permit conditions shall constitute a violation of 310 CMR 19.000. The Department may require a modified plan to be submitted where the minimum requirement is not being achieved.

19.100: Preamble

310 CMR 19.100 through 19.151 establishes minimum performance and design standards; operation and maintenance standards; and closure/post-closure requirements for solid waste landfills by supplementing, modifying or expanding upon the provisions of 310 CMR 19.000 through 19.099. Combined, these two sets of regulations govern all solid waste disposal activities at landfills. The procedures for application, approvals, authorizations, and transfers of such rights and interests are set forth in 310 CMR 19.100 through 19.151.

19.101: Applicability

Except as expressly exempted in 310 CMR 19.060: Beneficial Use of Solid Waste, all solid waste disposed by placement into or onto land shall be done in a manner consistent with 310
CMR 19.000 and the requirements of 310 CMR 19.100 through 19.151.

19.102: Definitions

All terms used herein shall have the meanings set forth in 310 CMR 19.006 unless the context clearly implies or indicates another meaning.

19.103: Additional Requirements

Nothing in 310 CMR 19.000 shall be construed to limit the Department from determining on a facility or site specific basis that additional design or operation and maintenance components are required where conditions warrant such additional design or operation and maintenance measures in order to protect public health, safety and the environment or to mitigate potential adverse impacts.
Notwithstanding any provision in 310 CMR 19.000, the Department may approve or modify a permit or authorization or issue an order requiring the operator or owner of a landfill disposing municipal solid waste to comply with the Solid Waste Disposal Facility Criteria, 40 CFR Parts
257 and 258, as may be amended, promulgated pursuant to sections 1008, 2002, 4004, and 4010 of the Resource Conservation and Recovery Act and section 405 of the Clean Water Act.

19.104: Landfill Facility Plan

(1) General. In addition to the general application requirements established in 310 CMR 19.001 through 19.099, 310 CMR 19.030: Application for a Solid Waste Management Facility Permit, an application for a landfill permit shall include the following components:

(a) landfill site plan;
(b) hydrogeological study;
(c) landfill design plan;
(d) landfill operation and maintenance plan; and
(e) conceptual landfill closure/post-closure plan.

(2) Landfill Site Plan. The landfill site plan shall include:

(a) the locations of permanent on-site bench marks used as a reference point or plane;

(b) the acreage and boundaries of the site, the boundaries of the landfilling operations and designation of other land uses within the site;

(c) the location and elevations of all proposed and existing environmental monitoring devices;

(d) the location of all proposed and existing soil borings, excavations and test pits; (e) the location of all proposed and existing on-site borrow sources;

(f) the location of all proposed and existing utilities, structures and roads; (g) the distance to any airport runway if less than 10,000 feet;

(h) all Areas of Critical Environmental Concern as determined by the Executive Office of Environmental Affairs (EOEA), where applicable; and

(i) other information concerning the site which the Department may require for review of plans.

(3) Hydrogeological Study. A hydrogeological study shall provide the data, maps, cross-sections, schematics and numerical parameters which the Department reasonably deems necessary to accurately determine the physical and chemical characteristics of the overburden material and bedrock present at the site, the directions, pathways and velocities of ground and surface water flows and the physical and chemical characteristics of the ground and surface waters.

(a) Submission of a Scope of Work for a Hydrogeological Study.

1. The applicant shall submit the proposed scope of work for a hydrogeological study to the Department not less than 60 days prior to the commencement of the hydrogeological study.
2. The applicant shall incorporate all Departmental modifications, additions, changes or deletions into the final scope of work for the hydrogeological study.

(b) The hydrogeological study shall include without limitation:

1. a narrative summary of the regional and local geological and hydrogeological setting including a brief description of the major geological formations present (bedrock and overburden);
2. a description of the general geomorphology of the site;
3. a summary of all relevant environmental and geological studies that have been performed at the site;
4. a set of maps that depict:
   a. the topography of the site;
   b. the areal extent of the overburden and/or bedrock on the site, together with appropriate cross-sections to provide a three-dimensional picture of the site;
   c. within a ½ mile of the proposed area of waste deposition, the location of:
      i. all water supply wells;
      ii. all aquifer and/or groundwater protection zones including Zone II's and/or Interim Wellhead Protection Areas;
      iii. all water sheds and their associated drainage patterns; and
      iv. all surface water bodies (indicate designated classifications).
   d. within 500 feet of the perimeter of the site, the location of:
      i. all wetlands; and
      ii. 100 year flood plains.
   e. all environmental monitoring points, test borings, test pits, and piezometers on the site;
   f. ground water contours, piezometric heads, hydraulic gradients (horizontal and vertical), and ground water flow directions, together with the appropriate cross-sections to provide a three dimensional picture of the site for both the seasonal high and low ground water periods.
5. sufficient data and information to adequately describe:
   a. the physical and chemical characteristics of the major overburden units and bedrock formations present on the site;
   b. the hydraulic connection between the major overburden units and the overburden units that are in contact with bedrock and the bedrock;
   c. the hydraulic conductivity of all major overburden units on the site;
   d. the nature and characteristics of any hydrogeologic boundary that exists on the site;
   e. the maximum ground water fluctuations and maximum high ground water level of the ground water elevation measurement locations;
   f. sufficient precipitation data to enable a calculation of the maximum ground water high;
   g. the as-built design of all monitoring wells and piezometers;
   h. grain size gradation curves for the overburden material in which the screened interval of a monitoring well resides;
   i. the existing and/or background quality of the ground and surface waters on the site as regulated in 310 CMR 19.132(1); and
   j. the hydrogeologic flow conditions.
6. the following information, if it is determined that there is a component of ground water flow from the overburden into the bedrock:
   a. a bedrock contour map;
   b. a fracture trace analysis; and
   c. the hydraulic conductivity of the bedrock.
7. a clear and concise presentation of any form of geophysical methods used during field investigations of the site; and

8. a clear and concise presentation of any computer model that is utilized in the investigation.

(4) Landfill Design Plan. The landfill design plan shall include:

(a) a ground water protection system design plan which details the configuration of the liner system, leachate collection system(s), leachate pumping, storage, treatment and disposal systems, and efficiency of the liner in terms of leachate removal;

(b) schematic drawings, maps and/or plans which delineate in plane view and in detailed cross-sectional view (at initial, interim and final phases) the elevations of the proposed landfill, excavations, berms, dikes, ditches, liners, leachate collection system, swales, storm water detention systems or other drainage features;

(c) design and construction specifications of the landfill, including, but not limited to the ground water protection system, the environmental monitoring systems, the cap and final cover, recycling and composting operations and other appurtenances associated with the facility;

(d) a construction plan that includes a description of the installation methods and procedures for construction of the liner, leachate collection system, monitoring systems and other parts of the facility including materials required and scheduling of construction events and phases;

(e) a quality assurance, quality control (QA/QC) plan for the construction of the landfill including the ground water protection system, the environmental monitoring systems, the cap and final cover and other appurtenances associated with the facility. The QA/QC plan shall specify the qualifications of the QA/QC officers, the qualifications of the installers of the ground water protection systems and specify the testing and monitoring protocols which shall form the basis of the engineering certification that the facility was built according to the approved specifications. The plan shall provide a description of the criteria to be utilized in detecting and evaluating deficiencies, selecting corrective action methodology and implementing corrective measures to achieve conformity with the approved plans; and

(f) the location and design of convenience and recycling drop-off areas, if applicable.

(5) Landfill Operation and Maintenance Plan. The landfill operation and maintenance plan shall include:

(a) a narrative description, with appropriate references to operation and maintenance requirements specified under 310 CMR 19.130, the site and design plans, of the solid waste landfill activities proposed to be conducted during the life of the landfill, including the sequence and direction of cell, lift and phase development; capacity and life expectancy for each phase; and the sequence of placement of interim and final cover;

(b) a plan for compliance with wastes banned pursuant to 310 CMR 19.017: Waste Bans; (c) a leachate management plan;

(d) a staffing plan;

(e) an inspection and maintenance plan that includes a proposed schedule for regular inspections and maintenance of the landfill, including standard operating procedures for:

1. the leachate collection, handling, treatment and disposal system; and
2. landfill equipment.

(f) a facility safety plan, including:

1. a fire control plan developed in conjunction with and certified by the local fire department or independent licensed fire consultant, including a contingency plan for containing and suppressing a landfill fire anywhere on the site;
2. a hazardous waste contingency plan for inspecting loads of solid waste and handling and ensuring that any regulated hazardous wastes are properly transported off-site and disposed at hazardous waste facilities; and

(g) an environmental monitoring plan that includes:

1. a surface and ground water sampling and analysis plan, based upon the results of the hydrogeological study specified in 310 CMR 19.105(4), which will ensure the accurate representation of surface and ground water quality at the upgradient and downgradient sampling points. At a minimum, this plan shall address:
   a. sample collection;
   b. sample preservation and shipment;
   c. analytical procedures;
   d. chain of custody control; and
   e. sample collection and analytical QA/QC.
2. an air monitoring plan which establishes the frequency and extent of sampling and analysis for explosive gasses and air quality; and

(h) other information concerning the operation and maintenance of the facility which the Department may require for review of plans.

(6) Conceptual Landfill Closure/Post-Closure Plans. The conceptual landfill closure/post- closure plan shall include:

(a) a narrative description, with appropriate references to the site and design plans, of the activities necessary to close the landfill pursuant to 310 CMR 19.140 at any point during its operating life including the site preparation and closure activities necessary to cap and secure the landfill and activities necessary to maintain and monitor the landfill during the 30 year post-closure period defined at 310 CMR 19.142(2);
(b) closure and post closure estimates pursuant to 310 CMR 19.051(5): Financial Assurance Requirements.

19.105: Equivalency Review Standards and Procedures

(1) Where specific sections of 310 CMR 19.100 through 19.204 permit the submission of design alternatives, the following equivalency review standards and procedures apply.
(2) A person requesting an alternative under 310 CMR 19.105 shall submit a request to the Department in writing. The request shall:
(a) identify the specific regulation for which the equivalent alternative is sought; and
(b) demonstrate, through supporting technical documentation, site specific analysis and quality assurance/quality control procedures, that the requested alternative to the design requirements in a section of the regulations will, for the life of facility operations, closure and post-closure maintenance achieve the performance standards in that section, and will do so in a manner that is equivalent or superior to the design requirements in that section.
(3) No equivalency alternative will be approved unless the Department determines that:
(a) the application is complete and accurate;
(b) the proposed alternative will, for the life of facility operations, closure and post-closure maintenance achieve the performance standards of the appropriate section of the regulations and will do so in a manner that is equivalent or superior to the design standards in that section;
(c) the proposed alternative will ensure protection of public health, safety or the environment;
(d) utilizes materials, technologies or methodologies that are clearly demonstrated to have been successful in similar applications; and
(e) can utilize acceptable quality assurance and quality control (QA/QC) methods to monitor construction and performance as approved by the Department.
(4) In lieu of approving an equivalency alternative for the entire facility where the equivalency alternative does not meet the criterion established at 310 CMR 19.105(3)(d), the Department may approve an equivalent alternative for a part of the site as a demonstration project as provided for in 310 CMR 19.062: Demonstration Projects or Facilities.

19.106: Quality Assurance and Quality Control Requirements

(1) All components used in the construction of the landfill shall be evaluated through a Quality Assurance and Quality Control (QA/QC) program to ensure that the completed landfill is constructed and will operate in accordance with its approved plans.
(2) All materials, including but not limited to, soils and synthetic materials used in the construction of the landfill shall be subject to quantifiable and reproducible manufacturing and/or QA/QC methods that ensure that the material has been prepared, manufactured, handled and installed in accordance with the material's design and operating specifications. All such methods shall be identified by the applicant;
(3) The QA/QC program shall address requirements for evaluating the prepared or as-manufactured material, handling, storage, installation, corrective or remedial actions to correct deficiencies, and the final or completed function of all landfill components or systems.
(4) QA/QC methods for base liners shall include a method, where a technically proven and economically viable test method is identified, to test the actual final performance and/or integrity of the completed groundwater protection system, at the discretion of the Department.

19.107 Construction Certification

(1) The construction of a permitted landfill shall be accomplished in compliance with a quality assurance/quality control (QA/QC) plan approved by the Department.
(2) The owner or operator shall hire an independent professional Massachusetts registered engineer, knowledgeable and experienced in matters of landfill construction who shall oversee all construction activities. The engineer shall:
(a) determine and certify that all materials and construction of the landfill adheres to approved design plans and specifications, including:
1. determining the initial and final grades of the landfill;
2. overseeing the installation and construction of all components of the liner or final cover;
3. overseeing the installation and completion of run-on and run-off controls, pumps, monitoring devices and other appurtenances.

(b) oversee material and equipment QA/QC testing and verify all data generated through the testing program;
(c) ensure that as-built plans, where required, accurately reflect the constructed facility; and
(d) document all construction and QA/QC activities.

(3) Liners and final covers shall be constructed under the direction of a person with extensive experience in the installation of liners and final caps. Each phase of construction of a liner or cap shall be carried out and inspected under the direction of the independent professional engineer who shall certify that each phase of construction was completed in accordance with approved plans and specifications.
(4) The owner or operator shall submit a copy of the engineer's certification, as required at 310 CMR 19.011 on all construction and QA/QC activities to the Department.

19.110: Ground Water Protection Systems

(1) General Performance Standard. Landfills shall contain and collect leachate and minimize the migration of leachate out of the landfill into the underlying ground water to the maximum practicable extent and prevent the pollution of ground water during the active life of the facility and the closure and post- closure periods.
(2) General Design Standards. Landfill ground water protection systems shall:
(a) be constructed of materials that are compatible with the leachate and gases expected to be generated within the landfill;
(b) be constructed with a system to collect and contain leachate prior to treatment and/or disposal;
(c) provide coverage of all areas to be filled with solid waste and all base perimeters likely to be in contact with leachate;
(d) have a minimum slope of 2% over the entire ground water protection system;
(e) be constructed so that the slope of the liner provides positive drainage to those locations along the perimeter of the landfill where the collection and removal is achieved;
(f) be constructed such that any liner, where the slope of the liner will be less steep than four horizontal to one vertical (4:1) runs at least five feet (vertically) or to the top of side slopes or berms if applicable;
(g) be capable of withstanding the physical and mechanical stresses associated with the site and landfill development, operation and maintenance activities.
(h) be sufficiently strong and stable enough to withstand the static and seismic loads at the site under all expected operating conditions; and
(i) be designed with a factor of safety (FS) appropriate for the structure and situation being evaluated. All factors of safety shall be identified and justified.

(3) Ground Water Protection System Components. Except as provided in 310 CMR 19.111: Alternative Groundwater Protection System Design, and 310 CMR 19.114: Ground Water Protection System and Final Cover Waivers, ground water protection systems shall consist, at a minimum, of:
(a) a sub-grade layer;
(b) a secondary composite liner;
(c) a leak detection and secondary collection system; (d) a primary liner;
(e) a drainage layer or layers;
(f) a leachate collection system; and
(g) a leachate storage system unless the leachate collection system is to be directly connected to a sewer system.
(4) Minimum Liner Configuration.
(a) For any area where the slope of the liner will be less steep than four horizontal to one vertical (<4:1) and for the first five feet vertically on perimeter berms or side slopes, if any, the landfill liner shall, at a minimum, be comprised of a double composite liner consisting of:

1. a primary composite liner consisting of:
   a. one foot of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or,
   b. a geosynthetic clay liner (GCL) overlain by a flexible membrane liner (FML);
2. a leak detection and secondary collection system located between the primary and secondary liner; and
3. a secondary composite liner consisting of:
   a. two feet of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or,
   b. one foot of a low permeability compacted soil layer overlain by a geosynthetic clay liner (GCL) and a flexible membrane liner (FML).

