

TOWN OF TRURO

Conservation Commission

POLICIES, PROCEDURES AND REGULATIONS
PROMULGATED PURSUANT TO THE WETLANDS
PROTECTION ACT, M.G.L. c. 40 §8C AND THE TRURO
CONSERVATION BY-LAW

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TRURO CONSERVATION COMMISSION

TABLE OF CONTENTS

SECTION I – INTRODUCTION

Opening Statement.....	2
A Guide to Wetlands....	3

SECTION II – SUBSTANTIVE AND PROCEDURAL REGULATIONS

Chapter 1 Conservation Commission Organization and Operation	5
A. The Commission	5
B. Meetings and Hearings of the Commission	6
C. Procedure for Adoption of Regulations	7
Chapter 2 General Procedures; Applications to the Commission.....	8
A. Jurisdiction.....	8
B. Request for Determination and Notice of Intent	8
C. Notice of Intent	9
D. Issuance, Recording and Notice of Orders of Conditions	10
E. Standard Order of Conditions	10
Chapter 3 A: Consultants	14
Chapter 3 B: Coastal Management – Erosion Control Projects	15
Chapter 4 Coastal Management Plan – Biomimicry, Sand and Drift Fence Guidelines.....	18
Chapter 5 Administrative Review	26
Chapter 6 Beach Raking Regulations.....	27

SECTION III– WETLANDS FEE SCHEDULE

Fee Schedule	29
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APPENDICES

Appendix A: Massachusetts General Law (MGL) Chapter 40; Power and Duties of Cities and Towns.....	31
Appendix B: Massachusetts General Law (MGL) Chapter 131, Wetlands Protection Act.....	33
Appendix C: Truro Conservation Bylaw.....	43
Appendix D: Model Order of Conditions for Erosion Control Projects	48
Appendix E: Model Escrow for Erosion Control Projects	53
Appendix F: Approved Plantings	59

SECTION I - INTRODUCTION

OPENING STATEMENT

The Primary objective of the Conservation Commission is to protect the community's natural resources. In Massachusetts, Conservation Commissions' authority comes from several sources: the Conservation Commission Act (MGL Chapter 40 section 8C) for open space protection; the Wetlands Protection Act (MGL Chapter 131 section 40) for protecting wetlands and waterways; and the home rule provisions of the state constitution for adopting wetlands bylaws. The Conservation Commission reviews and acts on permit applications for projects within resource areas or 100 foot buffer zones to resource areas.

The Commission invites the public to attend our meetings, become involved, volunteer, request Commission presentations to aid in public awareness about wetlands, and to provide comments on any of the projects brought before us.



A GUIDE TO WETLANDS

WHAT WETLANDS ARE PROTECTED?

By law, wetlands are defined by the kind of plants that grow in them (such as jewel weed, red maples, or skunk cabbage) and the kind of soils that exist there. The Conservation staff or a wetland specialist can help you determine whether you live near a wetland.

The Commission must review any work within a resource area such as a:

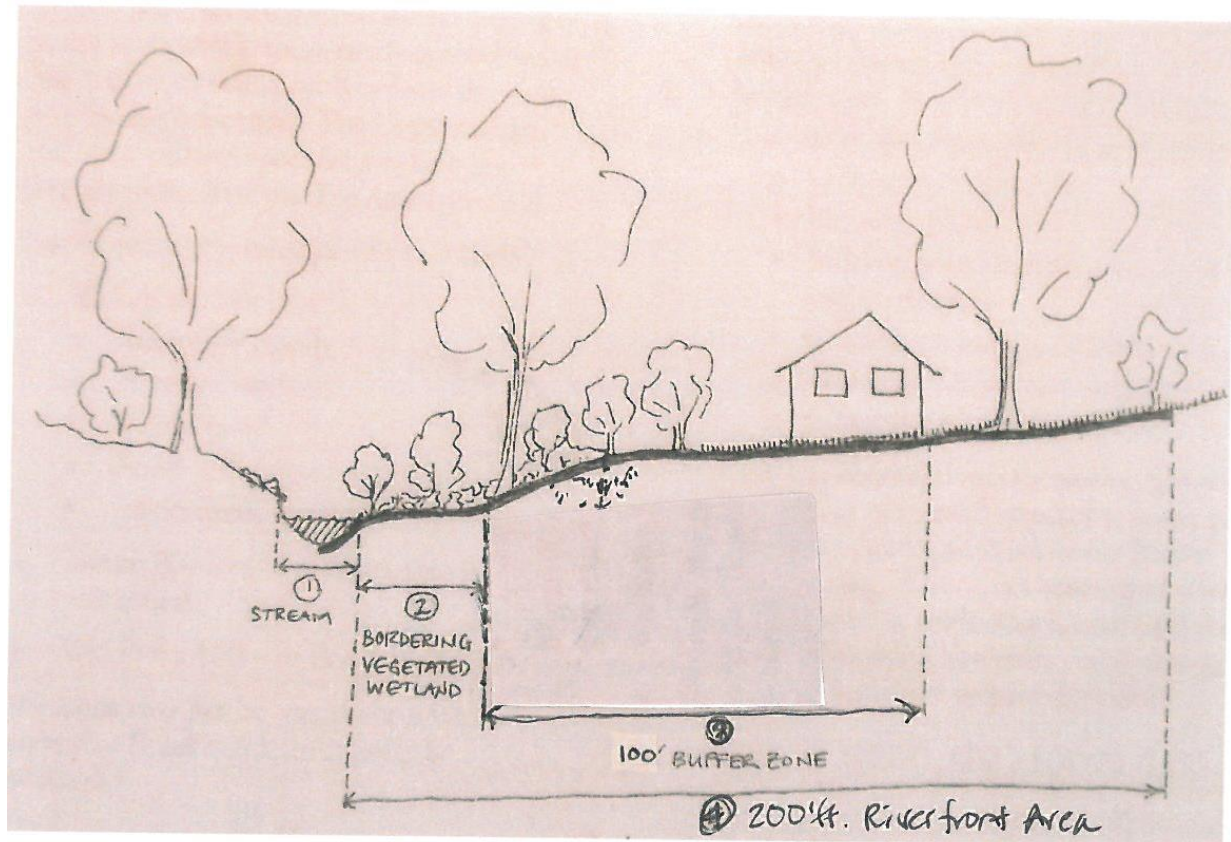
- Swamp or marsh
 - Forested wetland
 - Vernal pool
 - Water body (Pond, lake, ocean)
 - Stream or river
 - Riverfront Area, extending 200 feet from mean annual high water from a stream or river
 - Within the 100 year flood zone (Land Subject to Flooding)
 - Coastal Bank
 - Coastal Beach
 - Barrier Beach and Coastal Dune
 - Land Subject to tidal action
- and*
- Activities within 100 feet of any area listed above, known as the Buffer Zone.