(b) For any area where the slope of the liner will be steeper than or equal to four horizontal 24:1) the landfill liner shall, at a minimum, be comprised of a double liner consisting of:

1. a liner configuration that conforms to 310 CMR 19.110(4)(a); or
2. a double composite liner consisting of:
   a. a primary composite liner consisting of a geosynthetic clay liner (GCL) overlain by a flexible membrane liner (FML)
   b. a leak detection and secondary collection system located between the primary and secondary liner; and
   c. a secondary composite liner consisting of one foot of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or
3. a double liner consisting of:
   a. a primary liner consisting of a FML;
   b. a leak detection and secondary collection system located between the primary and secondary liner; and
   c. a secondary composite liner consisting of:
      i. two feet of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or
      ii. one foot of a low permeability compacted soil layer overlain by a geosynthetic clay liner (GCL) overlain by a FML.

(c) Any FML layer shall be constructed so that the FML material is in direct contact with the low permeability soil layer or GCL layer directly below it. Where the GCL layer is to be used in conjunction with a low permeability soil layer, the GCL layer shall be constructed so that the GCL material is in direct contact with a the low permeability soil layer. Liner components shall meet the design and performance criteria specified at 310 CMR 19.110(6) through (11).

(5) Vertical Expansions over Existing Fill. The following requirements apply when a permit review and approval is needed from the Department prior to placing additional waste vertically (hydraulically upgradient) over previously landfill areas with an existing liner system (or where there is no liner) that does not comply with the groundwater protection system requirements at 310 CMR 19.110(3) and (4). Waste that is being placed in areas under an existing valid Authorization to Operate permit are not subject to 310 CMR 19.110(5) until the capacity represented by that approval is exhausted.

(a) Areas Where there is no Existing Liner. Vertical expansions that will place waste over an area that has no underlying groundwater protection system will be required to construct a liner system in full compliance with 310 CMR 19.110(3) and (4).

(b) Areas Where there is an Existing Single Liner. Vertical expansions that will place waste over an area that has an existing single liner (such as a soil only or FML only liner) will be required to construct a liner system in full compliance with 310 CMR 19.110(3) and (4). (c) Areas Where there is an Existing Single Composite Liner or a Double Liner that is not a Double Composite Liner.

1. Performance Standard. A hydraulic separation layer shall be constructed using technologies or components that will result in a system that prevents, to the maximum extent possible, leachate generated in areas approved after the effective date of these regulations from mixing with leachate collected in areas approved prior to these regulations. In general, such systems shall use combinations of low permeability barriers and high capacity drainage systems. All leachate intercepted by the hydraulic separation layer shall be directed to and collected in a lined area designed in accordance with the requirements of 310 CMR 19.110(4).

2. Design Standard. For facilities disposing of municipal solid waste (MSW) over an existing single composite liner functioning as designed, where the expansion area will operate for approximately two years or longer before installing a cap, and where the slope of the hydraulic separation layer will be equal to or steeper than 4:1, the presumptive design standard to meet the performance standard above shall be a single liner consisting of:
   a. a FML; or
   b. a GCL; or
   c. 18 inches of soil with a maximum permeability of $1x\ 10^{-7}$ cm/sec; and
   d. a high performance drainage layer consisting of 12 inches of soil with a permeability no less than 1×10^{-3} cm/sec or 12 inches of less permeable soil in combination with a synthetic drainage layer such as a geonet. In situations where the slope of the liner to be constructed over an existing composite liner is less steep than 4:1, the presumptive design standard shall be a liner in accordance with 310 CMR 19.110(4).

3. Further Considerations. In situations where the assumptions listed above at 310 CMR 19.110(5)(c)2. do not apply, the Department may approve alternative designs that have different requirements than the presumptive design standard. The Department will not approve an alternative design unless the applicant provides sufficient information to the Department's satisfaction that an alternative design will be as protective of the public health, safety and the environment as the presumptive design.

a. More Stringent Requirements. Examples of when more stringent liner requirements, such as double liners with leak detection, will be the presumed requirement:

i. where an existing liner is not operating properly;

ii. where the slope of the separation layer will be less steep than 4:1;

iii. where the landfill is located in a sensitive environmental location such as a sole source aquifer.

b. Less Stringent Requirements. Examples of when less stringent requirements may be considered by the Department:

i. where MSW ash, C&D waste or other single source waste types are being disposed and characteristics of the waste such as permeability, leachate quality or other characteristics of the waste are considered;

ii. where the operating time in an area, before capping, will be less than two years (segmentation of project length is not allowed);

iii. where an existing double liner underlines the affected area.

(d) Areas Where there is an Existing Double Composite Liner. The Department may require the installation of a hydraulic separation layer between vertical or horizontal sections or phases of a double composite lined landfill to isolate such areas for purposes of separately monitoring the performance of the groundwater protection systems in those discrete areas. (e) Notwithstanding the requirements at 310 CMR 19.111(1), alternative designs may be reviewed subject to the equivalency review requirements at 310 CMR 19.105 or other requirements as determined by the Department.

(6) Subgrade Layer Standards.

(a) Performance Standard. The subgrade layer shall provide adequate structural support for the ground water protection system and the solid waste disposed in the landfill;

(b) Design Standards. The subgrade layer shall:

1. be compacted, uniform and free of debris, angular rocks, plant materials and other foreign materials that may damage low permeability liner materials; and

2. be of sufficient thickness to ensure a minimum of four foot separation between the top of bedrock or the maximum high ground water table, as determined using acceptable methods, and the bottom of the lowermost low permeability layer.

(7) Low Permeability Layer (Liner) Standards.

(a) Performance Standards. A low permeability layer shall:

1. minimize to the greatest practicable extent the movement of leachate through the liner;

2. be designed and constructed to meet the permeability design standard for the expected life and post-closure period of the facility; and

3. be constructed in accordance with the quality assurance and quality control requirements of 310 CMR 19.106.

(b) Design Standards.

1. Low Permeability Soil/Admixture Layer Standards. Compacted low permeability soil or admixture layers shall:

a. have a minimum thickness of one foot when used in the primary composite liner or have a minimum thickness of two feet when used in the secondary composite liner unless a GCL is used in the secondary liner, or the secondary liner slope is greater than or equal to a 4:1 slope, then only one foot is required;

b. have a maximum in-place saturated hydraulic conductivity of 1×10^{-7} cm/sec. throughout the entire thickness of the layer;

c. have a minimum post-settlement slope of two percent;

d. be free of materials that because of their physical, chemical or biological characteristics may cause or contribute to an increase in the permeability of the liner or otherwise cause a failure of the liner; and

e. be compacted to minimize void spaces and support the weight imposed by the waste disposal operations without settling so as to cause or contribute to the failure of the liner or leachate collection system.

2. Flexible Membrane Liner Standards. Flexible membrane liners shall:

a. be of sufficient thickness as determined by the Department;

b. be constructed to ensure that the seams connecting FML panels are of equal or greater strength than the panels or manufacturer's seams within panels and are oriented, as much as is practical, parallel to the slope and not across the slope;

c. have sufficient flexibility and strength for the proposed application, taking into consideration tensile strength, puncturability, stress cracking and chemical compatibility; and

d. be capable of being seamed to produce leak-tight, high- strength seams that retain their integrity during liner installation, operating life and the post-closure period.

3. Geosynthetic Clay Liners (GCLs) Standards. Geosynthetic clay liners shall:

a. have sufficient bentonite (or similar low permeability clay) to provide an effective low permeability layer;

b. be constructed to ensure that the bentonite (or similar low permeability clay) will be distributed and retained uniformly and securely throughout the GCL during the operating life and the post-closure period;

c. have sufficient durability for the proposed application, taking into consideration hydration, chemical compatability, desiccation and other considerations that may affect initial or long term performance; and

d. be capable of being seamed or joined per standard industry practice to produce leak-tight connections that retain their integrity during the operating life and the post- closure period.

(8) Drainage/Protection Layers.

(a) Performance Standard. Drainage/protection layers shall:

1. provide continuous and freeflowing drainage over the entire liner; and
2. provide adequate protection to the liner from equipment and solid waste disposed in the landfill.

(b) General Design Standards. The drainage/protection layer shall use materials and be designed and constructed so that:

1. the drainage layer will not become clogged or in any other way be impaired from allowing free-flowing drainage of leachate;
2. when used as a part of the primary leachate collection system the layer shall;
   a. have a minimum thickness of 18 inches;
   b. when a soil is used, the lower 12 inches has a minimum in-place hydraulic conductivity of 1×10^{-2} cm/sec and the upper six inches has a minimum hydraulic conductivity of 1×10^{-3} cm/sec; or
   c. when a synthetic drainage layer is used, it shall be designed in accordance with 310 CMR 19.110(8)(c); and
   d. be designed in accordance with 310 CMR 19.110(9).
3. when used as a part of a secondary leachate collection or leak detection system the layer shall;
   a. have a minimum thickness of 12 inches with a minimum in-place hydraulic conductivity of 1×10^{-2} cm/sec when a soil is used; or
   b. be a synthetic drainage layer designed in accordance with 310 CMR 19.110(8)(c); and
   c. be designed in accordance with the 310 CMR 19.110(8).
4. the integrity of the layer is maintained by preventing the infiltration of fine material by being bound, as necessary, on its upper and/or lower surfaces with filter material, such as a geotextile filter fabric.

(c) Synthetic Drainage Material (Geonet) Design Standards. In addition to the standards specified at 310 CMR 19.110(7)(a) and (b), geonets used as a part of a drainage /protection layer shall:

1. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles and the solid waste to be disposed;
2. have sufficient flow capability;
3. be designed and evaluated for its effective long-term flow capacity using reasonable and acceptable evaluation methods that consider factors that may reduce (reduction factors) the design flow capacity caused by, but not limited to, overburden forces, (deformation, creep, etc.),intrusion by overlying materials such as filter fabrics or soil, and chemical or biological clogging; and
4. be designed with an overall safety factor (for flow capacity) appropriate to ensure the effective long-term performance of the drainage layer.

(9) Leak Detection and Secondary Collection Systems Between Liners.

(a) Performance Standards. Leak detection and secondary leachate collection systems shall provide for detection of leakage of leachate through the primary or uppermost liner and the collection and removal of leachate from the secondary liner.

(b) Design Standards. A leak detection and secondary collection system shall be designed:

1. to collect and remove leachate discharged into a drainage layer between the primary and secondary liners with an efficiency so that a leakage rate of ten gallons per day/per acre, or greater, will be detected within 24 hours of initial saturation;
2. to the extent feasible, identify the general location of the leak;
3. to allow the quantity and quality of leachate, or any liquid, in the leak detection system, to be measured and analyzed separately from the leachate in the primary leachate collection system;
4. with an Action Leakage Rate (ALR) which shall be reasonable and appropriate based upon the design and components of the double liner system;
5. so that the head in the secondary collection system will not, in general, exceed the thickness of the drainage layer between the liners; and

6. with a leak response plan that details the actions to be taken to evaluate and, when required, eliminate the cause of the leak.

(c) Action Leakage Rate (ALR).

1. The maximum action leakage rate shall be 100 gallons per acre/day, based on a 30- day rolling average (any consecutive 30 day period), unless the Department has established another action leakage rate for that facility, phase or operational period;
2. An ALR shall be identified for each stage of the operational life of the liner system;
3. Where leakage into the leak detection system is occurring at a rate greater than one half the ALR, the owner or operator of the facility shall notify the Department in writing within 72 hours. Such notification needs only to be made once in any 30 day period.
4. Where a single day leakage rate exceeds twice the ALR, the owner or operator of the facility shall notify the Department, in writing, within 48 hours.
5. In the event of leakage through the primary liner the facility shall take appropriate corrective action based on the quality and quantity of leachate collected or detected as determined by the Department.

(10) Primary Leachate Collection and Removal Systems.

(a) Performance Standards. Leachate collection and removal systems shall:

1. collect and remove the leachate generated by the landfill as quickly and efficiently as is practicable;
2. provide for the drainage of leachate from the liner into appropriate storage, treatment or transfer facilities;
3. be designed to ensure that the hydraulic head of leachate can be maintained at less than one foot at the expected flow except during storm events and be designed to drop below one foot within seven days of a 25-year storm for the primary operational phase of the landfill.

(b) Design Standards. The following design standards shall apply to primary leachate collection systems:

1. pipes shall be placed within a drainage layer in material which meets the standards set forth at 310 CMR 19.110(7);
2. pipes shall have sufficient diameter and spacing to be capable of freely draining the maximum expected leachate flow from the liner;
3. trunk lines shall have a minimum slope of 1%;
4. lateral lines shall have a minimum slope of ½%;
5. pipes shall be of sufficient thickness and strength to support the maximum static and dynamic loads of vehicles and overlying solid waste without failing;
6. piping systems shall be designed with sufficient access points to permit maintenance cleaning as necessary;
7. the number of penetrations of the liner shall be minimized. Penetrations of the liner shall be properly sealed to prevent leakage and wherever possible be designed with access so as to repair damaged seals; and
8. all sump areas shall be designed to allow access for maintenance of pumps and, at a minimum, provide for remote inspection.

(11) Leachate Storage Facilities.

(a) Performance Standard. Leachate storage facilities shall provide for leak-tight storage of the leachate reasonably expected to be generated by the landfill.

(b) Design Standards. Leachate storage facilities shall:

1. conform to the criteria established by the Department's regulations for industrial wastewater holding facilities, 314 CMR 18.00: Industrial Wastewater Holding Tank and Container Construction Operation and Recordkeeping Requirements;
2. have sufficient strength to ensure that the tank does not collapse or rupture;
3. be located outside the landfill liner system;
4. have sufficient capacity to store the leachate generated by the landfill;
5. be designed with a monitoring device to accurately monitor the volume of liquid collected within the storage facility and be equipped with a system capable of warning the operator when the tank requires pumping; and
6. incorporate secondary containment or a leak detection system.

19.111: Alternative Ground Water Protection System Design

Landfill ground water protection systems designed using materials, technologies or methodologies other than those expressly provided for under 310 CMR 19.110: Ground Water Protection Systems, may be permitted by the Department provided the proponent affirmatively demonstrates to the Department's satisfaction that the alternative ground water protection system design meets the standards established under 310 CMR 19.105: Equivalency Review Standards and Procedures.

19.112: Landfill Final Cover Systems

(1) General Performance Standards. The final cover system shall:
(a) minimize the percolation of water through the final cover system into the landfill to the greatest extent practicable;
(b) promote proper drainage of precipitation ; (c)
minimize erosion of the final cover;
(d) facilitate the venting and control of landfill gas;
(e) ensure isolation of landfill wastes from the environment; and
(f) accommodate settling and subsidence of the landfill such that the above performance standards will continue to be met.

(2) General Design Standards. The final cover system shall:
(a) have a final top slope of not less than 5% and side slopes no greater than three horizontal to one vertical (3:1);
(b) be constructed of material(s) that are compatible with gases and leachate expected to be generated;
(c) be constructed so as to minimize erosion of all layers of the final cover by using terraces or other appropriate stormwater controls;
(d) be constructed so that the low permeability layer is protected from the adverse affects of frost and/or freeze/thaw cycles;
(e) be constructed to maintain slope stability;
(f) be sufficiently strong and stable enough to withstand the static and seismic loads at the site under all expected operating conditions; and
(g) be designed with a factor of safety (FS) appropriate for the site-specific closure being evaluated. All factors of safety shall be identified and justified.

(3) Final Cover System Components. Except as provided in 310 CMR 19.113: Alternative Landfill Final Cover System Design, or 19.114: Ground Water Protection System and Final Cover Waivers, the final cover system shall, at a minimum, consist of:
(a) the subgrade layer;
(b) a landfill gas venting layer unless the the subgrade layer is designed to function as a gas venting layer, or there is an active gas collection and extraction system and it is demonstrated that a gas venting layer is not needed;
(c) a low permeability layer or layers;
(d) a drainage layer;
(e) filter material (when required);
(f) a layer capable of supporting vegetation;
(g) the vegetative cover; and
(h) other components as may be required by the Department.

(4) Subgrade Layer Standards.
(a) Performance Standards. The subgrade layer shall provide adequate structural support for the final cover system and be capable of accommodating any anticipated subsidence or settling without impairing its ability to provide structural support;
(b) Design Standards. The subgrade shall:
1. be free of materials that may damage or abrade the low permeability layer or venting layer; and
2. be of sufficient thickness to cover all solid waste.

(5) Landfill Gas Venting Layer.
(a) Performance Standard. A landfill gas venting layer shall provide for the free movement of landfill gas out of the landfill to gas control devices or vents.
(b) Design Standard. Landfill gas venting layers shall:
1. be placed below the low permeability layer to facilitate the collection and control of landfill gases;
2. be of sufficient thickness and hydraulic conductivity to facilitate venting of landfill gases from below the low permeability layer;
3. be composed of either:
a. soil material that has:
i. a minimum thickness of six inches; and
ii. a hydraulic conductivity equal to or greater than 1×10^{-3} cm/second; or b. synthetic material (geonet) which shall:
i. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles or the final cover; and
ii. have sufficient flow capability.
4. be bound on its upper and/or lower surface with filter material where needed to prevent the infiltration of fine material and to maintain the integrity of the layer.

(6) Low Permeability Layer Standards.

(a) Performance Standard. A low permeability layer shall:

1. to the greatest extent practicable, minimize the movement or percolation of water into the landfill;
2. promote positive drainage of the landfill final cover system and prevent erosion; and
3. be designed and constructed to remain impervious for the expected life and post-closure period of the facility; and
4. be constructed in accordance with the quality assurance and quality control requirements of 310 CMR 19.106.

(b) Design Standards.

1. Low Permeability Soil/Admixture Layer Standards. Compacted low permeability soil or admixture layers shall:
   a. have a minimum compacted thickness of 18 inches;
   b. be constructed using materials that have a maximum in-place saturated hydraulic conductivity of 1×10^{-7} cm/sec throughout the entire thickness of the layer;
   c. be compacted to minimize void spaces;
   d. be capable of supporting the weight imposed by the post-closure use without settling or causing or contributing to the failure of the low permeability layer; and e. be free of materials that, because of their physical, chemical or biological characteristics, may cause or contribute to an increase in the permeability of the low permeability layer or otherwise cause a failure of the low permeability layer.
2. Flexible Membrane Liner Standards. Flexible membrane liners shall:
   a. be of sufficient thickness as determined by the Department;
   b. be constructed to ensure that the seams connecting FML panels are of equal or greater strength than the panels or manufacturers's seams within panels and are oriented parallel, as much as is practical, to the slope and not across the slope;
   c. have sufficient flexibility and strength for the proposed application, taking into consideration tensile strength, puncturability, stress cracking and chemical compatibility; and
   d. be capable of being seamed to produce leak-tight, high-strength seams that retain their integrity during final cover installation and the post-closure period.
3. Geosynthetic Clay Liners (GCLs) Standards. Geosynthetic clay liners shall:
   a. have sufficient bentonite (or similar low permeability clay) to provide an effective low permeability layer;
   b. be constructed to ensure that the bentonite (or similar low permeability clay) will be distributed and retained uniformly and securely throughout the GCL during the operating life and the post-closure period;
   c. have sufficient durability for the proposed application, taking into consideration hydration, desiccation and other considerations that may affect initial or long term performance; and
   d. be capable of being seamed or joined to produce leak-tight connections that retain their integrity during the operating life and the post-closure period.

(7) Drainage Layers.

(a) Performance Standard. Drainage layers shall provide continuous and freeflowing drainage over the entire low permeability layer.

(b) Design Standards. The drainage layer or system shall:

1. be placed above the low permeability layer;
2. be of sufficient thickness and hydraulic conductivity to drain the immediate and up-gradient areas of the final cover;
3. be designed so that the head in the drainage layer will not exceed the thickness of the drainage layer;
4. be designed based on the hydraulic loadings resulting from the actual materials used in the final cover system, such as the vegetative support layer infiltration rate;
5. be composed of either:
   a. soil material that has:
      i. a minimum thickness of six inches; and
      ii. a hydraulic conductivity equal to or greater than 1×10^{-3} cm/second; or
   b. synthetic drainage material (geonet) that shall:
      i. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles or the final cover;
      ii. have sufficient flow capability;
      iii. be designed and evaluated for its effective long-term flow capacity using reasonable and acceptable evaluation methods that consider factors that may reduce (reduction factors) the design flow capacity caused by, but not limited to, overburden forces, (deformation, creep, etc.),intrusion by overlying materials such as filter fabrics or soil, and chemical or biological clogging; and

iv. be designed with an overall factor of safety appropriate for the effective long-term performance of the drainage layer.

6. be bound on its upper and/or lower surface with filter material where needed to prevent the infiltration of fine material and to maintain the integrity of the layer; and

7. be maintained to prevent conditions that could compromise the integrity of the landfill or cause erosion.

(8) Filter Material Standards. Filter material, where placed, shall be capable of preventing the migration of fine soil particles into the drainage or venting layer.

(9) Vegetative Support/Protection Layer Standards.

(a) Performance Standards. The vegetative support/protection layer shall:

1. be of sufficient thickness and composition to support the selected vegetation;

2. protect underlying layers from the adverse effects of desiccation, extremes of temperature, including frost effects, and erosion;

(b) Design Standards. There shall be at least 18 inches of soil material above the low permeability layer (310 CMR 19.112(6)). This 18 inches may be composed of soil in the vegetative support/protective layer (310 CMR 19.112(9)) and soil in the drainage layer (310 CMR 19.112(7)). The vegetative support/protection layer shall:

1. consist of a topsoil, loam or equivalent type of soil-based vegetative support material with a minimum organic content of 3%;

2. consist of at least 12 inches of soil capable of supporting the selected vegetation and any additional soil material needed to create the required total thickness; or

3. consist of at least eight-nine inches of soil with an organic content of 8-10% capable of supporting the selected vegetation in conjunction with a 12-inch thick drainage layer for a total vegetative/protection layer depth of 20-21 inches.

(10) Vegetative Cover Standards.

(a) Performance Standards. The vegetative cover shall:

1. provide complete coverage of the landfill;
2. minimize erosion of underlying material;
3. promote evapotranspiration of water to the maximum practicable extent;
4. provide for an effective and permanent cover compatible with the site;
5. have root systems that shall not compromise the drainage layer or low permeability layer; and
6. be composed of plants which shall be capable of self propagation.

19.113: Alternative Landfill Final Cover System Design

Landfill final cover systems designed using components, materials, technologies or methodologies other than those expressly provided for under 310 CMR 19.112: Landfill Final Cover Systems, may be approved by the Department provided that either the proponent affirmatively demonstrates to the Department's satisfaction that the alternative final cover system design meets the standards established under 310 CMR 19.105: Equivalency Review Standards and Procedures, or, as a result of a site-specific assessment, performed pursuant to 310 CMR 19.150: Landfill Assessment Requirements, the Department determines that an alternative design would adequately protect public health, safety and the environment. The final cover material used in an alternative final cover designed for a landfill that accepted waste after October 9, 1991, shall have a maximum hydraulic conductivity of 1×10^{-5} cm/sec.

19.114: Ground Water Protection System and Final Cover Waivers

(1) Applicability. 310 CMR 19.114 is not applicable to landfills handling municipal solid wastes or solid waste combustion facility ash. The owner or operator of other types of landfills may apply for a waiver from one or more of the ground water protection system or final cover requirements pursuant to 310 CMR 19.114(2).

(2) Waiver Criteria. The Department, upon written request, may waive or modify one or more of the ground water protection system or final cover system design components specified under 310 CMR 19.110(4) or 19.112(3), respectively, when the operator satisfies the Department that components of a ground water protection system or final cover are not necessary to adequately protect ground and surface waters due to the characteristics of solid waste disposed in the landfill, the nature of the leachate likely to be produced by the landfill and the physical or hydrogeological characteristics of the site.

19.115: Storm Water Controls

(1) Performance Standard. Storm water controls shall prevent erosion, discharge of pollutants, protect the physical integrity of the landfill and be managed according to applicable standards established by the Department, including but not limited to, wetlands protection regulations at 310 CMR 10.05(6)(b), and the Department's Storm Water Policy. For purposes of meeting stormwater standards established by the Department, recharge shall be permitted at the landfill only where the recharge will not adversely impact the quality of groundwater leaving the site. Peak rate attenuation shall be in accordance with that described in 310 CMR 19.115(2): Design Standards, and source controls and pollution prevention measures (including design of the landfill) shall be implemented to prevent discharge of pollutants. This standard applies to the construction, operational and post-operational phases of the landfill.

(2) Design Standards. Storm water controls shall be designed to:

(a) prevent flow onto the active portion of the landfill (i.e., any area without intermediate or final cover) during the peak discharge from a 24 hour, 100-year storm;

(b) control the peak rate of run-off from the entire landfill resulting from a 24 hour, 25-year storm; and

(c) control the peak rate of run-off from the landfill resulting from a 24 hour, 100-year storm, to the extent practicable, if an evaluation of the peak rate of run-off resulting from a 24-hour, 100-year storm indicates there will be flooding up or downstream of the site using the most recent precipitation atlas approved for use by the United States National Weather Service, or their predecessor the U. S. Weather Bureau to determine the rainfall depth associated with the 100-year storm (currently Technical Paper-40, published May, 1961).

19.116: Surface and Ground Water Protection

Landfills shall prevent direct discharge of contaminated run-off or leachate from the landfill to any surface water bodies or to ground water, except in accordance with a Massachusetts Surface Water Discharge Permit or Ground Water Discharge Permit issued by the Department pursuant to 314 CMR 5.00 or 7.00, respectively, and a National Pollution Discharge Elimination System permit issued by the U.S. Environmental Protection Agency.

19.117: Air Quality Protection Systems

(1) General Performance Standard. Landfills shall control the concentration levels of explosive and malodorous gases and other air pollutants as necessary in order to maintain air quality and to prevent the occurrence of nuisance conditions or public health or safety problems.

(2) General Design Standard. Air quality protection systems shall be designed to control the concentration of explosive gases to no greater than 25% of the Lower Explosive Limit (LEL) at the property boundary at any time, excluding gas control or recovery system components or any leachate collection components, or 10% of the LEL in any building, structure, or underground utility conduit.

(3) Gas Vents. At a minimum, passive gas vents shall be provided at all facilities in all areas of the landfill over which final cover has been applied.

(a) Performance Standard. Landfill gas vents shall allow for the movement and adequate venting of landfill gases in order to prevent the buildup of explosive concentrations of gas and prevent the lateral migration of gases beyond the boundaries of the landfill.

(b) Design Standards. Landfill gas vents shall be designed:

1. to maintain the integrity of the low permeability cap at the penetration of the cap;
2. to provide adequate venting of landfill gases;
3. with 'T's, goosenecks or other equivalent cap at the top of the riser pipe to allow effective venting;
4. to allow for retrofitting for active gas recovery or treatment at a later time if required;
5. to operate without clogging; and
6. to remain secure from vandalization.

(4) Installation. Gas vents shall be installed concurrently with the phased construction of a facility and in accordance with any permits or orders issued by the Department.

(5) Landfills shall demonstrate that they are in compliance with the State and Federal air quality regulations, including but not limited to, New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) requirements. In general a facility must document:

(a) which federal air quality regulations are applicable to the facility, either initially or at full build-out; and,

(b) how the facility will comply with all applicable state and federal air quality regulations.

19.118: Ground Water, Surface Water and Gas Monitoring Systems

(1) General Performance Standard. Any person conducting landfill activities shall install, operate and maintain a ground water monitoring system, surface water monitoring system and landfill gas monitoring system capable of detecting and quantifying the release of contaminants into the ground, ground water, surface water or the air.

(2) Ground Water Monitoring Systems.

(a) Performance Standard. A ground water monitoring system shall:

1. be capable of yielding representative ground water samples for analysis; and
2. consist of a sufficient number of wells properly located and screened at appropriate depths to detect the release of contaminants from the landfill into the ground water.

(b) Design Standards. A ground water monitoring system shall:

1. at a minimum be composed of one monitoring well or cluster of wells installed hydraulically upgradient from the limit of the filled or proposed fill area capable of yielding ground water samples which are representative of background ground water quality;
2. at a minimum be composed of three monitoring wells, or clusters of wells, installed within 150 meters of filled areas proposed to be filled or at the property boundary, whichever is less, and located hydraulically downgradient from the limit of the filled areas or areas proposed to be filled and capable of detecting contaminants that migrate from the landfill to the ground water.
3. be composed of wells drilled by a person licensed under Well Driller Regulations, 313 CMR 3.00:
4. be composed of wells constructed in a manner, approved by the Department, that ensures the integrity of the monitoring well and facilitates the collection of samples;
5. be composed of wells readily accessible to sampling equipment and located so that they do not interfere with routine facility operations; and
6. be composed of wells designed with locking caps and secured to prevent tampering with or vandalism.

(3) Surface Water Monitoring Systems

(a) Performance Standard. Where required by the Department, permanent surface water sampling location markers shall be established upstream and downstream of the solid waste landfill facility in sufficient numbers and locations to adequately represent surface waters flowing through or past the facility.

(b) Design Standard. All surface water sampling locations shall be readily accessible to sampling equipment and located so that they do not interfere with routine facility operations.

(4) Gas Monitoring Systems

(a) Performance Standard. Gas monitoring wells for the monitoring of explosive and other landfill gases shall be provided at all landfills to determine if gas is migrating beyond the boundaries of the landfill and shall:

1. be capable of yielding representative air samples for analysis; and
2. consist of a sufficient number of wells properly located to detect the presence and migration of landfill gases.

19.119: Design Requirements for Ash Landfills

(1) Applicability. In addition to the regulations set forth in 310 CMR 19.100 et seq., 310 CMR 19.119 shall apply to all new landfills or upgrades and expansions of existing landfills, or parts thereof, in which ash and/or residues from solid waste combustion facilities burning municipal solid wastes are disposed. For the purposes of 310 CMR 19.000, such facilities shall be termed "ash landfills".

(2) Plans for Ash Landfills. Plans for ash landfills shall include all components and be submitted in accordance with the requirements of 310 CMR 19.104. In addition to the submittal requirements specified in 310 CMR 19.104, the plans for an ash landfill shall include:

(a) a discussion of how ash will be transported to and handled at the landfill, including any ash stabilization procedures; and

(b) a description of the means by which fugitive emissions of ash will be controlled.

(3) Ash Landfill Design.

(a) Ash landfills shall incorporate the design requirements for landfills set forth at 310 CMR 19.110 through 19.118, including ground water protection systems and final cover systems, except that ash landfills that will not co-dispose MSW and are not located on top of existing solid waste landfills may not be required to comply with 310 CMR 19.112(5) and 19.117 for installation of a gas collection system.

(b) Ash landfills shall be designed to ensure that:

1. the ash is underlain by a ground water protection system meeting the performance and design standards for liners set forth in 310 CMR 19.110. Where an ash landfill expansion is proposed over a previously landfilled area with an existing liner, a ground water protection system in accordance with 310 CMR 19.111: Alternative Ground Water Protection System Design, shall be required; and
2. fugitive emissions of ash are minimized.

19.120: Design Requirements for Woodwaste Landfills

(1) Applicability.

(a) Landfills that accept only woodwastes, as defined herein, may be permitted by the Department using designs, materials, technologies or methodologies other than those specified in 310 CMR 19.110 and 19.112, provided that the operation of the woodwaste landfill will accept only woodwastes and will not present a threat to public health, safety or the environment. Specifically, woodwaste landfill applications may include an application for a ground water protection system waiver and/or final cover waiver as specified in 310
CMR 19.114.

(b) The following woodwaste disposal areas are exempt from regulation under this part, provided the operation incorporates good management practice and is done in a manner to minimize pollution to air, water or other natural resources of the Commonwealth:

1. woodwaste disposal areas exempted from site assignment pursuant to 310 CMR 16.05(5)(d) (single family residence or farm); and
2. other woodwaste disposal areas which will contain a total volume of less than 200 cubic yards.

(2) Plans for Woodwaste Landfills. Plans for woodwaste landfills shall be submitted in accordance with the requirements of 310 CMR 19.104. The Department may waive some of the landfill facility design requirements specified at 310 CMR 19.104 as it deems appropriate for woodwaste landfills.

19.121: Landfill Gas Recovery Operations

(1) General. Landfills conducting gas recovery operations shall conduct such operations and monitoring in accordance with 310 CMR 19.121 and the approved design, operation and maintenance plans and in a manner to prevent interference with on-going site activities or other control measures.