Wetlands are valuable because they reduce flooding, provide wildlife habitat, help recharge aquifers, and filter polluted water.

WHAT SHOULD I DO IF I HAVE A PROJECT IN MIND?

1. Determine if your project will occur within a wetland or buffer zone – see the schematic below
2. Call the Conservation Department at 508-349-7004 x31 or 32 with any questions you may have.
3. In general, you must fill out a **permit application** (we have the forms for you or you can visit the MassDEP's website), notify your abutters (we have those forms too), attend a **public hearing**. The Commission is responsible for issuing a permit for the work.

SCHEMATIC OF WETLAND AREAS



ANY ONE OF THESE AREAS ARE WITHIN CONSERVATION COMMISSION JURISDICTION

WHAT ACTIVITIES ARE REGULATED?

The Conservation Commission must review all activities that will alter wetlands or their buffer zones.

Regulated activities include:

- Constructing docks, piers, stairways and other structures
- Cutting trees or shrubs
- Reconstructing lawns
- Building or constructing structures or a septic system
- Grading, excavating, or filling
- Changing storm water discharge

You can maintain lawfully existing (grand-fathered or permitted) structures, lawns and landscapes, but **cutting of whole trees, vista pruning, clearing understory, construction, earth disturbing activities, or drainage altering activities require a permit.** *Remember: You are responsible for activity that occurs on your property. Before you hire a tree company, landscaper, or contractor call the Conservation Department to determine if you need a permit.*

SECTION II – SUBSTANTIVE AND PROCEDURAL REGULATIONS

Chapter 1 - Conservation Commission Organization and Operation A. The Commission

1. Elections The officers of the Commission shall be elected from the membership annually at the first meeting of the Commission after the annual town meeting. The meeting shall be designated the Election Meeting. The elected officers shall be chair and vice chair.
2. Chair. The chair shall, in addition to the duties imposed by law, preside at all meetings of the Commission at which the chair is present, and direct the work of the Commission, including the calling of meetings of the Commission. The chair shall appoint members to such committees as the Commission may create by vote, shall designate chairs of same, and shall be an ex-officio member of all committees.
3. Vice Chair. The vice chair shall preside at all meetings of the Commission in the absence of the chair, and shall perform all duties and shall have all powers of the chair in case of absence or incapacity of the chair.
4. Conservation Agent. The Conservation Agent appointed by the Town shall serve as Treasurer to the Commission, when necessary.
5. Consultants. The Commission may, by vote at any meeting, appoint consultants to the Commission. Where the cost of a consultant is to be borne by an applicant, the consultant shall be appointed in conformity with 3.A.1, et seq. Commission consultants shall not have the right to vote, nor to represent themselves as official members of the Commission, but shall have the right to participate in meetings, including Executive Sessions, and activities of the Commission as the chair may designate.
6. Duties of Members. The members of the Commission shall perform the duties and responsibilities as set forth in M.G.L. ch.40 §8C and under the Wetlands Protection Act and such other laws and statutes, including the Truro Local Conservation By-Law, under which the Commission has jurisdiction or responsibility. Members shall make every effort to attend all meetings and perform all duties assigned by the chair. Members unable to attend a meeting of the Commission shall notify the Conservation Agent, Commission Secretary or Chair.
7. Committees: Committees may be created by vote of the Commission as such committees may be needed. These committees shall be responsible for planning within their specific area of concern and for reporting the results of this planning to the Commission. They shall act in the name of the Commission only when directed to do so by vote of the Commission. Committees are subject to the provisions of the open meeting laws. Committees may include, but are not limited to Planning Committee, Land

Acquisition Committee, Land Management Committee, Education and Outreach Committee and Environmental Committee.

B. Meetings and Hearings of the Commission

1. **Meetings.** The Commission shall hold no less than one meeting each month, except when a quorum, as defined herein, is not present. The regular meeting of the Commission will be held on the first Monday of each month, starting at 7:00 p.m. in June, July, and August, and starting at 6:30 p.m. from September through May. Procedure at such meetings shall be guided by Robert's Rules of Order Newly Revised, when not in conflict with statutes or these rules. Notices of meetings will be given as required by law, and all meetings and notices thereof, shall comply with the provisions of the Open Meeting Law.
2. **Quorum.** Four members of the Commission must be conduct the business of the Commission unless otherwise specified by statute.
3. **Hearings:** The Commission is required to conduct a public hearing on any properly executed Notice of Intent filed under the provisions of the Wetlands Protection Act (G.L. Ch 131 §40), and may conduct other public hearings as required by law or as deemed necessary by the Commission. At least a majority of the Commission must be in attendance. A majority of the Commission must sign the Order of Conditions issued.
4. **Hearings: Procedure.** The chair shall preside at the hearing. In general, Commission meetings are videotaped for public broadcast. The Chair should inform those in attendance that the meeting is being videotaped. The chair shall open the hearing by reading the purpose for which the hearing is being held, and then conduct the hearing as follows:
 - a) Call for a description of the project by the project applicant or the applicant's representative. Speakers shall be asked first to identify themselves and any special expertise they may have. Testimony may, but need not, be taken under oath.
 - b) Ask the Commission and its consultants or staff to present their information/observations and ask questions of the applicant or applicant's representative.
 - c) Allow questions to be asked by members of other bodies and then the public. Take public input, allowing the public to question the applicant or speaker directly if the Commission wishes. If time is limited or a large number of people wish to speak, each speaker will be limited to 3 minutes. At the appropriate time, and if necessary, ask people to speak only if there is new information to be offered.
 - d) The Chair shall close the public hearing and announce that the Conservation Commission will deliberate and should not be interrupted. Under the State Wetlands Protection Act and under the Truro Conservation By-law the Commission may take up to 21 days from the close of the hearing to issue its decision.

5. When necessary, an attendance list shall be distributed. A copy of the Commission's decision shall be sent to all persons so requesting.
6. In the event that a project applicant fails to appear without prior notice to the Commission, the Commission may continue the proceeding generally. Where a project applicant gives prior *written* notice of a request for continuance, the project may be continued to a date certain. A project continued generally shall not be placed on the Commission's agenda without the consent of the Conservation Agent.

C. Procedure for Adoption of Regulations

1. The Commission may identify any subject within its jurisdiction as appropriate for further regulation, in order to ensure that uniform standards are applied to similar applications and that cumulative adverse effects from individual projects are avoided. Where a subject is identified as appropriate for regulation the Commission may appoint a committee to draft proposed regulations.
2. Draft proposed regulations shall be presented to the Commission and shall be posted on the Town's web site at least two weeks (14 days) prior to the public hearing scheduled for review of the proposed regulations. The Commission shall advertise the public hearing for review of the proposed regulations in the locally published newspaper including notice that a copy of the proposed regulations can be seen on the town's web site and that a copy can be obtained at the Commission's office in Town Hall. The Commission shall hold the public hearing as advertised and shall accept oral and written public comments until the hearing is closed.
3. The Commission shall act on the proposed regulations at the conclusion of the public hearing or at its next regularly scheduled meeting, and may amend or modify any proposed regulation as it deems necessary prior to final action to adopt or reject, as the case may be, any proposed regulation or part thereof.
4. Commission Regulations shall be posted on the Town's website and shall be available upon request at the Conservation office in Town Hall.
5. The Commission may amend any previously adopted regulations upon proper notice under the open meeting law and at any regular or special meeting of the Commission.

Chapter 2: General Procedures; Applications to the Commission

A. Jurisdiction

1. Areas Subject to Truro Conservation Commission Jurisdiction

Any bank		the ocean,
any freshwater wetland,		any estuary,
any coastal wetland,		any creek
any beach,	bordering	any river
any dune,	on	any stream
any flat,		any pond
any marsh,		any lake
any swamp		

2. Land under any of the water bodies listed above.
3. Land subject to tidal action
4. Land subject to coastal storm flowage.
5. Riverfront area, extending 200 ft from the mean annual high water mark.
6. Activities within 100 feet of any area listed above, known as the "Buffer Zone"
7. Isolated Land subject to flooding and Vernal Pools.

B. Request for Determination of Applicability and Notice of Intent

Every application must include the following:

1. An accurate and detailed description of the site and project. The site must be identified by street name and number, and the number shall be posted at the property in conformity with Truro By-laws 1-6-1. The site and entire proposed project should be described in narrative form. If needed, attach additional sheets for a more complete description of the site and project; a map or plan may also be used as part of the description. List the titles of all attached plans* and maps, identified by the most recent revision date of each such plan or map, on the application.
2. An 8.5" x 11" section of the U.S. Geologic Survey (USGS) quadrangle or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Note: USGS Maps are available at the Truro Conservation Commission at Town Hall.
3. Nine (9) copies of WPA Form 1 Request for Determination of Applicability must be submitted to the Truro Conservation Commission and 1 copy to the DEP Southeast Regional Office via certified mail.

4. Proof of total Wetlands Protection Act Fee Paid, to include local filing fees. See Transmittal Fee Form. Remember to send the fee and form to the DEP Boston office, not the Lakeville Office.
5. All costs of notification, including certified mail and receipts, as well as all costs of duplication of such plans and other documents as may be necessary to the determination of the Commission are the responsibility of the applicant. The hearing on a Notice of Intent and Request for Determination of Applicability must be advertised, in a newspaper of general circulation in the Town of Truro at least 5 days prior to the meeting at which the hearing will be held.

**All Plans submitted to the Commission must be of adequate size, scale, and detail to completely and accurately describe the site, resource area boundaries, and proposed work and be of sufficient font size to be read without magnification. Plans that do not comply with this requirement will be rejected.*

C. Notice of Intent (in addition to the foregoing requirement)

1. Every Notice of Intent application must include:
2. Project Location. The map or plot, parcel, and lot numbers must be included if the lot subject to the NOI does not contain a residence, school, or commercial or industrial establishment, or if the lot is being subdivided. The site must be identified by street name and number, and the number shall be posted at the property in conformity with Truro By-laws 1-6-1.
3. Property Owner. If there is more than one property owner, a list of additional property owners should be attached to the Notice of Intent. In the case of multiple property owners, all owners must indicate assent to the proposed project. Where properties are held in condominium or cooperative ownership, the assent of the Condominium or Cooperative Board of Trustees, as evidenced by a record of vote or other written approval by such Board must be obtained and submitted to the Commission. Where an agent presents the application on behalf of a property owner, the owner(s) of record must indicate their assent to the agent's application, including assents of multiple owners and condominium association board. Where an agent acts in a fiduciary capacity, such as guardian, trustee, administrator or executor, written evidence of appointment shall be included.
4. Project Description. Provide a complete and detailed description of the project. The application must describe and show on accompanying maps and plans, both existing and proposed site conditions, including temporary construction impacts, replication areas, and/or other mitigation measures. Attach maps, plans, and other documents identifying all proposed activities and their location relative to the boundaries of each wetland resource area and Buffer Zone (if applicable).

5. Notice to abutters. Applicant shall provide notification to all abutters of the application and the date, time and place of hearing by certified mail, return receipt requested. Abutters include any property owner within 300 feet of the property lines of the land where the work is proposed. (Note: lists of abutters can be obtained from the Town of Truro Assessors Office. The Notification letter must describe the project in detail, and must state where copies of the Notice of Intent can be obtained or examined, as well as the date, time and place of hearing.

NOTE: CERTIFIED MAIL RECEIPTS (return “green cards”) MUST BE PRESENTED TO THE COMMISSION OR ITS AGENT PRIOR TO THE START OF THE PUBLIC HEARING.

D. Issuance, Recording and Notice of Orders of Condition

1. The Order of Condition (OOC) will be issued within 21 days of the closing of the public hearing and is valid for a stated period of time not to exceed three years. A request for extension shall be made in writing to the Commission at least 30 days prior to the expiration of the Order. The Commission may extend an Order for one or more periods of up to three years each.
2. Once the OOC is issued, there is a 10 (business) day appeal period. Under no circumstances shall work commence during this appeal period. After the 10 day appeal period, the applicant shall record the OOC at the Barnstable Registry of Deeds. Proof of recording of the Order of Condition must be submitted to the office of the Truro Conservation Commission
3. The party preparing and filing the Notice of Intent with the Commission must give written notice to the Commission 48 hours in advance that work is to commence.
4. It is the obligation of the applicant before the Commission to ensure that all architects, contractors, sub-contractors and anyone else participating in any part of the work subject to the Order of Conditions are aware of the requirements and terms of the Order of Conditions prior to the commencement of any work on the Project.

E. Standard Orders of Condition

1. Every order of Conditions issued by the Commission shall include the following Standard Orders:
The Commission accepts the work as described in the Notice of Intent and plans as presented to the Commission, subject to the following conditions:
 - a) This Order shall apply to any successor in control or successor in interest of the property described in the Notice of Intent and accompanying plans. These obligations shall be expressed in covenants in all deeds to succeeding owners of portions of the property.
 - b) The form provided at the end of this Order shall be completed and stamped at the appropriate Registry of Deeds, after the expiration of the 10-day appeal

period and if no request for appeal has been filed with the Department of Environmental Protection.