(2) Submittal of Landfill Gas Recovery Plans. All persons proposing to construct a landfill gas recovery facility shall submit an application for a permit to construct and operate that facility pursuant to 310 CMR 19.121. An application shall consist of:

(a) a site plan containing the information and documentation required at 310 CMR 19.104(2)(a) through (c) and (i);

(b) a design plan consisting of:

1. a description of all machinery, equipment, and materials used at the facility, including the equipment's make, model, manufacturer, design capacity, and performance data;
2. plan views and cross-sectional views of the location and grades of all landfill gas collection lines showing all critical elevations of the collection pipe inverts, clean outs, and valves; layout of the facility structure including equipment locations and sampling locations; on-site drainage structures; and extraction well locations, depth of placement and construction materials;
3. a description of how construction of the facility's gas recovery extraction wells, piping and other appurtenances will ensure the integrity of the final cover system is maintained; and
4. a description of the facility's landfill gas condensate collection, storage, and treatment systems. The design capacity for these systems must be based on the engineering report's estimate of the amount of landfill gas condensate produced.

(c) an operation and maintenance plan consisting of the information and documentation required at 310 CMR 19.104(5)(b) through (d) and (f); and

(d) an engineering report consisting of:

1. a description of the operation of the facility and how the recovered gas will be used;
2. an estimate of the quantities of condensate currently generated or expected to be generated and a description of how the condensate will be disposed;
3. an estimate of the cost to properly close the gas recovery operation at the end of its useful life;
4. a description of how the landfill gas recovery system relates to the landfill's overall gas venting and control system;
5. a description of the procedures for taking, analyzing, and reporting data from condensate sampling; and
6. a contingency plan that discusses an organized and planned method of responding to unexpected events during the construction and during the operation of a gas recovery operation.

(3) Permit Criteria. A permit to construct a landfill gas recovery facility shall be reviewed and granted pursuant to the review procedures specified under 310 CMR 19.001 through 19.099. In addition, all gas recovery facilities that use combustion of any type shall be permitted, designed and operated in accordance with all applicable requirements of the Air Pollution Control regulations, 310 CMR 6.00: Ambient Air Quality Standards for the Commonwealth of Massachusetts through 8.00: Prevention and/or Abatement of Air Pollution Incident Emergencies.

(4) Landfill Gas Recovery Facility Operation and Maintenance Requirements. Landfill gas recovery facilities shall conform to the operational requirements established in 310 CMR 19.121, including:

(a) condensate generation shall be kept to a minimum and condensate recirculation, if proposed, shall be done in accordance with the permit;

(b) condensate shall be sampled and results reported in accordance with the permit; (c) gas monitoring shall occur in accordance with 310 CMR 19.132(4); and

(d) an annual report on the operation of the landfill gas recovery facility shall be submitted to the Department as specified in the permit. This report shall contain the following information, compiled on a monthly basis:

1. quantity of landfill gas recovered;
2. quantity of condensate generated and recirculated or treated;
3. quantity of steam generated, electricity generated, or low Btu or pipeline quality gas produced, as applicable; and
4. summary of sampling data.

19.130: Operation and Maintenance Requirements

(1) General. An operator shall incorporate procedures and practices, in accordance with approved plans and permit conditions, such as proper sequencing of landfill operations, proper grading of the site, proper maintenance of drainage and collection systems, and the application of adequate amounts and appropriate types of cover materials, which will prevent pollution of ground water, surface water and air quality and prevent nuisance conditions from developing.

(2) Operator Supervision. The overall care, maintenance and management for a landfill shall be under the direction of a qualified operator.

(3) Special Wastes. No solid waste that is a special waste shall be received or disposed at any landfill unless the provisions of 310 CMR 19.061 are satisfied and the special waste is managed in accordance with any conditions specified by the Department in any approval to manage the special waste.

(4) Banned or Restricted Solid Wastes. Any solid waste which has been banned or restricted from disposal pursuant to 310 CMR 19.017 shall be managed at a landfill in accordance with the facility's waste ban compliance plan prepared and approved in accordance with 310 CMR 19.017(5) unless an exception has been granted under 310 CMR 19.017(6).

(5) Hazardous Waste.

(a) No operator shall dispose of any material subject to the Hazardous Waste Regulations, 310 CMR 30.000, at a solid waste landfill permitted pursuant to M.G.L. c. 111, § 150A.

(b) The operator shall implement a program, approved by the Department, for detection and exclusion of hazardous wastes.

(c) The operator shall immediately notify the Department and the board of health of the discovery of any material subject to 310 CMR 30.000: Hazardous Waste.

(6) Bulky Wastes.

(a) An operator may accept bulky wastes where:

1. the handling of such wastes is consistent with the facility's permit or site assignment; and
2. the handling and/or disposal of such wastes can be carried out in a manner which is manageable and compatible with the facility's operation and maintenance plan and environmental control systems.

(b) The Department may disallow or place conditions on the handling or disposal of bulky waste at a landfill in order to protect the engineering or operational integrity of the facility.

(7) Liquid Wastes.

(a) No liquid wastes shall be disposed at landfills. Contained liquid wastes generated by and produced in the normal operation of a household, excluding septage, shall not be considered to be liquid wastes unless expressly excluded through 310 CMR 19.017: Waste Bans.

(b) For the purpose of 310 CMR 19.130 liquid wastes means any material that drains freely or contains free draining liquids, as determined by the Department using the Paint Filter Liquids Test, Method 9095 as described in USEPA Publication SW-846, as may be amended.

(8) Solid Waste Handling.

(a) Solid waste shall not be deposited in, or be allowed to enter surface or ground waters of the Commonwealth.

(b) Solid waste or other discarded materials shall not be unloaded unless the operation is under the direct supervision of the operator.

(c) The operator shall post, using appropriate signs or other means, where vehicles are to unload solid waste at the landfill.

(d) The deposition of solid waste shall be confined to the smallest area feasible.

(9) Bird Hazards. The operator of facilities located in the proximity of airports shall operate and maintain the facility in a manner so as to ensure that the facility shall not pose a bird hazard to aircraft.

(10) Equipment and Equipment Shelter.

(a) The operator shall provide equipment in adequate numbers and of appropriate type and size to ensure adequate compaction of solid waste and the proper operation and maintenance of the facility.

(b) Equipment shall not be in direct contact with the drainage/protection layer during landfilling activities.

(c) The operator shall make provisions for and ensure that backup equipment is obtained within 24 hours should the equipment used in daily operations become disabled for more than 24 hours. The facility shall cease operations should equipment not be available until such time as it becomes available to properly operate the facility.

(d) The operator shall provide suitable shelter or protection as necessary for all equipment and necessary service supplies used in connection with facility operations.

(11) Staffing.

(a) The operator shall provide an adequate number of trained staff to ensure that the facility is operated and maintained as designed and in accordance with good solid waste management practices.

(b) During posted hours of operation the operator shall be continuously present at the landfill.

(12) Employee Facilities.

(a) The operator shall provide proper shelter and facilities for employees working at the facility. The shelter and facilities shall contain:

1. sufficient light and heat;
2. a safe drinking water supply;
3. sanitary handwashing and toilet facilities;
4. an operational telephone or two-way radio system; and
5. other equipment or appurtenances necessary for full compliance with OSHA and Department of Labor and Industries regulations.

(13) Accident Prevention and Safety.

(a) All employees shall be instructed in the principles of first-aid and safety and in the specific operational procedure necessary to prevent accidents.

(b) The operator shall provide for the availability and maintenance of adequate first-aid supplies at the site at all times.

(c) The operator shall provide for two-way radios or telephones and ensure that the numbers for emergency medical care and ambulances are posted at the site.

(14) Spreading and Compacting of Solid Waste.

(a) All solid waste shall be evenly spread in shallow layers not exceeding three feet in thickness prior to compaction.

(b) Each layer shall be thoroughly compacted prior to the spreading and compaction of each additional layer.

(15) Cover Material.

(a) General. All cover material shall:

1. control fires, vectors, the occurrence of nuisance conditions such as odors, dust or litter, and be placed in a manner so as to minimize erosion by wind and/or water;
2. maintain a physical separation of the solid waste from the surface environment.
3. be substantially odor free;
4. consist of materials suitable for carrying out the geotechnical and other functions of the cover material; and

5. be free of substances which would attract vectors and free of large objects which would hinder spreading and compaction or otherwise interfere with the proper functions of cover material.

(b) Effective Use. The Department reserves the right to limit the types and quantities of cover material used at a facility to meet the engineering function of that use, maximize capacity allocation or to otherwise address the waste management needs of the Commonwealth.

(c) Daily Cover.

1. Daily cover material shall be workable under all weather and operational conditions.
2. A minimum of six inches of compacted soil shall be applied:
   a. over all exposed solid waste at the end of each working day; or
   b. more frequently and/or at greater depth, if necessary, to prevent fire and control vectors, odors, or blowing litter and to ensure that there is no exposed refuse.
3. A minimum quantity of daily cover material sufficient for 14 working days operations shall be stockpiled at the landfill site at all times.
4. Daily cover shall not be used in quantities greater than are necessary to achieve compliance with the requirements at 310 CMR 19.130(15)(a). Any quantity of daily cover used above this amount, except where stipulated, is considered disposal.
5. Upon written request, the Department may approve in writing, the use of alternative daily cover materials and/or different thicknesses of daily cover pursuant to 310 CMR 19.105: Equivalency Review Standards and Procedures. Where non-soil cover materials are proposed the material must meet or exceed the standards established at 310 CMR 19.130(15)(a) and (b).

(d) Intermediate Cover.

1. Intermediate cover material shall be used to prevent or minimize the infiltration and percolation of water into the landfill.
2. Intermediate cover shall be applied under the following circumstances:
   a. a minimum of six inches of uniformly compacted intermediate cover, in addition to the daily cover, shall be applied on the exterior top and side slopes of any filled areas of a landfill which has not received or will not receive solid waste for 30 days or other time period as approved by the Department; or
   b. a minimum of one foot of uniformly compacted intermediate cover in addition to the daily cover, shall be applied on the exterior top and side slopes of any filled areas of a landfill which has not or will not receive solid waste for six months or longer or other time period as approved by the Department.
3. Acceptable Materials.
   a. The following soils, classified pursuant to the Unified Soil Classification System, may be used without prior Departmental approval: G.C., S.C., C.H., C.L. and O.H.
   b. All other soils proposed for use as intermediate cover at a landfill shall be tested by a qualified laboratory and be approved as intermediate cover by the Department prior to placement.
4. Other Materials. Upon written request, the Department, pursuant to 310 CMR 19.105: Equivalency Review Standards and Procedures, may approve, in writing, the use of synthetic covers or other alternatives if such materials provide equivalent or greater protection than the materials listed in 310 CMR 19.130(15)(c)3.a.

(e) Final Cover.

1. The application of final cover, or alternate in accordance with 310 CMR 19.112, 19.113 or 19.114, shall begin to be applied to a section of the landfill as soon as possible, but no later than 90 days, or other schedule as approved by the Department, after the circumstances specified in 310 CMR 19.130(15)(e)1.a. and b. When greater than 30 days of the 90 day period falls between November 1st and March 1st, final cover shall begin to be applied no later than the following April 1st.
   a. Active landfills:
      i. whenever a new lift has not or will not be applied within a one year period unless the area is permitted to accept additional waste;
      ii. upon reaching final approved elevations;
      iii. whenever a phase of the landfill has been completed; or
      iv. whenever the permit expires or terminates for any reason, or is revoked. b. Inactive landfills:
      i. in accordance with schedules established pursuant to 310 CMR 19.150, Landfill Assessment Requirements, and 310 CMR 19.151: Corrective Action Requirements.
2. The final cover shall be designed and constructed in accordance with the requirements established in 310 CMR 19.112, 19.113 or 19.114.
3. Final cover shall be maintained to prevent erosion and ensure the integrity of the cap.

(f) Maintenance of Intermediate or Final Cover.

1. The final cover system shall be repaired immediately upon the detection of any failure which may result in the release of pollutants to the environment and shall be maintained and repaired during the active life of the landfill, the closure period and the post-closure period.
2. Operators shall repair the intermediate cover, including cover vegetation if used, of all areas on which intermediate cover has been applied.

(16) Vector, Dust and Odor Control.
(a) The operator shall prevent vectors, dust, odors and other nuisance conditions from developing at the landfill and any other areas related to the general facility operations.
(b) No pesticides shall be utilized at the landfill except:
1. under the direct supervision of a pesticide operator licensed by the Massachusetts Department of Food and Agriculture; and
2. upon written notification to the appropriate Department Regional Office and board of health of such application.
(c) Water shall not be used for dust control in amounts which produce excessive infiltration, ponding or erosion.

(17) Litter Control.
(a) Landfill operations shall be conducted so as to minimize blowing litter.
(b) The operator shall incorporate litter fencing, natural barriers or other devices to prevent the scattering of solid waste beyond the working area.
(c) The operator shall maintain the general cleanliness of the facility and surrounding areas impacted by blown litter from the facility or the access roads.

(18) Top Slope and Side Slopes.
(a) The operator shall ensure that the final top slope has a minimum grade of 5%.
(b) The operator shall ensure that no top slope or side slope grade shall result in excessive erosion.
(c) The operator shall ensure that final exterior side slopes shall not exceed a slope of three horizontal to one vertical (3:1).
(d) The operator shall ensure that in no case shall an unstable slope be created or a slope that could result in abnormal stress on the liner system.

(19) Storm Water Drainage.
(a) The operator shall provide sufficient storm water drainage controls and diversion structures, channels or ditches to promote drainage off of the landfill, minimize run-on onto the landfill, prevent uncontrolled ponding on the landfill or uncontrolled ponding adjacent to the filled area.
(b) Storm water drainage structures shall be designed, constructed and maintained so as to ensure integrity of the drainage structures and so as to prevent erosion of the landfill.

(20) Erosion Control.
(a) The operator shall institute such soil erosion control measures as are necessary to ensure the retention and integrity of the daily, intermediate or final cover.
(b) The operator shall ensure that no solid waste or leachate are carried off-site due to erosion.
(c) The operator shall ensure that siltation due to erosion shall not migrate off-site.
(d) In a situation where significant settlement, uncontrolled ponding of waters or erosion of the landfill or cover material placed over the landfill occurs during the operation, closure or the post-closure period the operator or owner shall immediately institute corrective measures.

(21) Boundary and Elevation Markers.
(a) The operator shall establish and maintain boundary markers at the outermost boundaries of waste deposition and at the property boundaries. Markers shall, at a minimum, be established at every change in direction of the boundary.
(b) The operator shall establish and maintain at least one reference elevation marker on an area of the site that does not contain solid waste.

(22) Access Roads. The access roads shall be constructed, graded and maintained to ensure that traffic flow will not be interrupted by inclement weather or traffic patterns.

(23) Security.
(a) The operator shall provide sufficient fences or other barriers to prevent access to the facility except at designated points of entry or exit.
(b) A gate shall be provided at all access points and shall be locked at all times when the operator or his agent is not on site or during hours when the facility is not operating.

(24) Posting of the Landfill.

The operator of a landfill shall post signs at all access points to the landfill which, at minimum, include the following information:

(a) the name of the owner and operator of the facility;
(b) a 24 hour emergency telephone number for the facility; (c) the hours of operation;
(d) a list of solid wastes banned or restricted pursuant to 310 CMR 19.017; (e) other limitations and conditions of access to the facility; and
(f) penalties for unauthorized use.

(25) Open Burning. The operator shall not cause, suffer, allow or permit the open burning of any combustible material at the facility except as may be expressly permitted by the Department pursuant to 310 CMR 7.07: U Open Burning.

(26) Fire Protection and Control.

(a) The operator shall ensure that no materials are stored, held, maintained or placed at a landfill in such a manner as to pose a fire hazard.
(b) A separate area shall be provided, located away from combustible materials, uncovered refuse and buildings, for quick dumping and quenching or snuffing of hot loads.
(c) The operator shall immediately notify the fire departments having jurisdiction, and the appropriate Regional Office of the Department whenever smoldering, smoking or burning has occurred or is occurring at the landfill.
(d) The operator shall be responsible for seeking fire-fighting assistance, initiating and providing assistance and/or resources for fire-fighting actions until all smoldering, smoking and burning cease.
(e) The operator shall not conduct disposal activities in the vicinity of any smoldering, smoking or burning area. Precautions shall be taken to prevent disposal activities from interfering with fire-fighting activities.
(f) Any disruption of the finished grade or covered surfaces as a result of fire fighting activities shall be repaired or replaced immediately upon termination of fire-fighting activities.

(27) Convenience and Recycling Drop-off Areas at landfills.

(a) The operator may provide one or more containers of sufficient capacity within a designated secure area under the landfill's control and with the approval of the Department either for the unloading of solid wastes from private vehicles prior to transport of the solid waste to the active area of the landfill (convenience areas), or for the collection and temporary storage of recyclable materials.
(b) Convenience areas and recycling drop-off areas shall be operated in an orderly, safe and environmentally sound manner.
(c) The convenience or recycling drop-off area shall be located a safe distance from the active working face and the movement of associated landfill equipment and commercial vehicles.
(d) The convenience or recycling drop-off area shall be maintained so as to prevent nuisance conditions from developing and to ensure the sanitary condition and orderly appearance of the areas.
(e) Solid waste shall be removed from the containers used in the convenience area and deposited in the working face at such frequency so as not to exceed the capacity of the containers. The containers shall be emptied, at a minimum, at the end of each day of operations.
(f) Containers provided for the collection and storage of recyclable materials for transport off-site shall be emptied whenever filled or every 60 days, whichever is less, or as otherwise determined by the Department.

(28) Waste Oil Collection at Landfills. Waste oil other than the waste oil generated by the operator during normal maintenance of equipment used on-site may be collected and stored at landfills only with the approval of the Department.

(29) Household Hazardous Waste Collections at Landfills. Household hazardous waste shall be collected at landfills only with the approval of the Department and consistent with 310 CMR 30.000: Hazardous Waste.

(30) Leachate Collection, Treatment and Disposal.

(a) Leachate shall be collected, stored, handled, treated on or off-site and disposed in accordance with approved plans and the permit.
(b) The storage of leachate should not exceed one foot of hydraulic head on the liner except during storm events and be designed to drop below one foot within seven days of a 25-year storm for the primary operational phase of the landfill.
(c) Leachate shall not be discharged directly to waters of the Commonwealth except in accordance with a discharge permit issued by the Department pursuant to 314 CMR 5.00 Ground Water Discharge Permit Program or 314 CMR 7.00: Sewer System Extension and Connection Permit Program.

(d) Leachate shall not be discharged to a sewer except in accordance with a sewer connection permit issued pursuant to 314 CMR 12.00.
(e) Leachate shall only be stored at the landfill pursuant to the requirements of 314 CMR 18.00: Industrial Wastewater Holding Tank and Container Construction, Operation, and Record Keeping Requirements.
(f) Leachate shall be removed from a landfill leachate storage facility for off-site treatment or disposal only by a licensed liquid waste hauler and only when there is a contractual or otherwise appropriate guarantee for disposal of the leachate.
(g) The operator shall have contracts or otherwise appropriate plans for back-up handling, treatment and disposal for leachate expected to be generated by the landfill in the case of interrupted service of the primary handling, treatment and disposal option.
(h) Inspection reports, as required under 310 CMR 19.130(35), shall include the quantity of leachate generated, the leachate disposal location, results of leachate tank testing and monitoring and other routine maintenance performed.
(i) Leachate collection, storage, treatment, and disposal shall continue during the entire active life of the landfill, and during the closure and the post-closure periods.

(31) Phase Completion of the Landfill.
(a) Landfill operations shall be conducted in phases in accordance with approved plans to reduce the amount of active area exposed.
(b) Final cover shall be placed on completed phases and shall be maintained to prevent erosion and ensure the integrity of the cap.
(c) Construction of the Final Cover. Construction of the final cover shall consist of the construction of the final cover and all associated appurtenances. Construction of the final cover shall be carried out in conformance with 310 CMR 19.107: Construction Certification. The independent professional engineer shall:
1. notify the Department in writing two weeks prior to the start of construction of the low permeability cap;
2. ensure that:
a. the completed phase is graded in a manner that facilitates surface drainage and is consistent with the surrounding topography;
b. the completed phase is completely covered by a final cover in accordance with 310 CMR 19.112;
c. the construction of the final cover does not in any way interfere with proper drainage of adjacent lands or concentrate run-off waters on adjacent areas;
d. the phase has an air quality protection system designed and constructed in accordance with 310 CMR 19.117; and
e. the phase has an operative environmental monitoring system designed and implemented in accordance with 310 CMR 19.118.
3. notify the Department in writing two weeks prior to the completion of construction of the final cover; and
4. submit a copy of the engineer's certification to the Department.
(d) Letter of Compliance.
1. Following receipt of the engineer's certification specified at 310 CMR 19.130(31)(c)4. the Department shall inspect the landfill and shall:
a. issue a letter of compliance certifying that the landfill or phase thereof has received final cover in accordance with approved plans; or
b. issue a letter citing deficiencies and requiring corrective action.

(32) Disruption of Landfilled Areas.
(a) No person shall excavate, disrupt or remove deposited material from either an active, inactive or closed landfill without prior written approval from the department.
(b) All requests for approval shall include a plan describing the area involved, depth of such excavated material, where material is to be re-deposited and estimated time required for completion of excavation procedures.
(c) All excavations shall be confined to an area consistent with the number of pieces of digging equipment and/or trucks used for haulage.
(d) Adequate measures shall be taken during excavation to control dust, odors, fires, potential for release of gas and explosions, rodents, insects and blowing litter.
(e) The re-deposition of all excavated solid wastes shall be in conformity with all requirements of 310 CMR 19.000.

(33) Construction of Buildings. Construction of permanent buildings on top of landfilled areas shall be prohibited during the operational phase except for buildings associated with landfill gas recovery operations.

(34) Records for Operational and Plan Execution.

(a) The operator shall maintain a daily log to record operational information, including but not limited to the type and quantity of solid waste received and the status of all environmental control or monitoring systems.

(b) The operator of existing or new landfills receiving 100 tons or more per day shall weigh all incoming solid waste.

(c) Operators of landfills that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.

(d) The operator shall submit to the Department, no later than February 15th of each calendar year, an annual report summarizing the facility's operations for the previous calendar year or portion of a calendar year that waste is handled at the facility. The report shall describe and summarize:

1. the amount of solid waste handled during that year with the quantity reported in tons;
2. the filled capacity of the facility in cubic yards and the estimated density of the landfilled solid waste;
3. the amount of capacity remaining in the landfill in cubic yards;
4. the volume of daily and intermediate cover material applied to the landfill during that year;
5. all environmental monitoring and sampling data trends from ground water, surface water and gas monitoring systems; and
6. a demonstration of how the landfill's operations during the year complied with the provisions of the recycling and composting plan contained as part of the facility's solid waste management permit.

(35) Inspections. The facility shall be inspected by a third-party inspector in accordance with 310 CMR 19.018.

(36) Re-circulation of Leachate. The Department may allow the re-circulation of leachate if it is demonstrated to the Department that such a procedure will be conducted to achieve a reasonable environmental goal and the operation will not compromise the integrity of the landfill, including the liner and leachate collection systems, or result in unacceptable adverse impacts to the public health, safety or the environment, or result in nuisance conditions. A request for leachate re-circulation shall include:

(a) the goals and expectations of the re-circulation activity;

(b) a report detailing the engineering considerations that need to be addressed by the re- circulation activity including, but not limited to, stability of the landfill, leachate collection system performance, odor concerns and landfill gas issues (generation rate and controls, etc.); (c) identification of potential adverse impacts (odors etc.) resulting from the re-circulation activity and a contingency plan to address any potential adverse impacts should they occur; (d) methods used to monitor the performance of the re-circulation operations to ensure they are within safe operating parameters and achieving project goals;

(e) amount and rate of leachate to be recirculated, how leachate will be distributed, and storage needs and methods; and,

(f) an evaluation of financial assurance mechanisms to ensure the availability of adequate funds to address corrective actions that may result if there are problems with the re- circulation system.

(37) End-of-life Mercury-added Products. Mercury-added products that are hazardous waste pursuant to 310 CMR 30.000: Hazardous Waste shall be handled in accordance with 310 CMR 30.000: Hazardous Waste. Mercury-added products that are not hazardous waste shall be handled in accordance with 310 CMR 76.05(2).

19.131: Additional Operation and Maintenance Requirements for Landfills that Accept Ash

(1) General. In addition to the operation and maintenance requirements set forth in 310 CMR 19.130, operators of landfills that accept ash shall comply with the operation and maintenance requirements set forth in 310 CMR 19.131.

(2) Fugitive Emissions. Ash landfills shall minimize the generation of fugitive emissions resulting from the delivery, dumping and compacting of ash.

(3) Ash Moisture Content. Ash shall be transported and delivered to an ash landfill in a damp state, sufficient to prevent emissions of fugitive dust during the dumping, spreading, compacting and covering of the ash.

(4) Spreading and Compacting of the Ash.

(a) Ash shall not be deposited in an ash landfill unless it is completely extinguished.

(b) Ash shall be evenly spread in layers and thoroughly compacted.

(5) Vehicle Washdown or Wheelwash or Other Alternative Measures. Ash landfills may be required to be equipped with an ash vehicle washdown area or wheelwash or other alternative method for the cleaning of ash from the vehicle prior to leaving the landfill where the vehicle will need to travel on public roads. The design of the washdown facility or wheelwash or alternative method, if required, shall ensure that washdown water is adequately collected for treatment and disposal.

19.132: Environmental Monitoring Requirements

(1) General. The owner or operator shall conduct monitoring of surface water, ground water, landfill gas and any other media as determined by the Department, including without limitation soil and sediment, on a schedule established in the permit or as otherwise required by Department. The owner or operator of facility that submits environmental monitoring results under the provisions of 310 CMR 19.132 shall ensure that analytical and environmental monitoring data submitted to the Department is scientifically valid and defensible, and of a level of precision and accuracy commensurate with its stated or intended use. Compliance with this performance standard includes, but is not limited to:

(a) employing procedures and methodologies for the collection and analysis of soil, sediment, water (or other liquids), vapor, air, and/or waste samples that consist of:

1. methods published by the Department, the U.S. Environmental Protection Agency, the American Society for Testing and Materials (ASTM), the American Public Health Association (APHA), the National Institute for Occupational Safety and Health (NIOSH), the American Water Works Association (AWWA), and other organizations with expertise in the development of standardized analytical testing methods; or
2. other methods approved by the Department.

(b) retaining a person who is qualified by education, training and experience to perform sample collection and analysis.

(2) Surface and Ground Water Monitoring.

(a) The owner and operator shall ensure that surface and ground water monitoring are conducted at any active landfill and during the facility's post-closure period set forth in 310 CMR 19.142.

(b) The owner or operator of a facility shall conduct surface and ground water monitoring at sampling points established in the permit and/or as required by the Department. The groundwater point of compliance for a landfill shall be no more than 150 meters from the edge of the waste disposal area (as delineated in the facility's current permit specified in the engineering plans referenced in the permit, or as otherwise delineated by the Department), or the property line, whichever is less.

(c) The owner or operator shall establish background surface water and ground water quality at sampling points hydraulically upgradient of the landfill. Background water quality shall be determined by a minimum of four quarterly rounds of samples for each of the monitoring parameters or constituents listed in 310 CMR 19.132(2)(h).

(d) The owner or operator shall conduct surface and ground water monitoring on a schedule established in the permit or as required by the Department. At a minimum, monitoring shall be performed semi-annually except as required pursuant to 310 CMR 19.132(2)(c), unless the Department approves or orders, in writing, a different frequency of sampling.

(e) The Department may refuse to accept monitoring data where:

1. the sample was taken from a ground water monitoring well for which the Department has not received and approved as-built construction plans, boring logs and well locations;
2. the sample was taken from a ground water monitoring well constructed in a manner not approved by the Department;
3. the analyses were performed by a laboratory other than a Massachusetts certified laboratory, unless the sample is accompanied by a complete QA/QC submittal;
4. the sample was not handled in accordance with the sampling and preservation requirements (e.g., sample container, holding time and sample volume) specified by the testing method;
5. the sample was taken from a monitoring device or location that is damaged or has not been maintained in accordance with 310 CMR 19.133;
6. the sample does not contain sufficient documentation regarding chain of custody;
7. the sample was not collected or analyzed in accordance with 310 CMR 19.132(1); or
8. the Department has reason to believe the sampling data is false, inaccurate, incomplete or misleading.

(f) The owner or operator shall submit all analytical results to the Department within 60 days after the date of sample collection or as specified in the permit or as otherwise required by the Department. The analytical results shall be summarized in tables with a discussion of the results including a trend analysis. Where the Department provides a form for environmental monitoring reports, the report shall be submitted on that form and shall contain all information as requested by that form. If no form is

provided by the Department, the report shall include, unless otherwise approved by the Department, the following information:

1. site plans or maps showing sampling locations, distribution of contaminants, groundwater contours and groundwater flow direction;
2. a letter report briefly summarizing the data and identifying any issues of concern;
3. all field Quality Assurance/Quality Control information; and
4. chain of custody forms.

(g) The owner or operator shall record static ground water elevations and total well depth prior to collecting a ground water sample whenever a monitoring well is to be sampled.

(h) At a minimum, the owner or operator shall analyze surface and ground water samples for the following parameters, unless otherwise approved by the Department based on review of past monitoring results or other relevant information:

1. Indicator parameters:
   a. pH (in situ);
   b. Alkalinity;
   c. Temperature (in situ);
   d. Specific Conductance (in situ);
   e. Nitrate Nitrogen (as Nitrogen);
   f. Total Dissolved Solids;
   g. Chloride;
   h. Calcium;
   i. Sodium;
   j. Iron;
   k. Manganese; and
   l. Sulfate
   m. Chemical Oxygen Demand (COD)
   n. Dissolved Oxygen
2. Inorganics:
   a. Arsenic;
   b. Barium;
   c. Cadmium;
   d. Chromium
   e. Copper
   f. Cyanide;
   g. Lead;
   h. Mercury;
   i. Selenium;
   j. Silver; and
   k. Zinc.
3. all of the compounds included in EPA Method 8260, and methyl ethyl ketone, methyl isobutyl ketone, acetone and 1,4 dioxane. In addition, unknown peaks having intensities greater than five times the background intensity shall be identified (Method 8260 is detailed in the EPA publication SW-846, entitled Test Methods for Evaluating Solid Waste); and
4. any additional parameters required by the Department.

(i) The owner or operator shall ensure that practical quantization limits (or laboratory reporting limits) meet or are below the Maximum Contaminant Level (MCL) or applicable standard for each analyte tested. If not, the Department will not accept the data.

(j) If the concentrations of any of the parameters listed in 310 CMR 19.132(2)(h) exceed the state or federal drinking water standards, Maximum Contaminant Levels (MCLs), Ambient Water Quality Standards for surface water samples established at 314 CMR
4.00: Massachusetts Surface Water Quality Standards, or alternative standards established in a permit;, or guidelines or standards established by a permit, order or authorization issued by the Department for contaminants for which no federal or state standard exists, at any sampling point, the owner or operator shall:

1. notify the Department within 14 days of the finding; and
2. collect, analyze and submit to the Department another round of samples within 60 days of the prior date of sample collection and determine the concentration of all parameters identified in 310 CMR 19.132(2)(h) that were exceeded unless otherwise specified by the Department.

(k) Where the Department determines, at any time, based upon the ground and surface water analyses from the facility, upgradient water quality and baseline water quality, that assessment and corrective actions shall be required, the owner or operator shall undertake the assessment and/or corrective actions as determined by the Department. Such assessment shall characterize the full nature and extent of contamination, and the risks of harm to public health, safety and the environment in accordance with the

requirements of 310 CMR 19.150 and 310 CMR 40.0114: Solid Waste Management Facilities. In establishing the applicable standards for groundwater down-gradient of the point(s) of compliance the Department shall consider the factors and procedures contained in 310 CMR 40.0900: Procedures and Standards for the Characterization of the Risk of Harm to Health, Safety, Public Welfare and the Environment and 310 CMR 40.1000: Response Action Outcomes.