- c) This document shall be included in all construction contracts, subcontracts, and specifications dealing with the work proposed and shall supersede any conflicting contract requirements. It is the responsibility of the Applicant, Owner, General Contractor and/or successor(s) to ensure that all Conditions of this Order of Conditions are complied with. A copy of this Order shall be available at the work site, during normal work hours, or posted, until the work is complete.
- d) The applicant shall give written notice to the Commission 48 hours in advance that the work is to be begun. Members of the Commission or its agent or the Department of Environmental Protection (DEP) reserves the right to enter and inspect the property at all reasonable times, until a Certificate of Compliance is issued, to evaluate compliance with this Order of Conditions, the Act, 310 CMR 10.00 and Town regulations, and may acquire any information, measurements, photographs, observations, and/or materials, or may require the submittal of any data or information deemed necessary by the Commission for that evaluation.
- e) Work shall be halted on the site if the Commission, conservation agent or DEP determines that any of the work is not in compliance with this Order of Conditions. Work shall not resume until the Commission is satisfied that the work will comply, and has so notified the applicant in writing.
- f) Prior to the commencement of work, a sign shall be displayed at the site showing the DEP file number assigned to this project, separately staked, preferably not placed on a living tree.
- g) Any changes in the work described in the Notice of Intent or in the plans and specifications submitted to the Commission shall be submitted to the Commission in writing for a determination of whether the change is significant enough to the interests of the Act to require a new Notice of Intent. No changes shall be made or implemented in the field prior to the Commission's determination. Should issuance of additional permits result in a change in the project, the applicant shall promptly submit such changes to the Commission for evaluation under this provision.
- h) Prior to the Commencement of any work, erosion or siltation controls including staked straw bales, cloth silt fencing, and any additional controls required under this order shall be placed along the limit of work as identified on the plans, between the work area and the resource area, to the approval of the Commission. Upon installation of such erosion or siltation controls, the applicant shall notify the Commission of such installation, and the Conservation Commission and or its agent will inspect the same and any changes to be made prior to the commencement of construction must be completed within forty-eight hours of inspection.
- i) Stormwater Management. In addition to any other conditions imposed by this Order, all roof drainage shall be to gutters and drywells or french drains. Any driveway paving permitted under this order shall drain to drywells. All drywells shall be dug to at least 3 (three) feet below grade.

- j) Upon completion of this project the applicant shall submit a request to the Conservation Commission to receive a Certificate of Compliance. The Applicant or Owner shall certify in writing that the work was completed as shown on the plans and documents referenced above. At the request of the Commission, the applicant may be required to submit (a) a written statement from a registered professional engineer of the Commonwealth certifying that the work has been conducted as shown on the plan(s) and documents referenced above and as conditioned by the Commission; and/or (b) an “as built” plan prepared and signed and stamped by a registered professional engineer or land surveyor of the Commonwealth, for the public record.
- k) If soils are to be disturbed for longer than two months, a temporary cover of rye or other grass should be established to prevent erosion and sedimentation. If the season is not appropriate for plant growth, exposed surfaces shall be stabilized by other appropriate erosion control measures, firmly anchored, to prevent soils from being washed by rain or flooding. Upon the completion of work, all disturbed and bare area shall be re-vegetated to prevent erosion by wind or water. Native plant materials are preferred; a list of plants to avoid is available from the Commission.

2. Special Conditions for particular projects:

- a. Section 30(3) of the Wetlands Regulations promulgated under G.L. 131 §40 requires that no coastal engineering structure such as a bulkhead, revetment, or seawall, shall be permitted on an eroding coastal bank at any time in the future to protect the structures permitted under this Order of Conditions. The Applicant acknowledges the risk of building near an eroding coastal bank and is prepared to move, remove, or relocate the structures if necessary.
- b. All beach stairs repaired or constructed pursuant to this Order shall have batter boards of Conservation Commission approved dimensions, placed parallel to the contour at all support posts to prevent erosion and all support posts shall be mounted on helical anchors.
- c. New or replacement of the bottom section of the stairs shall be removable.
- d. The use of Chromated Copper Arsenate (CCA) treated wood is prohibited. Alkaline Copper Quaternary (ACQ) or equivalent treated wood shall be used.
- e. All board walkways through a coastal dune shall be elevated at least 18 inches above grade to allow movement of sand and the horizontal boards spaced at least ½ inch apart to allow light to penetrate to grade. If a temporary walkway is used, it must be removed seasonally from Columbus Day to Memorial Day.
- f. All construction materials, earth stockpiles, landscaping materials, slurry pits, waste products, refuse, debris, stumps, slash, or excavate may only be stockpiled or collected in areas as shown and labeled on the approved plan(s), or if no such

areas are shown must be placed or stored outside all resource areas and associated buffer zones under cover and surrounded by a double staked row of straw bales to prevent contact with rain water.

- g. All building or construction debris shall be deposited into a suitable dumpster or be removed off site on a daily basis. The dumpster shall be located outside the 100 foot buffer zone or within work-limit area as approved by the Commission.
- h. Work shall comply with the Truro Conservation Commission Regulations - Chapter 4 Coastal Management Plan – Biomimicry Sand Collection System*, Sand and Drift Fence Guidelines.
- i. No work shall commence until the Massachusetts Natural Heritage and Endangered Species Program has reviewed this project located within estimated and/or priority habitat. A Request for an Amendment to the Order of Conditions shall be submitted to the Commission if any conditions or special requirements are imposed by the NHESP.
- j. Outdoor showers shall drain to drywells.
- k. No in-ground irrigation system shall be installed or re-installed on the premises.
- l. Pesticides, herbicides, fungicides, and fertilizers shall not be used within 100 feet of the wetlands, within the riverfront area, and within bordering land subject to flooding. Pesticides, herbicides, fungicides and fertilizers may be used subject to the review and approval of the Conservation Commission. This shall be noted in the Certificate of Compliance and shall be an ongoing condition.
- m. Swimming pool must be drained by a truck.
- n. Water accumulating on the pool cover shall be drained into the pool and excess water in the pool shall be pumped into a container truck and removed from the premises.
- o. Dumping Prohibited: There shall be no dumping of leaves, grass clippings, brush, or other debris into the wetland or stream/body of water.
- p. (State Type of Vegetation) on site shall be identified, delineated, and surrounded by small fencing to protect it during construction. It shall be inspected by an Agent of Commission prior to the start of any work.
- q. These conditions (state conditions) shall survive the expiration of this Order, and shall be included as a continuing condition in perpetuity on the Certificate of Compliance.