(l) Nothing in 310 CMR 19.132 shall limit the responsibility of the owner or operator to comply with the provisions of M.G.L. c. 21H, § 4, M.G.L. c. 111, § 150A, 310 CMR 19.150, M.G.L. c. 21E, and 310 CMR 40.0000: Massachusetts Contingency Plan at all locations down-gradient of the point(s) of compliance.

(3) Monitoring of the Secondary Leachate Collection or Leak Detection System.

(a) The owner or operator shall monitor the quantity and quality of leachate collected by the secondary leachate collection system or leak detection system, where such a system has been constructed. Monitoring shall be accomplished as specified in the solid waste management facility permit, the leachate discharge permit or as deemed necessary by the Department. (b) The owner or operator shall submit, in addition to permit requirements, the results of the leachate monitoring from the secondary leachate collection system or leak detection system to the Department with third-party inspection reports.

(c) Where leachate is determined by the Department to have entered the secondary leachate collection system or leak detection system in excess of design standards, the owner or operator shall undertake the actions specified under 310 CMR 19.150 and 310 CMR 19.151 as required by the Department.

(4) Leachate Monitoring.

(a) The owner or operator shall monitor the quantity and quality of leachate as deemed necessary by the Department or as specified in the leachate discharge permit.

(b) The owner or operator shall submit, in addition to permit requirements, the results of the leachate monitoring to the Department with the inspection reports required pursuant to 310 CMR 19.130(35).

(5) Gas Monitoring.

(a) The owner or operator shall sample and physically and chemically characterize the recovered gas, condensates, or any other residues generated, and submit a copy of such analyses to the Department.

(b) The owner or operator shall conduct gas monitoring as follows:

1. Sampling and analysis of landfill gas shall be done in accordance with methods approved by the Department.
2. The owner or operator shall conduct landfill gas monitoring at sampling points established in the permit and/or as required by the Department.
3. The owner or operator shall conduct landfill gas monitoring on a schedule established in the permit or as required by Department. Monitoring shall be performed quarterly unless otherwise approved by the Department.

(c) The Department may not accept landfill gas monitoring data where:

1. the sample was taken from a gas monitoring device for which the Department has not received and approved as-built construction plans and locations; or
2. the sample was taken from a gas monitoring device constructed in a manner not approved by the Department;
3. the analyses were performed by a laboratory other than an approved laboratory, unless the sample is accompanied by a complete QA/QC submittal;
4. the sample was taken from a monitoring device or location that is damaged or has not been maintained in accordance with the requirements of 310 CMR 19.133;
5. the sample was taken from a monitoring device or location that is damaged or has not been maintained in accordance with 310 CMR 19.133;
6. the sample does not contain sufficient documentation regarding chain of custody;
7. the sample was not collected or analyzed in accordance with 310 CMR 19.132(1); or
8. the Department has reason to believe the sampling data is false, inaccurate, incomplete or misleading.

(d) The owner or operator shall submit all analytical results to the Department within 60 days after the date of sample collection or as specified in the permit. The analytical results shall be summarized in tables with a discussion of the results, and shall include an analysis of pertinent trends. Where the Department provides a form for environmental monitoring reports, the report shall be madesubmitted on that form and shall contain all information as requested by that form. If no form is provided by the Department, the report shall include, unless otherwise approved by the Department, the following information:

1. site plans or maps showing sampling locations, concentrations and gas exceedences;
2. a letter report briefly summarizing the data and identifying any issues of concern;

3. all field Quality assurance/Quality control information; and
4. chain of custody forms.

(e) The owner or operator shall conduct gas monitoring at any active landfill and for the post-closure period set forth in 310 CMR 19.142(2).

(f) Landfill gas samples shall be analyzed for volumes and concentrations of explosive gases. In addition, the Department may require monitoring for the following:

1. hydrogen sulfide;
2. volatile organic compounds; and
3. any additional parameters required by the Department.

(g) When, at any time, the concentration of explosive gasses exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduit, excluding gas control, gas recovery and leachate collection system components, the owner or operator shall:

1. take immediate action to protect human health and safety;
2. notify the Department's Regional Office that covers the municipality in which the facility is located within two hours of the finding; and
3. undertake the actions specified under 310 CMR 19.150: Landfill Assessment Requirements and 19.151: Corrective Action Requirements as required by the Department.

(h) Except in buildings, structures and underground utility conduits for which 310 CMR 19.132(5)(g) applies, when, at any time, the concentration of explosive gasses exceeds 25% of the lower explosive limit (LEL) at the property boundary or beyond, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:

1. take immediate action to protect human health and safety;
2. notify the Department's Regional Office that covers the municipality in which the facility is located within 24 hours of the finding; and
3. undertake the actions specified under 310 CMR 19.150: Landfill Assessment Requirements and 19.151: Corrective Action Requirements as required by the Department.

(i) When the concentration of any of the parameters for which monitoring is required at 310 CMR 19.132(5)(f)1., 2. or 3. exceeds any permit standards or federal or state regulations the owner or operator shall notify the Department within 14 days of the finding and undertake the actions specified under 310 CMR 19.150: Landfill Assessment Requirements and 19.151: Corrective Action Requirements as required by the Department.

<u>19.133: Maintenance of Environmental Control and Monitoring Systems</u>

(1) Landfill environmental control and monitoring systems shall be maintained and repaired or replaced as provided for in 310 CMR 19.133:

(a) The landfill shall be operated in a manner which will protect all environmental control systems as approved in the Operation and Maintenance plan and monitoring systems as approved in the Operation and Maintenance plan or permit.

(b) The operator shall ensure the regular maintenance of all landfill environmental control systems as approved in the Operation and Maintenance plan or permit.

(c) The operator shall notify the Department of the existence of damaged or destroyed environmental control systems or monitoring devices and the extent of the damage. The operator shall submit such notification, in writing, within 14 days of discovery and shall provide a schedule for repair or replacement for approval by the Department. Repair or replacement of monitoring devices shall be completed prior to the next scheduled sampling round.

(d) Surface water, ground water and gas monitoring locations shall be maintained so as to meet the requirements set forth in 310 CMR 19.118.

(e) The operator shall notify the Department of the existence of a damaged or destroyed surface water sampling location marker and the extent of the damage. The operator shall submit such notification, in writing, within 14 days of discovery and shall provide for repair or replacement of the location marker prior to the next scheduled sampling round.

<u>19.140: Landfill Closure Requirements</u>

(1) <u>General.</u> Any facility that must stop accepting solid waste in accordance with 310 CMR 19.000, any permit, authorization or order issued by the Department or a court of competent jurisdiction or under any other circumstances shall comply with the requirements of 310 CMR 19.140.

(2) <u>Notification of Voluntary Closure.</u> The owner and/or operator shall notify the Department no later than six months prior to the date that the facility will stop accepting solid waste.

(3) Closure Assessment. The owner or operator of a landfill shall initiate an assessment in accordance with 310 CMR 19.150 prior to landfill closure to determine and evaluate the extent of any adverse impact(s) of the landfill on the environment as a result of the construction or operation and maintenance of the facility and develop a corrective action design in accordance with 310 CMR 19.151.

(4) Preparation and Submittal of Final Closure/Post-closure Plans. The operator shall submit the final closure/post-closure plan prior to undertaking any closure construction activities. In addition to the information provided in the conceptual closure/post-closure plan developed in accordance with 310 CMR 19.104(6), the final closure/post-closure plan shall include:

(a) a report containing the findings of the site assessment required under 310 CMR 19.150; (b) a proposed schedule of remedial or corrective actions, as required based on the assessment or other information, in accordance with 310 CMR 19.150 and 19.151;

(c) modified design plans, if necessary, based upon deviations from the conceptual closure plans and/or the actions required under 310 CMR 19.150 and 19.151; and

(d) a description and schedule of proposed post-closure maintenance, monitoring and assessment activities necessary to protect the public health, safety and the environment.

(5) Department Review. The Department may approve the final closure and post-closure plans if the Department is persuaded by the applicant that the provisions in the plan would ensure that:

(a) solid waste disposal activities shall be terminated upon the facility stop date;

(b) no conditions exist that could attract vectors or cause nuisance conditions; (c) the facility will be deactivated or closed; and

(d) all practicable measures shall be taken to prevent pollution of the environment or a threat to public health or safety from the site.

(6) Completion of Closure. A facility shall be deemed closed on the date of the Department's written determination that the closure of the facility has been completed in accordance with the permit.

(a) A facility shall be deemed to be closed for the purposes of 310 CMR 19.000 on the date of the Department's determination. A facility shall be deemed to be closed only after the applicant has documented that the Notice of Landfill Operation has been recorded or registered as required pursuant to 310 CMR 19.141 and the Department has issued its determination of closure.

(b) The post-closure period shall begin on the date of the Department's determination.

19.141: Notice of Landfill Operation

Prior to obtaining a determination from the Department that closure of a landfill has been completed or an approval from the Department for a post-closure use of a landfill, the owner or operator of a landfill shall record a notice that a landfill has been operated on a site in the registry of deeds or in the registry section of the land court for the district wherein the landfill lies in accordance with M.G.L. c. 111, § 150A. The notice shall be captioned "Notice of Landfill Operation" and shall contain a title reference citing the source of title of the land on which the facility was constructed (i.e., the deed with book and page number if recorded land; probate number if acquired through a probate proceeding; and certificate of title number if registered land). This Notice shall be incorporated either in full or by reference into all future deeds, and any other instrument of transfer, which conveys an interest in and/or a right to use the land on which the facility or a portion thereof, is located. The Notice shall contain the following:

(a) identification of record owners of the property;

(b) a description of the landfill site, by metes and bounds and by reference to an appropriate map or plan to be recorded therewith, signed by a qualified professional engineer or a land surveyor, depicting the boundaries of the filled area and the location of any and all leachate collection devices, gas and ground water monitoring wells associated with the site;

(c) a detailed description of the type and extent of the final cap and cover on the landfill; (d) a description of the nature and duration of post-closure maintenance and monitoring requirements for the site and the amount and form of the financial assurance requirements pursuant to 310 CMR 19.000;

(e) reference to the Department file number or other Department means for identifying the landfill file; and

(f) the following statement:

"The premises described herein are subject to the provisions of M.G.L. c. 111, § 150A and 310 CMR 19.000. Said premises shall not be used for any purpose other than as a landfill without the approval of the Department of Environmental Protection. Transfer of the facility requires the transfer of the permit in accordance with 310 CMR 19.044. The procedure for Department approval for any use other than as a landfill is set forth at 310 CMR 19.143. Such Department approval of other use is transferable or assignable only upon approval of the Department."

19.142: Landfill Post-closure Requirements

(1) General. The owner, successors or assigns shall maintain, care for and monitor the site during the post-closure period in order to ensure the integrity of the closure measures and to detect and prevent any adverse impacts of the site on public health, safety or the environment.

(2) Post-closure Period. For the purposes of 310 CMR 19.142 the post-closure period shall extend for a minimum of a 30 year period.

(3) Post-closure Period Waiver. The Department may, upon request, reduce the post-closure period to less than 30 years if it finds that a shorter period will be sufficient to protect public health, safety, and the environment. The Department's review will include, but not be limited to, a consideration of the quantity and quality of leachate generated by the landfill, ground water monitoring results, characteristics of the waste disposed, stability of the waste, design of the facility and location of the site.

(4) Post-closure Period Extension. The post-closure period may be extended by the Department at any time prior to the time that the post-closure period is due to expire where the Department finds an extension is necessary in order to ensure protection of public health, safety or the environment or to mitigate adverse impacts.

(5) Post-closure Requirements. During the post-closure period the owner or operator (or successors or assigns thereto) shall perform the following activities on any closed portion of the facility:

(a) take corrective actions to remediate and/or mitigate conditions that would compromise the integrity and purpose for the final cover;
(b) maintain the integrity of the liner system and the final cover system;
(c) collect leachate from and monitor and maintain leachate collection system(s);
(d) monitor and maintain the environmental monitoring systems for surface water, ground water and air quality;
(e) maintain access roads;
(f) maintain landfill gas control systems;
(g) protect and maintain surveyed benchmarks; and
(h) have the landfill inspected by a third-party inspector in accordance with 310 CMR 19.018 and such third-party inspection shall be conducted in accordance with the frequency and other requirements of 310 CMR 19.018, unless more frequent inspections or more stringent requirements are contained in the terms of any approval, order or other document issued by the Department pursuant to 310 CMR 19.000.

(6) Inspection Requirements. The owner, operator, successor or assigns shall have the facility inspected by a third-party inspector in accordance with 310 CMR 19.018.

(7) Additional Measures. The owner, successors or assigns shall institute such additional measures during the post-closure period as the Department deems necessary for the protection of public health or safety or the environment.

(8) Termination of the Post-closure Period. The post-closure period shall end on the date of the Department's written determination that the post-closure care, maintenance and monitoring of the site are no longer required. Said written determination in no way limits or absolves the owner of liability for the site in the future.

19.143: Post-closure Use of Landfills

(1) Applicability. Pursuant to M.G.L. c. 111, § 150A no site on which a facility was operated shall be used for any other purpose without:

(a) a written approval for any post-closure use on a landfill's final cover or affecting an appurtenance to a landfill, including but not limited to appurtenances required for the management of leachate, landfill gas and stormwater; or
(b) a presumptive approval in accordance with 310 CMR 19.034 for any other type of post-closure use at a landfill facility.

(2) Submission of Post-closure Use Plans. Any person proposing to use a landfill for any purpose following closure of a facility shall submit plans for the post-closure use to the Department for review.

(3) Criteria for Approval of Post-closure Use. Any post-closure use of a landfill shall be accomplished such that:

(a) the final contours of the landfill are not altered, unless the Department determines:

1. the disturbance is necessary to the proposed use and that it will not result in an adverse impact to public health, safety or the environment; or

2. the disturbance is necessary to reduce threats to public health, safety or the environment;

(b) the integrity of the final cover, the components of any containment system and the function of the facility's monitoring systems are not impaired:

(c) drainage facilities, ponds, swales, ditches and other erosion/sedimentation controls are maintained.

(4) Post-closure Construction. Construction during the post-closure phase shall be accomplished in accordance with the following:

(a) buildings shall be above-grade structures. Any penetration of the landfill final cover shall be designed and constructed to ensure that the integrity of the final cover is maintained. Construction of basements which penetrate the low permeability layer is prohibited;

(b) buildings shall be constructed to prevent accumulation of gas within the structure. Buildings shall include gas monitoring and warning systems and may be required to include an active gas venting system; and

(c) all utility connections shall be designed and constructed with flexible connections.

19.150: Landfill Assessment Requirements

(1) Applicability.

(a) General. An assessment shall consist of all activities, as determined by the Department, required to identify the existence, source, nature and extent of pollution or threat of pollution, the extent of the adverse impact from any pollution and the feasible cost-effective alternatives available to correct or reduce the impacts of pollution. This shall include, but is not limited to, the identification and evaluation of all potential and actual migration pathways and receptors including the determination of exposure point concentrations.

(b) When an Assessment is Required. A landfill assessment shall be conducted:

1. when required by the Department pursuant to 310 CMR 19.132(2)(j);

2. when required by the Department pursuant to 310 CMR 19.132(5) when explosive gases exceed concentrations as specified in 310 CMR 19.132(5) or landfill gases present a threat of pollution as specified in 310 CMR 19.132(5);

3. where a secondary leachate collection system or leak detection system exists at the landfill, the quantity of leachate detected in the secondary leachate collection system or leak detection system exceeds the design leakage, as specified in 310 CMR 19.132(3);

4. prior to final closure of the landfill as specified in 310 CMR 19.140(3); or

5. such other time as the Department determines that a landfill or dumping ground presents a threat to public health, safety or the environment.

(2) Department Determinations. Upon submittal of an Assessment or Corrective Action Alternatives Analysis, the Department shall make one of the following determinations:

(a) The Assessment or Corrective Action Alternatives Analysis is approved. The Department may impose terms and conditions on its approval, including a schedule and sequence for submission of further data and implementation of the response actions; or

(b) The Assessment or Corrective Action Alternatives Analysis is incomplete, inadequate or inconsistent with 310 CMR 19.000 or other applicable laws or regulations and further activities are required.

(3) Assessment Process. An assessment shall be conducted in three phases: initial site assessment; comprehensive site assessment; and corrective action alternatives analysis. At the end of each phase, based on the results of the analyses provided in accordance with approved plans, the Department shall determine if a subsequent phase shall be conducted and specify the scope of work. The Department may consider such factors as the potential threat to public health and the environment, costs and benefits of further study, comparative implementation and maintenance costs and other relevant factors in making its determination on subsequent phases of assessment or corrective action.

(4) Initial Site Assessment.

(a) General. The owner or operator shall obtain and submit such data as the Department determines is necessary to adequately describe the physical characteristics of the landfill and the surrounding environment, document the operational history of the landfill, and develop the scope for the comprehensive site assessment.

(b) Content of Initial Assessment. The initial site assessment shall consist of a number of site-specific tasks as determined by the Department.

(5) Comprehensive Site Assessment.

(a) General. The owner or operator shall obtain and submit such data as the Department determines is necessary to characterize the impact of the landfill on public health, safety and the surrounding environment and develop the scope for any further study.

(b) Content of Comprehensive Assessment. The comprehensive assessment shall consist of a number of site-specific tasks as determined by the Department.

(6) Corrective Action Alternatives Analysis.

(a) General. The Corrective Action Alternatives Analysis shall analyze options for corrective actions to eliminate or mitigate the potential adverse impact caused by conditions at the facility and to complete final closure in accordance with 310 CMR 19.140: Landfill Closure Requirements. In considering an alternative for corrective action, the owner or operator shall consider those actions that are necessary to comply with the provisions of 310 CMR 40.0114 and to minimize to the extent feasible the potential for adverse future impacts from the landfill.

(b) Content of Alternatives Analysis. A corrective action alternatives analysis shall consist of the following three components:

1. Corrective Action Objectives. 310 CMR 19.150(6) shall identify the environmental and public health impacts of the landfill. The analysis shall include at a minimum the specific objectives each alternative is intended to achieve and the means that may be employed to achieve those objectives.

2. Alternatives Analysis. 310 CMR 19.150(6) shall present and analyze at least two options for site corrective action, one of which shall consist of a no-action alternative. At a minimum, each option's likely effectiveness in achieving the corrective action objectives outlined in 310 CMR 19.150(6)(b)1., its overall cost, and implementability must be considered.

3. Recommended Option. 310 CMR 19.150(6) shall specify which of the options discussed in the alternatives analysis is recommended. The owner or operator shall provide a detailed justification for recommending a particular option above the others considered.

(7) Assessment Schedule.

Except as may be allowed pursuant to 310 CMR 19.150(7)(d), the following schedule shall be adhered to in conducting the above three phases of site assessment.

(a) The Initial Site Assessment shall be initiated within 30 days of notification by the Department of the need to conduct the Initial Site Assessment. The initial Site Assessment shall be completed in accordance with the schedule established by the Department.

(b) A scope of work for the Comprehensive Site Assessment shall be developed and submitted to the Department for approval within 30 days of completion of the Initial Site Assessment, unless the Department determines, pursuant to 310 CMR 19.150(2), that a Comprehensive Site Assessment is not required. The Comprehensive Site Assessment shall be initiated within 30 days of the Department's approval of the scope of work and completed in accordance with the schedule established by the Department.

(c) A scope of work for the Corrective Action Alternatives Analysis shall be developed and submitted to the Department for approval within 90 days of the completion of the final round of environmental sampling at the landfill, unless the Department determines, pursuant to 310 CMR 19.150(2), that a Corrective Action Alternatives Analysis is not required. The Corrective Action Alternatives Analysis shall be initiated within 60 days of the Department's approval of the scope of work and completed in accordance with the schedule established by the Department.

(d) The Department may modify, in writing, the time periods of the assessment schedule for a public body which owns and operates its landfill to comply with the laws governing public finance and public bidding where the public body establishes that no funds are available to conduct those assessment activities within the regulatory time frames.

(8) Applicability of M.G.L. c. 21E. Nothing in 310 CMR 19.150 shall limit or restrict the Department from exercising its authority in accordance with the provisions of M.G.L. c. 21E and 310 CMR 40.000.

19.151: Corrective Action Requirements

(1) General. Corrective action shall consist of all measures necessary to address existing and potential impacts of the landfill on public health, safety and the environment as determined by the corrective action alternatives analysis and approved by the Department and to comply with the requirements of 310 CMR 40.0114.

(2) Content. Corrective action shall be conducted in two phases:

(a) Corrective Action Design. In this phase further engineering analyses shall be undertaken by the owner or operator to complete the design of the Department's approved corrective action alternative. Final design plans and an implementation schedule shall be submitted to the Department for approval.

(b) Corrective Action Implementation. This phase shall consist of implementation of the approved corrective action design. This phase shall include construction and installation of all components, post-closure monitoring and any required operation and maintenance activities.

(3) Department Approval. Upon submittal of the Corrective Action Design, the Department shall make one of the following determinations:

(a) The Corrective Action Design is approved. The Department may impose terms and conditions on its approval including a schedule and sequence for submission of further data; or

(b) The Corrective Action Design is incomplete, inadequate or inconsistent with 310 CMR 19.000 or other applicable laws or regulations and further design activities are required.

(4) Oversight of Corrective Action Implementation. The owner or operator shall provide the Department with progress reports detailing the activities undertaken to implement the approved corrective action alternative. Reports shall be filed by a registered engineer and submitted to the Department on a schedule to be approved by the Department. A registered engineer shall certify that construction of the corrective action alternative has been accomplished in accordance with approved plans.

(5) Applicability of M.G.L. c. 21E. Nothing in 310 CMR 19.151 shall limit or restrict the Department from exercising its authority in accordance with the provisions of M.G.L. c. 21E and 310 CMR 40.000.

19.200: Preamble

310 CMR 19.200 through 19.207, which follow, establish minimum performance and design standards and operation and maintenance standards for solid waste handling facilities. In combination with 310 CMR 19.001 through 19.083, these two sets of regulations govern all solid waste management activities at solid waste handling facilities. The procedures for application, approvals, authorizations, and transfers are set forth in 310 CMR 19.000 through 19.083.

19.201: Applicability

All handling facilities shall be managed in a manner consistent with 310 CMR 19.200 through 19.207 and the requirements of 310 CMR 19.001 through 19.083. Facilities and operations exempted from site assignment by the Site Assignment for Solid Waste Facilities regulations, 310 CMR 16.05: Applicability, are exempted from the requirements of 310 CMR 19.200 through 19.207.

19.202: Definitions

All terms used herein shall have the meanings set forth in 310 CMR 19.006 unless the context clearly implies or indicates another meaning.

19.203: Additional Requirements

Nothing in 310 CMR 19.000 shall be construed to limit the Department from determining on a facility or site specific basis that additional design or operation and maintenance components are required where conditions warrant such additional design or operation and maintenance measures to protect public health, safety and the environment or to mitigate potential adverse impacts. When deemed necessary by the Department, in response to conditions that have developed at a facility, the Department may require a facility to monitor air and/or surface or ground water to determine if the conditions present a threat to public health, safety or the environment.

(19.204: Handling Facility Plan: Reserved)

19.205: Handling Facility Design Requirements

(1) Storm Water Controls.

(a) Performance Standard. Storm water controls shall prevent erosion, prevent the discharge of pollutants, protect the physical integrity of the handling facility, and be managed according to applicable standards established by the Department including, but not limited to, the wetlands protection regulations at 310 CMR 10.05(6)(b) and the Department's Storm Waster Policy. For purposes of meeting the stormwater standards established by the Department, recharge shall be permitted at the handling facility only where the recharge will not adversely impact the quality of groundwater leaving the site. Peak rate attenuation shall be in accordance with that described in 310 CMR 19.205(1)(b): Design Standards, and source controls and pollution prevention measures (including design of the handling facility) shall be

implemented to prevent discharge of pollutants. This standard applies to the construction and operational phases of the handling facility.

(b) Design Standards. Storm water controls shall be designed to:

1. prevent run-on or flow onto the waste or material handling or storage areas during the peak discharge from a 24 hour, 100-year storm;
2. control the peak rate of run-off from the handling facility and paved areas of the site resulting from a 24 hour, 25-year storm.
3. control the peak rate of run-off from the handling facility resulting from a 24 hour, 100-year storm, to the extent practicable, if an evaluation of the peak rate of run-off resulting from a 24-hour, 100-year storm indicates there will be flooding up or downstream of the site using the most recent precipitation atlas approved for use by the United States National Weather Service, or their predecessor the U.S. Weather Bureau, shall be used to determine the rainfall depth associated with the 100-year storm (currently Technical Paper-40 published May, 1961).

(2) Equipment.

(a) The operator shall provide equipment in adequate numbers and of appropriate type and size for the proper operation of the handling facility in accordance with good engineering practice and in compliance with 310 CMR 19.00. All compactor or other processing units shall be in duplicate with each unit capable of handling the expected design tons per day; except that only one compactor or processing unit may be satisfactory

1. where the handling facility will handle under 150 tons per day, or
2. where adequate facilities to continue operation and/or an alternate method to handle all incoming refuse in an approved and sanitary manner in the event of a failure or breakdown is provided.

(b) The operator shall make provisions for the routine maintenance of equipment to assure satisfactory performance capability for the various operations of the handling facility.

(c) The operator shall provide at the site suitable shelter or protection for all equipment and necessary service supplies used in connection with the handling facility.

(d) The operator shall make arrangements for providing standby equipment in the event of breakdown of regular equipment. Such standby equipment shall be available for use and shall be provided within 24 hours of breakdown; otherwise the handling facility shall be closed for receipt of wastes until equipment becomes available.

(3) Weighing Facilities. The operator shall make provision on a continuous basis for the weighing or measuring of refuse delivered to the handling facility. Scales or other measuring devices may be required by the Department as follows:

(a) The operator of existing or new handling facilities receiving 100 tons or more per day shall weigh all incoming solid waste.

(b) Operators of handling facilities that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.

19.206: Construction and Demolition (C&D) Waste Processing Facilities Requirements

(1) All handling (unloading, storage, crushing, shredding, chipping, sorting, etc.) of C&D waste shall occur indoors unless otherwise approved by the Department.

(2) All processed C&D waste and recovered or recyclable materials shall be stored in a manner appropriate for that material to protect the public health, safety and the environment. In general all processed C&D wastes (i.e. C&D fires), but not necessarily recovered or recyclable materials, shall be stored in covered containers or in covered piles on impervious surfaces.

(3) All storm water, or water used for site operations, that comes in contact with C&D materials and recovered or recyclable materials shall be controlled and collected and otherwise properly managed in accordance with all applicable local, state and federal requirements prior to discharge offsite.

19.207: Handling Facility Operation and Maintenance Requirements

(1) General. Operators shall incorporate procedures and practices, in accordance with approved plans and permit conditions, which will prevent pollution of ground water, surface water and air quality and prevent dust, odors, noise and other nuisance conditions from developing.

(2) Supervision of Operation.

(a) The operator of the handling facility shall be under the overall supervision and direction of an engineer or other person qualified and experienced in matters of solid waste handling and disposal.

(b) The operator of the handling facility shall be knowledgeable of the requirements of 310 CMR 16.00 and 310 CMR 19.000, and of the general operating procedures and plans as prescribed by the design engineer.

(c) The operator shall be required to demonstrate familiarity and capability to operate equipment at the handling facility.

(3) Access to Facilities.

(a) The operator shall provide and maintain in good repair access roads at the facility. Such access roads shall be paved to minimize dust and designed and constructed so that traffic will flow smoothly and will not be interrupted by inclement weather.

(b) The operator shall limit access to the facility to such periods of time as an attendant is on duty and to those persons authorized to use the facility for the disposal of refuse.

(4) Security.

(a) The operator shall provide sufficient fences or other barriers to prevent access to the facility except at designated points of entry or exit.

(b) A gate shall be provided at all access points and shall be locked at all times when the operator or his agent is not on site or during hours when the facility is not operating.

(5) Posting of the Handling Facility. The operator of a handling facility shall post signs at all access points to the facility which, at minimum, include the following information:

(a) the name(s) of the owner and operator of the facility;
(b) a 24 hour emergency telephone number for the facility;
(c) the hours of operation;
(d) a list of solid wastes banned or restricted pursuant to 310 CMR 19.017;
(e) other limitations and conditions of access to the facility; and
(f) where established by the municipality, penalties for unauthorized use.

(6) Unloading Refuse. The operator shall provide for continuous supervised unloading of refuse from incoming vehicles and shall post appropriate signs or other means to indicate clearly where incoming vehicles are to unload the refuse by direction of the attendant or equipment operator on duty.

(7) Special Wastes. No solid waste that has been classified as a special waste pursuant to 310 CMR 19.061(2): Special Waste, shall be received or handled at any handling facility unless the provisions of 310 CMR 19.061 are satisfied and the special waste is handled in accordance with any conditions specified by the Department in granting approval to handle the special waste and in accordance with the handling provisions of 310 CMR 19.061.

(8) Banned or Restricted Solid Wastes. Solid wastes which have been banned or restricted from transfer or disposal pursuant to 310 CMR 19.017: Waste Bans, shall be managed at a handling facility in accordance with the approved facility plan prepared and approved in accordance with 310 CMR 19.017(5) unless an exception has been granted under 310 CMR 19.017(6).

(9) Hazardous Waste.

(a) No operator shall handle any material subject to the Hazardous Waste Regulations, 310 CMR 30.000, at a solid waste handling facility permitted pursuant to M.G.L. c. 111, § 150A, except that waste oil and household hazardous waste may be collected at a facility pursuant to 310 CMR 19.207(10).

(b) The operator shall implement a program, approved by the Department, for detection and exclusion of hazardous wastes.

(c) The operator shall, within 24 hours, notify the Department and the board of health of the discovery of any material subject to 310 CMR 30.000: Hazardous Waste.

(10) Household Hazardous Waste and Waste Oil Collections at Handling Facilities. If household hazardous waste and waste oil are collected at handling facilities, the household hazardous waste and/or waste oil shall be collected with prior notice to DEP and in compliance with either:

(a) 310 CMR 30.392: Events for the Accumulation of Household Hazardous Waste and/or Hazardous Waste Generated by Very Small Quantity Generators, or

b) 310 CMR 30.393: Centers for the Accumulation of Hazardous Waste Generated by Households and/or Very Small Quantity Generators.

(11) Bulky Waste.

(a) An operator may accept bulky wastes where:

1. the handling of such wastes is consistent with the facility's site assignment and/or permit; and
2. the handling of such wastes can be carried out in a manner which is manageable and compatible with the facility's operation and maintenance plan and environmental control systems.

(b) The Department may disallow or place conditions on the handling of bulky waste at a handling facility in order to protect the engineering or operational integrity of the facility. (c) The board of health may, by regulation, specify the maximum size of large, heavy, or bulky items to be managed at the handling facility and may prohibit altogether the handling of certain items.

(d) If brush is accepted at the handling facility, provisions should be made for the brush to be received in bundles no larger in size than can be handled in an acceptable and sanitary manner by the specific equipment. Brush should not be allowed to accumulate beyond 48 hours after deposition at the handling facility.

(12 Liquid Wastes.

(a) No liquid wastes shall be managed at a handling facility. With the exception of septage, contained liquid wastes generated by and produced in the normal operation of a household shall not be considered to be liquid wastes unless expressly excluded through 310 CMR 19.017: Waste Bans.

(b) For the purpose of 310 CMR 19.130 liquid wastes means any material that drains freely or contains free draining liquids, as determined by using the Paint Filter Liquids Test, Method 9095 as described in USEPA Publication SW-846.

(13) Bird Hazards. The operator of facilities located in proximity to airports shall operate and maintain the facility in such manner as to minimize, to the extent practicable, the potential for the facility to pose a bird hazard to aircraft.

(14) Dust Control. The operator shall undertake suitable measures to control dust wherever and whenever necessary at the site, the access road, and any other areas related to or under control of the waste handling facility operator to prevent nuisance conditions. Water shall not be used for dust control in amounts that produce excessive infiltration, ponding, runoff or erosion.

(15) Vector Control.