Chapter 3

A. Consultants

1. **Purpose.** As provided by G.L. Ch. 44 §53G, the Truro Conservation Commission may impose reasonable fees, payable by an applicant before the Commission, for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services. Such services shall be deemed necessary by vote of the Commission to come to a final decision on an application submitted to the Conservation Commission pursuant to the requirements of: the Wetlands Protection Act (G.L. Ch. 131 §40), the Truro Local Conservation By-Law, Conservation Commission Act (G.L. Ch. 40 §8C), or any other state or municipal statute, bylaw or regulation, as they may be amended or enacted from time to time. The Conservation Commission may also impose fees, payable by an applicant before the Commission, for other consultant services, related to application review, or permit conditioning or monitoring, under any of the above-referenced laws or regulations. Fees imposed by the Commission shall be commercially reasonable.
2. **Special Account.** Funds received pursuant to these rules shall be deposited with the town treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation Commission without further appropriation as provided in G.L. Ch. 44 §53G. Expenditures from this account shall be made only in connection with a specific project or projects for which a consultant fee has been collected from the applicant. Expenditures of accrued interest may also be made for these purposes.
3. **Consultant Services.** Specific consultant services may include but are not limited to resource area survey and delineation, analysis of resource area values, hydrogeologic and drainage analysis, impacts on municipal conservation lands, and environmental or land use law. Services may also include on-site monitoring during construction, or other services related to the project deemed necessary by the Commission. The consultant shall be chosen by, and report only to, the Commission and/or its administrator. The consultant chosen should have qualifications relevant to the tasks to be undertaken.
4. **Notice.** The Conservation Commission shall give written notice to the applicant of the selection of an outside consultant. Such notice shall state the identity of the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five days of the date notice is given.
5. **Payment of Fee.** The fee must be received prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment, or refusal of payment, shall be cause for the Commission to deny the application based on lack of sufficient information to evaluate whether the project meets applicable performance standards in 310 CMR 10.00 and the Truro Conservation By-law or its regulations. An appeal stops the clock on the above deadline; the countdown resumes on the first business day after the appeal is either denied or

upheld. A denial for lack of information may be based solely on the lack of the third party consultant review identified as necessary by the Commission. The Commission shall specify in its denial the nature of the information lacking which its chosen consultant would provide, e.g. the questions it needs answered.

6. Denial Under Local Conservation By-law. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment shall be cause for the Commission to deny the permit application.
7. Appeals. The applicant may appeal the selection of the outside consultant to the Truro Board of Selectmen, who may only disqualify the outside consultant selected on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the Truro Board of Selectmen and a copy received by the Conservation Commission, so as to be received within ten (10) days of the date consultant fees were requested by the Conservation Commission. The required time limits for action upon the application shall be extended by the duration of the administrative appeal.
8. Return of Unspent Fees. When the Commission's review of a project is completed and an Order of Conditions issued, any balance in the special account attributable to that project shall be returned within 30 days. The excess amount, including interest, shall be repaid to the applicant or the applicant's successor in interest. For the purpose of this regulation, any person or entity claiming to be an applicant's successor in interest shall provide the Commission with appropriate documentation. A final report of said account shall be made available to the applicant or applicant's successor in interest.

B. Coastal Management - Erosion Control Projects

Preamble: These regulations are enacted pursuant to the authority granted under the Truro Conservation By-Law and are expressly intended to provide greater protection than that provided under the state Wetlands Protection Act, and the DEP Regulations promulgated thereunder in order to protect Truro's beaches, a natural resource of great economic and environmental value to the Town.

The Truro Conservation Commission is of the opinion that coir tube installations, and similar structures, are "coastal engineering structures" within the meaning of the DEP Regulations 310 C.M.R 10.30 (3), and that, as such, installation of coir tubes and similar projects are prohibited for the protection of buildings constructed after 1978. However, by letter dated February 18, 2011, and incorporated herein by this reference, the Truro Conservation Commission was informed by DEP that the Department views this type of structure as a "soft solution" to stabilize eroding banks, which is a permitted structure under the cited regulation. In the event that DEP reconsiders its interpretation of 310 C.M.R. 10.30 (3) the Truro Conservation Commission reserves the right to rescind these regulations and to prohibit installation and maintenance of coir tube projects and similar structures within the Town of Truro.

Coastal banks along the bay side of Truro are experiencing accelerated rates of erosion, at times from a single storm event. It is the policy of the Commission to allow an "erosion control" project only as an *interim* measure, and in all cases to require the property owner to submit plans

to move or remove threatened structures as a condition of allowing such projects. Because the coastal banks along the bay side are important to provide sediment to the littoral system, in addition to their critical function to prevent storm damages and flooding, it is the policy of the Commission to require ongoing nourishment of any approved project. Further, as a well vegetated bank provides significant resistance to storm damage, it is the policy of the Commission to require extensive planting of the coastal bank in any erosion control project, including re-planting as on-going maintenance in all projects. Finally, it is the policy of the Commission to require that the property owner deposit with the Town of Truro an escrow amount pursuant to an agreement that allows the Conservation Commission to remove any project as to which the owner fails to perform ongoing maintenance as required by the Commission.

1. Performance Standards. The performance standards set forth in Chapter 3B of these Regulations, §2.01 are incorporated by this reference as if fully set forth herein.

The coastal banks along the bay side of Truro are significant to storm damage prevention or flood control because they supply sediment to coastal beaches, coastal dunes, or barrier beaches, and such banks are also a vertical buffer to storm waters. In the case of an “erosion control” project permitted under these regulations, these standards must be met by a showing, by substantial evidence, that a sufficient quantity of beach nourishment and “sacrificial” sand will be provided as part of the project to ensure that the movement of sediment will not be adversely affected by the project.

2. Rule. No erosion control measures, such as a coir tube project, nor any coastal engineering structures, of any kind, shall be erected or maintained in a coastal resource area within the Town of Truro without the prior approval of the Truro Conservation Commission. Projects which are proposed to fully comply with the “sample order of conditions for coir tube projects” may be permitted on the bay side of Truro as set forth below. In no event shall a “coir tube” project be permitted on the Ocean side of Truro.

In all “coir tube” projects, only one row of Drift (serpentine) fencing may be installed or utilized at the property. Layered Drift fencing shall only be permitted under special circumstances and in limited areas, and shall be sought by application for a waiver. Hardened fencing, seawalls, revetments, bulkheads and other “coastal engineering structures”¹, shall not be allowed, except as specifically provided in 310C.M.R. 10.30 (3) to protect structures constructed prior to 1978. In addition to the requirements on such projects imposed by 310 C.M.R. 10.30(3), no such project shall be permitted on the Bay Side of Truro unless a “coir tube” project has been previously approved and installed and has failed, where such failure is not solely attributed to failure to maintain sand cover and vegetation. Maintenance or repair of existing bulkheads and revetments shall only be by prior approval of the Truro Conservation Commission.