(a) The operator shall cause routine waste handling facility operations to be carried out promptly in a systematic manner and shall take preventative measures to maintain conditions unfavorable for the attraction or production of insects, birds, rodents and other vectors.

(b) The Department may require a routine program for the control and elimination of insects and rodents and other vectors at the or handling facility site. The operator shall cause supplemental control measures, including but not limited to the use of effective insecticides and rodenticides, to be implemented when necessary.

(c) The application of pesticides shall be made only by a pesticide operator licensed by the Massachusetts Pesticide Board.

(16) Control of Wind-blown Litter.

(a) The operator shall take measures to prevent the scattering of refuse and wind-blown litter, including incorporating litter fencing, natural barriers or other devices to prevent the scattering of solid waste beyond the facility.

(b) The operator shall provide for routine maintenance and general cleanliness of the entire handling facility area. Such provisions are to be detailed on the engineering plans or written operating procedures.

(17) Staffing.

(a) The operator shall provide an adequate number of trained staff to ensure that the facility is operated and maintained as designed and in accordance with good solid waste management practices.

(b) During hours of operation the operator shall be continuously present at the handling facility.

(18) Employee Facilities.

(a) The operator shall provide proper shelter and facilities for employees working at the facility. The shelter and facilities shall contain:

1. sufficient light and heat;
2. a safe drinking water supply;
3. sanitary handwashing and toilet facilities;

4. an operational telephone or two-way radio system; and

5. other equipment or appurtenances necessary for full compliance with federal and state worker health and safety requirements.

(19) Accident Prevention and Safety.

(a) All employees shall be instructed in the principles of first-aid and safety and in the specific operational procedure necessary to prevent accidents.

(b) The operator shall provide and maintain adequate first-aid supplies at the site at all times.

(c) The operator shall provide for two-way radios or telephones and ensure that the numbers for emergency medical care and ambulances are posted at the site.

(20) Fire Protection. The operator shall take suitable measures for the prevention and control of fires at the facility by complying with at least the following:

(a) Make available at the facility an adequate supply of water under pressure with sufficient fire hose, unless a fully-manned fire station is located within two miles;

(b) A separate area shall be provided, located away from combustible materials, refuse and buildings, for quick dumping and quenching or snuffing of hot loads;

(c) Arrange for a nearby fire department to provide emergency service whenever called; and (d) Mount detachable fire extinguishers, maintained in working order, on all equipment and in all buildings.

(e) The operator shall ensure that no materials are stored, held, maintained or placed at a handling facility in such a manner as to pose a fire hazard.

(f) The operator shall be responsible for seeking fire-fighting assistance, initiating and providing assistance and/or resources for fire-fighting actions until all smoldering, smoking and burning cease.

(21) Recycling Operations.

(a) The operator may make provisions for the recycling of materials provided that a definite plan of procedure is implemented and followed to enable said operation to be carried out in an organized, sanitary, orderly and dependable manner with minimal interference to the routine handling facility operations.

(b) Any container, or specially designed enclosed area, used for the storage of recyclable materials (such as glass, cans, paper, etc.) shall be clearly identified and maintained in a clean and sanitary condition and the surrounding areas shall be kept in a similar condition.

(c) All accumulated recyclable materials shall be removed from the facility at least every 60 days and/or at such other times as may be specified by the Department.

(d) Recyclable materials of a nature or in quantities that cause odor or pose a threat to the public health or are detrimental to the environment or the surrounding area shall not be accumulated.

(22) Records for Operational and Plan Execution.

(a) The operator shall maintain a daily log to record operational information, including but not limited to the type and quantity of solid waste received and the status of all environmental control or monitoring systems.

(b) The operator of existing or new handling facilities receiving 100 tons or more per day shall weigh all incoming solid waste.

(c) Operators of handling facilities that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.

(d) The operator shall submit to the Department, no later than February 15th of each calendar year, an annual report summarizing the facility's operations for the previous calendar year or portion of a calendar year that waste is handled at the facility. Where the Department provides a form for annual reporting, the report shall be made on, and shall contain, all information as requested by that form. Otherwise, the report shall describe and summarize:

1. the amount of solid waste handled during that year with the quantity reported in tons;
2. all environmental monitoring and sampling data trends from ground water, surface water and gas monitoring systems from the monitoring required by the facility permit; and
3. a demonstration of how the handling facility's operations during the year complied with the provisions of the recycling and composting plan contained as part of the facility's solid waste management permit.

(23) Screening and/or Fencing. The Department may require that the handling facility be suitably screened by fencing, or other approved methods, to shield the area from adjoining properties.

(24) Open Burning. No open burning of any refuse, including brush, wood or diseased trees shall be permitted at the handling facility site at any time of the year except as may be expressly permitted by the Department pursuant to 310 CMR 7.07: U Open Burning.

(25) Inspections. The facility shall be inspected by a third party inspector in accordance with 310 CMR 19.018, and such third-party inspection shall be conducted in accordance with the frequency and other requirements of 310 CMR 19.018, unless more frequent inspections or more stringent requirements are contained in the terms of any approval, order or other document issued by the Department pursuant to 310 CMR 19.000.

(26) End-of-life Mercury-added Products. Mercury-added products that are hazardous waste pursuant to 310 CMR 30.000: Hazardous Waste shall be handled in accordance with 310 CMR 30.000: Hazardous Waste. Mercury-added products that are not hazardous waste shall be handled in accordance with 310 CMR 76.05(2).

CLASS II RECYCLING PROGRAM

19.300: Preamble

310 CMR 19.300 through 19.303 establishes the process and requirements for Waste to Energy Facilities that were in operation before December 31, 1997 to qualify as a Waste Energy Generation Unit under 225 CMR 15.00: Renewable Energy Portfolio Standard – Class II.

19.301: Applicability

310 CMR 19.300 only applies to a Waste to Energy Facility that was in operation before December 31, 1997 and is operating in compliance with 310 CMR 7.08(2): Municipal Waste Combustors and, and the Facility's Solid Waste permit.

19.302: Definitions

All terms used in 310 CMR 19.300 through 19.303 shall have the meanings set forth in 310 CMR 19.006 unless the context expressly states otherwise. The following additional terms shall have the following meanings unless the context clearly indicates otherwise.

Dedicated Account means the account established by a Waste to Energy Facility that has qualified as a Waste Energy Generation Unit for receipt of revenue from the sale of any RPS Class II Waste Energy Generation Attribute.

Facility or Waste to Energy Facility means a Combustion Facility that generates Waste Energy.

[Note to reader: The following five definitions will follow the corresponding definitions found at 225 CMR 15.00: Renewable Energy Portfolio Standard – Class II.]

Generation Attribute means a non-price characteristic of the electrical energy output of a Generation Unit including, but not limited to, the Unit's fuel type, emissions, vintage and RPS eligibility.

Generation Unit means a facility that converts a fuel or an energy resource into electrical energy.

RPS Class II Waste Energy Generation Attribute means the Generation Attribute of the electrical energy output of a specific Waste Energy Generation Unit that derives from the Unit's production of Waste Energy.

Waste Energy means electrical energy generated from the combustion of municipal solid waste.

Waste Energy Generation Unit means a Generation Unit that utilizes conventional municipal solid waste plant technology in commercial use to generate Waste Energy and has a Department approved Class II Recycling Program.

19.303: Class II Recycling Program

(1) Class II Recycling Program Application. To qualify as a Waste Energy Generation Unit, a Facility shall submit to the Department for approval a solid waste permit modification application that complies with the Class II Recycling Program requirements at 310 CMR 19.303(1) through (4). The permit modification decision issued by the Department pursuant to 310 CMR 19.303 shall be limited to the Class II Recycling Program as described in 310 CMR 19.303. The permit modification application shall be limited to matters related to the Class II Recycling Program as described in 310 CMR 19.303 and shall include, but not be limited to, the following:

(a) Waste Characterization Study. Identification of an experienced and competent professional to conduct the waste characterization study of the solid waste received at the Facility as required pursuant to 310 CMR 19.303(3), including the qualifications of such a person;

(b) Electronic Tracking System. Documentation demonstrating that the Facility has installed an electronic tracking system that records for every incoming solid waste load the following information: truck owner; container owner; truck/container type and size; date and time of delivery; and generator(s) (to the extent known); and

(c) Waste Ban Compliance Professional. Evidence of a contract with an independent third party (the Waste Ban Compliance Professional) to assess compliance with the Waste Bans at 310 CMR 19.017 by haulers and generators delivering waste to the Facility.

1. Such contract shall require the Waste Ban Compliance Professional to:
   a. Visually monitor all incoming loads on a minimum of ten random days every three months ("reporting period"). The Waste Ban Compliance Professional shall not notify the facility of the days chosen.
   b. Spread on the tip floor any load not failed based on visual monitoring but which is suspected to exceed the allowable limits for waste ban materials as specified in the facility's Waste Ban Compliance Plan.
   c. Be available to meet with the Department quarterly.
   d. Receive training from the Department on waste ban inspection protocols.
2. Loads found to be noncompliant with the Waste Bans in accordance with 310 CMR 19.303(1)(c)1. shall be recorded using photographs, weigh slips, and standardized waste tracking forms developed by the Department. Such forms may include, but not be limited to, hauler and generator information (to the extent known) and the percentage of the load that is comprised of waste ban material(s);
3. Within 15 days after the end of each reporting period, the Waste Ban Compliance Professional shall conduct a comparative analysis of the percentage of failed loads identified by the Waste Ban Compliance Professional in accordance with 310 CMR 19.303(1)(c)1. and 2. with the percentage of failed loads documented pursuant to the Facility's ongoing Waste Ban monitoring protocols in accordance with 310 CMR 19.017;
4. The Facility and its Waste Ban Compliance Professional shall be available to meet with the Department quarterly; and
5. The Waste Ban Compliance Professional shall receive training from the Department on waste ban inspection protocols.

(d) Alternative to a Waste Ban Compliance Professional. The facility may, in lieu of the provisions of 310 CMR 19.303(1)(c), place 3% of the revenue from the sale of any RPS Class II Waste Energy Generation Attribute into the Sustainable Materials Recovery Program Expendable Trust ("Trust") no later than 30 days after the receipt of funds from any such sale. These funds, which are in addition to the funds described in 310 CMR 19.303(2)(b), shall be used by the Department to hire an independent third party to perform the activities defined at 310 CMR 19.303(1)(c). If the revenue placed in the Trust pursuant to this provision is not spent by the Department in a specific state fiscal year, the excess shall be credited to the facility's obligation under 310 CMR 19.303(1)(d) for the next year.

(2) Sustainable Materials Recovery Program. A Facility shall comply with the requirements of the Sustainable Materials Recovery Program contained in 310 CMR 19.303(2) after obtaining an approval from the Department for the Facility's solid waste permit modification application to qualify as a Waste Energy Generation Unit.

(a) The Department shall develop a Sustainable Materials Recovery Program. The Department shall solicit projects on a schedule determined by the Department from eligible state agencies,

municipalities, businesses and non-profit organizations (project proponents). The projects shall be consistent with objectives contained in the Commonwealth's Solid Waste Master Plan and as further specified in the Department's solicitation. At least annually, the Department shall evaluate, assign a priority ranking, and publish a list of approved projects.

(b) A Facility shall place 50% of the revenue from the sale of any RPS Class II Waste Energy Generation Attribute into a Dedicated Account and/or the Sustainable Materials Recovery Program Expendable Trust ("Trust") no later than 30 days after the receipt of funds from any such sale. A Facility shall manage the funds in its Dedicated Account, including the revenue from the sale of any RPS Class II Waste Energy Generation Attribute and any investment income derived from such revenue, in accordance with generally accepted accounting practices and the following:

1. Segregate funds in the Dedicated Account from all other revenues and accounts of the Facility;
2. Disburse all funds in the Dedicated Account provided there are sufficient approved projects for funding;
3. Remit to the Trust any funds in the Dedicated Account not encumbered by a binding commitment with a project proponent for an approved project(s) within 12 months; and
4. Remit to the Trust any funds in the Dedicated Account that have not been expended within 24 months unless otherwise approved by the Department.

(c) Conduct Project or Contract with Project Proponent. A Facility shall use the funds in its Dedicated Account solely to:

1. Conduct or operate in conjunction with a project proponent a project from the list in 310 CMR 19.303(2)(a), as approved and directed by the Department; and/or,
2. Contract directly with any project proponent(s) to fund and manage projects from the list in 310 CMR 19.303(2)(a), as approved and directed by the Department.

(d) The Department shall establish and manage the Trust in accordance with the terms of such Trust. The Department shall utilize the funds of the Trust to administer and oversee Class II Recycling Programs, including allocation of funds for the list of approved projects as part of the Sustainable Materials Recovery Program.

(e) Each project proponent that receives funding through the Sustainable Materials Recovery Program shall spend such funds in accordance with the description of its project, the Department's solicitation, and any ensuing contract between the project proponent and the Department (for projects funded from the Trust) or between the project proponent and the Facility (for projects funded from a Facility's Dedicated Account). Each such project proponent shall report to the Department within 30 days of the completion of the project on the implementation of the approved project on a form developed by the Department. Failure to report shall prohibit the project proponent from receiving or applying for funds in future years until such reporting requirement is met.

(3) Waste Characterization Study. A Facility shall:

(a) Complete a waste characterization study of the solid waste received at the Facility in accordance with 310 CMR 19.303(1)(a) within 18 months of the approval of its Class II Recycling Program and conduct such study every three years thereafter. Such study shall include but not be limited to an identification of the volumes and weights of various components of the waste stream;

(b) Six months prior to conducting the study, the Facility shall submit to the Department for approval the methodology for such study;

(c) The Facility shall submit the study as part of the annual facility report for the year in which the study is conducted; and

(d) After the first waste characterization study, if the Department finds the character of the waste is similar at Facilities owned by the same entity, the Department may approve a methodology that combines some or all Facilities owned by the same entity.

(4) Reporting.

(a) 30 days after the sale of any RPS Class II Waste Energy Generation Attribute (Attribute), a Facility shall report to the Department the following information: the number of Attributes sold; the price of the individual Attribute(s); the total funds from the sale; and the sum to be placed in its Dedicated Account and/or in the Trust. The Department may periodically audit the sale of any Attribute(s) and a Facility's Dedicated Account. The Facility shall cooperate with the Department concerning any such audit;

(b) A Facility shall submit, within 15 days of the end of the reporting period, in an electronic format to be specified by the Department, the data collected pursuant to 310 CMR 19.303(1)(c)2. and 3. for that reporting period. Within 15 days of a written request from the Department, a Facility shall submit in an electronic format to be specified by the Department data collected from the electronic tracking system installed pursuant to 310 CMR 19.303(1)(b);

(c) A Facility shall include in its annual facility report to the Department, on a form developed by the Department, the following information:

1. the implementation of the Facility's approved Class II Recycling Program;
2. the Facility's obligations under 310 CMR 19.303(2), including but not limited to, information about the projects the Facility conducts or operates pursuant to 310 CMR 19.303(2)(c)1. and that it contracts for pursuant to 310 CMR 19.303(2)(c)2., including the dollars spent and the equipment or services purchased; and
3. the waste characterization study in accordance with 310 CMR 19.303(3).

(5) Recordkeeping. A Facility shall retain a copy of all records required pursuant to 310 CMR 19.300 through 19.303, whether written or electronic, for at least five years following the creation of any such record. This five year period shall be extended automatically for the duration of any enforcement action against the Facility under 310 CMR 19.303, including any appeal thereof, until the conclusion of such action or appeal.

(6) Termination, Suspension, and Revocation.

(a) A Facility may terminate its qualification as a Waste Energy Generation Unit by notifying the Department in writing that the Facility will no longer implement a Class II Recycling Program. After submitting such notification, a Facility must submit a new solid waste permit modification to re-qualify as a Waste Energy Generation Unit.

(b) The Department may suspend or revoke the solid waste permit modification that qualifies a Facility as a Waste Energy Generation Unit for failure to comply with 310 CMR 7.08(2), 310 CMR 19.000, or the Facility's Solid Waste Permit.

REGULATORY AUTHORITY

310 CMR 19.000: M.G.L. c. 21A, §§ 2 and 8; c. 111, § 150A.