¹ Coastal engineering structure means, but is not limited to, any breakwater, bulkhead, groin, jetty, revetment, seawall, weir, riprap or any other structure that is designed to alter wave, tidal or sediment transport processes in order to protect inland or upland structures from the effects of such processes. See: 310 C.M.R 10.23.

3. Definitions:

- a) Coir tube: a rounded structure of coir material approximately 12 feet in circumference, installed along the length of a section of coastal bank at the toe of the bank. Tubes may be constructed with no more than two layers of coir material, as approved by the commission, and may be lined with no more than one layer of jute material.
- b) Serpentine fencing (also called "Drift" Fencing): Timber posts shall be dug five (5) to six (6) feet into the beach, connected by 6 to 10 foot spans of fencing comprised of 2"x4" spans and 2"x3" slats. Space between slats is a minimum of 3". Fence posts are installed alternating 2' on either side of a center line so that a "zig zag" or "serpentine" structure results.
- c) Serpentine Fencing with Coir Tube Project: A single installation of Serpentine fencing may be incorporated in a coir tube project. No additional serpentine fencing shall be permitted except on clear and convincing proof of extraordinary circumstances.

4. Project requirements:

- a) A model order of conditions is attached to these regulations and incorporated herein. No waivers from these required orders shall be allowed except upon clear and convincing scientific proof that the proposed waiver will improve the ability of the coastal bank to provide storm damage protection, prevent flooding and contribute sediment to the littoral system.
- b) Escrow agreement: Every erosion control project shall include a requirement that the property owner establish an escrow account with the Town of Truro in accordance with the requirements of the Model Escrow Agreement attached to these regulations and incorporated herein. No variance or waiver of this requirement shall be granted by the Commission. Remaining escrow funds, if any, may be returned to the property owner when the erosion control project is removed.

5. Procedure:

- a) Notice of Intent (NOI): A Notice of Intent is required for initial installation of any Erosion Control project.
- b) Ongoing Maintenance: The model order of conditions requires ongoing maintenance of coir tube erosion control projects, and sets forth conditions for performance of this ongoing maintenance. These conditions shall be continuing conditions which shall survive the issuance of a certificate of compliance.

- c) Amended Order of Conditions: A request for an Amended Order may be filed in the event that changes occur in the configuration of the bank which causes substantial change in a project which has not received a Certificate of Compliance.

6. General Regulations applicable to all projects:

- a) All projects shall specify dates for commencement and completion. All projects may only begin after Columbus Day and must be completed prior to April 15, provided however that the project area is clear of nesting shorebirds as confirmed by the conservation agent or her designee. Planting of native material may continue after April 15, provided all materials and access to the site are over the owner's property and not by beach transport.
- b) All construction equipment shall only access the site from the beach, and only travel along the beach below the mean high tide line. Absent a showing by clear and convincing evidence that access to the coastal bank across the applicant's property is impossible, no sand shall be trucked or transported to the site down the beach. All sand shall be brought to the site from the top of the bank at the applicant's property.
- c) Beach construction and restoration work shall not be performed on weekends or holidays, nor before 8:00 a.m. or after 6:00 p.m on weekdays.
- d) Properties between the public access point for the project and the project locus shall be considered abutters and shall be notified of any erosion control projects in the same manner and at the same time as other abutters.

Chapter 4: Coastal Management Plan – Biomimicry Sand Collection System*, Sand and Drift Fence Guidelines

1. "Coastal banks play an important role in storm damage prevention and flood control. The characteristics which make them important to these two interests are:

An ability to erode in response to wave action, which allows coastal banks to supply sediment to coastal beaches, coastal dunes, barrier beaches and land under the ocean.

A natural resistance to erosion caused by wind and rain runoff, which allows coastal banks to act as a vertical buffer to storm waters and waves."

This policy is adopted in an effort to meet these standards; nothing in this plan shall be construed to permit any dune-related activity that would hinder the coastal bank behind the dune "to erode in response to wave action" because without bank erosion, there would be no beaches.

Dunes and coastal banks represent at least three interests of the act: flood control, storm damage protection and wildlife habitat, and may relate to other interests in certain situations.

2. Rule. No fencing shall be erected or maintained, nor shall any vegetation be planted in a coastal resource area within the Town of Truro without the prior approval of the Truro Conservation Commission. Planting of native vegetation, installation of Sand (rolls of lightweight fencing) and Drift (Serpentine) fencing may be permitted as set forth below. Layered sand fencing may be permitted on both ocean and bay sides of Truro. Drift (serpentine) fencing may only be erected on the bay side. Layered (two rows) Drift fencing shall only be permitted under special circumstances and in limited areas, and shall be sought by application for a waiver. Hardened fencing, seawalls, revetments or bulkheads shall not be allowed, except as specifically provided in 310C.M.R. 10.30 (3), which states that coastal engineering structures cannot be permitted when a coastal bank “is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes and barrier beaches”. Maintenance or repair of existing bulkheads and revetments shall only be by prior approval of the Truro Conservation Commission. Engineering structures shall not be permitted as defined in 310 C.M.R 10.23:

Coastal engineering structure means, but is not limited to, any breakwater, bulkhead, groin, jetty, revetment, seawall, weir, riprap or any other structure that is designed to alter wave, tidal or sediment transport processes in order to protect inland or upland structures from the effects of such processes.

A fencing solution may not be appropriate for every property. Initially, the applicant should determine the appropriate type and extent of installation for their situation. Factors to consider may include the amount of vegetation, existence of a dune currently, angle of repose, recent cutting or evidence of past bank erosion. The Conservation Commission may request an outside consultant to review this assessment at the applicant’s expense according to the Wetlands Regulations.

3. Rationale:

Coastlines are dynamic environments where sediment is seasonally, annually and inter-annually moved by waves, tidal currents, and winds, leading to erosion and deposition as part of the natural system. The coastal processes are constantly adjusting in an attempt to reach equilibrium, or a smooth profile between the beach and the ocean. A well-established, vegetated primary fore-dune provides storm damage protection and some flood control. Dunes and beaches dissipate storm energy, thereby minimizing the impacts to landward areas. Dunes also provide unique wildlife habitat for some endangered or threatened species.

Local, state and federal regulatory agencies strongly encourage the use of non-structural measures to reduce the impacts of storm damage and flooding. Structural measures often create adverse effects on subject property as well as adjacent and nearby beaches by increasing erosion through wave reflection and by eliminating important sediment sources. The optimum landward dune location is often above the seasonal average storm tide elevation. Over time this elevation changes and naturally settles in a more landward position.

When storm activity erodes coastal dunes, the material eroded remains part of the overall coastal system, and provides nourishment for downdrift beaches and nearshore sand bars. Once fair weather beach processes resume following a storm, the sand from sand bars migrates seasonally back to the beach, and then wind-blown sand from the beach naturally rebuilds the dunes. The dune rebuilding process can take several years, and in certain cases it may be desirable to rebuild a storm-eroded dune more quickly.

Any fencing activity should be viewed as a temporary measure to initially trap higher volumes of sand than American beachgrass could alone. Once the beach grass is established, it has been proven to trap sand at a rate comparable to multiple sand fences. Holding a dune unnaturally seaward of the storm tide elevation at any given time creates problems for abutting properties and ultimately can negatively affect the distribution of sediment along an entire coastline alongshore, as well as on and off shore where bars provide important storm protection.

4. Definitions:

- a) Sand fencing. Also sold as “snow fencing” in 50 foot long rolls, 4 feet high. The rolls can be chain sawed in half to produce 100 feet of 2 foot high fencing. Constructed of lightweight wooden slats, factory wired together with spaces between the slats approximately equal to slat width (approx.. 1.5 inches). Fencing may be install in three 10’ wide rows parallel to the shoreline, or in zig-zag pattern. Two foot high fencing may be installed by driving the individual slats into the sand with a rubber mallet. Four foot high fences may be supported by wooden posts, attached with screws or plastic ties.
- b) Drift Fencing (also called “Serpentine” Fencing): Ten foot timber posts dug at six feet into the sand at grade at the time of installation, connected by 6 to 10 foot spans of fencing comprised of 2x4 spans and 2x3 slats. Space between slats is a minimum of 3”. Fence posts are installed alternating 2’ on either side of a center line so that a “zig-zag” or serpentine structure results.
- c) Hardened fencing: Any Sand or Drift fencing backed by landscape fabric, bracing spans of wood, or packed with beach debris, straw, or any other material intended to or actually providing greater blockage of sand and water than would be caused by the fencing alone.
- d) Biomimicry Sand Collection System*: Refers to random patters of thin cedar shims insterted into several inches of sand that mimic native beach vegetation by collecting and stabilizing wind blown sand. The shims are inserted several inches into the sand, spaced 10-14 inches apart, in a random matrix from 4-6 feet wide, along the upper beach. During wind events, the matrix performs by collecting sand. When sand levels rise, the slats are pulled up higher, to continue performing. In this manner, additional

shims can also be used to widen the desired sand collection profile. Biomimicry* creates dunes by minimally interacting with available energy in the coastal resource system.

5. Options for Property Owners:

- a) No Installation: A property owner may choose to not install any fencing. Some properties along the bay side do not have fencing, and have grown dunes back following erosion events. Gently sloping, wider seaward-facing dunes are less prone than steep slopes to storm wave loss of sand. Through experimentation it was shown that planted dunes on Cape Cod create lower and wider dunes than fence-built dunes.¹ The lower, wider dunes that form without fencing result in less sediment loss during typical storm events.
- b) Sand fencing: Sand fencing is commonly used along the Eastern United States to encourage deposition of wind-blown sand to help re-build a dune. The effectiveness of this method in any given area depends upon availability of adequate amounts of wind-blown sand. The degree of success a fencing system will have in any given location varies along the coast line, therefore each site should be examined individually, and in conjunction with neighboring properties. The rolled sand fencing interferes less with natural processes.
- c) Drift fencing: The fencing approach is intended to encourage deposition, and thereby slow erosion, it is not intended to hold a dune in place. Installation of a fence of this nature must not be confused with an engineering structure as defined in the wetlands regulations 310CMR.
- d) Biomimicry sand collection system: This sand collection system performs by collecting sand during wind events, typically during the winter storm season. Collected sand is completely compatible for dune restoration projects, such as restoring the toe of a coastal bank or eroded toe of a dune.

6. Procedure:

- a) Notice of Intent (NOI): A Notice of Intent is required for initial installation of any Sand or Drift fencing. Should new or additional timber supports be required for repair or maintenance of an existing fence a NOI is required. Where, due to erosion, the timber piles or posts must be moved or relocated, a NOI is required.
- b) Amended Order of Conditions: A request for an Amended Order may be filed in the event that damage occurs to a fence with a previously issued Order of Conditions which has not been closed by issuance of a Certificate of Compliance, and may include repair, including relocation of all or part of an existing fencing system.

7. Construction Specifications and Protocol for Sand Fencing:

Sand fencing offers a less invasive approach to dune restoration than the more substantial serpentine fence. This, when combined with a nourishment and replanting plan, will provide the coastal property owner an effective option for protecting an eroded bank or dune. The expense of sand fencing is considerably less than installing a drift fence, and its lighter construction may be less damaging to the beach during installation.

- a) Placement: Dune restoration by means of sand fencing should take place as far landward as possible. A second or third, optional, fence may be installed up the unvegetated fore dune slope providing additional sand accumulation.
- b) Materials: Sand fences should be made of wood slats, connected by wire and having a 50-50 ratio of open space to slats. (24" rather than 48" height will likely last longer due to less wind resistance while collecting a similar volume of sand.) The rolls should be attached to the posts with staples, with additional tie-wraps as desired. 4" x 4" rounded posts should be used if the area may be inundated with waves. Otherwise a lighter post may be used.
- c) Construction: Posts should be set at or within several feet seaward of the toe of the dune scarp, 8' apart. Posts should be dug five (5) to six (6) feet in the sand, and more if the fence is in a high-energy area. Each section of fencing between posts should have two removed or "missing" pickets, so as to create an opening in the fencing to accommodate birds and animals.

8. Construction Specifications and Protocol for Drift or Serpentine Fencing

a) Placement. In general, the edge of the drift fencing closest to the water shall be placed well above the mean high tide line and no more than six (6) feet from the toe of the bank. Plans submitted should delineate all resource areas and the location of all pilings.

b) Materials.

- i. Timber pilings used to anchor sections of fencing shall preferably be 6-8" in diameter, and shall not be longer than 10'.
- ii. Slats shall be no more than 2"x3" and front braces and fence spans shall be no larger than 2x4 lumber, fence sections shall be 6' to 10' long, having a 50-50 ratio of open space to slats. Each fence span shall contain at least one "missing" slat, leaving a gap of at least 7.5" in the fencing (to permit movement of birds and other animals).

c) Construction:

- i. All wooden materials to be used in any fencing shall be branded or permanently identified by a method approved by the Commission with the assessor's map and parcel # for the property where the fence is to be installed. Each fence shall be constructed so that the identifying information is on the landward side of the

fence. Format for marking the wooden materials shall be map # hyphen parcel # (i.e. 23-1).

- ii. Fence sections shall be assembled off site and brought to the beach location where the fence is to be erected;
- iii. All pilings shall be individually dug with small excavator, at six feet deep; fence sections shall be bolted to pilings with slats on the water side; fence sections may be secured on the landward end by installation of a bracing member across the landward side. Fence sections shall not be trenched into the beach.

9. Construction specifications and Protocol for Biomimicry Sand Collection “Matrix” System*

Biomimicry* is an adjustable, low profile sand restoration system consisting of thin cedar shims designed for use on coastal beaches during winter storms. No heavy equipment or excavation is necessary with this system. This matrix or system mimics the performance of native beach vegetation to collect and stabilize sand being transported by ocean storm energy.

a) Placement:

- i. The shims should be inserted 3-4 inches into the sand, spaced randomly 10-14 inches on center (facing the water), leaving 10 inches exposed. Make certain the shims are dry before installation.
- ii. The overall matrix pattern of random shims is between 4-6 feet wide.
- iii. Matrix lines should always be installed parallel to the shoreline.
- iv. Matrix lines can be spaced 15 feet apart to restore beach elevations.

b) Materials: Thin wooden shims, 14 inches long.

c) Construction:

- i. This system can perform as a stand-alone or in parallel with newly planted beach grass, contributing to performance, pending plant maturity.
- ii. The biomimicry system* shall be removed prior to April 15th and may be re-installed after Columbus Day pending approval by the Commission.

10. Deposition and Mitigation

Every fencing project *except for the biomimicry system** shall include beach nourishment. Every Notice of Intent shall specify the amount of sand to be deposited at the site, and shall identify the source from which the nourishment material will be obtained. The nourishment material must be clean sand free of debris or waste, and should be of a compatible grain size to the native beach material at the site. (Note: if sand which is of smaller grain size than the native material is used, the lighter sand will wash away sooner.)

The amount of nourishment material required for each project shall be determined on a case-by-case basis, and will depend upon the topography of the site and the adjacent areas. In general, it is recommended that the applicant fill the area between the fence and the dune or bank to at least one-half the fence height, or a minimum of two feet above existing grade, whichever is greater. In addition, where the distance between the fence and the mean high water mark is fifteen feet or more, then the applicant is required to deposit sufficient material to mirror the existing beach profile.

11. Vegetation:

Every fencing project shall include planting of American Beach grass between November 1 and April 1 following completion of the installation or repair of the fencing. Planting holes should be dug at least 6 inches deep, randomly spaced 10-12 inches apart. Three culms (roots) are placed in each hole and covered with sand. It is recommended to plant in the greatest density in the landward section, and decrease the spacing of plants in the seaward direction. Slow-release fertilizer may be applied in spring, at a rate of 100 pounds per acre of 10-10-10, unless the area is in a particularly sensitive environment that could be negatively affected by fertilizer. The best results have been found with two applications, one in late spring within 30 days of planting, but before April 1, and another application in late summer or early fall. For further information, see: Coastal Dune Protection and Restoration, Marine Extension Bulletin, Woods Hole Sea Grant and Cape Cod Cooperative Extension, December 2008, and Beach Nourishment, MassDEP's Guide to Best Management Practices for Projects in Massachusetts, March 2007.

12. Monitoring and Maintenance:

Every fencing project shall include submission of photographs taken within one month of completion of construction and nourishment. Photographs taken between May 1 and June 1, shall be submitted annually thereafter in printed or digital format. The measurement of lateral width of the dune terrace from the toe of the coastal bank (when one is present) to the front edge where the foredune meets the beach, and the height of the foredune from the beach elevation to the top of the dune should also be submitted. When appropriate this measurement should be taken at multiple locations along a given property, should the width of the dune vary by more than 5' in depth. Photograph submission shall be required for the duration of the Order of Conditions.

13. General Regulations applicable to all projects.

- a) All projects shall specify dates for commencement and completion. All projects may only begin after Columbus Day and must be completed prior to Memorial Day, provided however that the project area is clear of nesting shorebirds as confirmed by the conservation agent or her designee.
- b) All construction equipment shall only access the site from the beach, and only travel along the beach below the mean high tide line. Absent a showing by clear and convincing evidence that access to the coastal bank across the applicant's property is

impossible, no sand shall be trucked or transported to the site down the beach. All sand shall be brought to the site from the top of the bank at the applicant's property.

- c) Any substantial beach restoration requiring the hauling of materials other than sand from town landings across public and private beaches will be conducted exclusively from Columbus Day to April 15th. Substantial projects are those requiring over two days to haul materials.
- d) Beach construction and restoration work shall not be performed on weekends or holidays, nor before 8:00 a.m. or after 6:00 p.m. on weekdays.
- e) Properties between the public access point for the project and the project locus shall be considered abutters and shall be notified of any substantial beach restoration projects in the same manner and at the same time as other abutters.
- f) Construction debris shall be removed at the end of each day and the access route shall be left backbladed to a normal grade.
- g) Application for Construction or Maintenance of a Sand or Drift fence shall constitute agreement by the property owner to reimburse the Town for the cost of clearing away any debris generated from the property owner's fence.
- h) Where fencing becomes ineffective due to storm damage, erosion or other cause, it must either be promptly repaired or removed at the property owner's expense.
- i) Where fencing does not exist on an adjacent property, the fencing erected for the applicant shall be no closer than 25 feet to the abutter's property line; where fencing exists on adjacent properties, new fencing shall be aligned with existing fencing.
- j) Owners of lots which have less than 100 feet of beach frontage may be approved for fencing construction and/or restoration projects which do not comply with these general regulations, by special permit from the Commission.
- k) It is the responsibility of the project proponent to obtain consent to traverse private property as may be required by property owners.

14. Fees for installation and maintenance (intentionally left open for later regulatory action)

15. Penalties for non-compliance - When an instance of non-compliance is first discovered by the Commission or brought to the Commission's attention, the Commission shall first give written notice to the property owner with a request that the property be brought into compliance within two weeks. If compliance is not obtained, the agent shall issue a \$50.00 citation and require compliance within two weeks. If compliance is not obtained, penalties shall be assessed at the rate of \$50.00 for each day, or part thereof, that the violation continues. Each violation shall be treated as a separate offense.

**Making Land From Air: Biomimicry Strategy and Techniques By Gordon Peabody, Edited by Nadia Bricault, Safe Harbor, January 2013*

Chapter 5

Administrative Review

1. Purpose:

Some proposed projects that fall within the jurisdiction of the Commission are of such small scale as to cause no threat to any of the interests of the Massachusetts Wetlands Protection Act or the Truro Conservation By-law. Such projects should not undergo the scrutiny of a formal hearing before the Conservation Commission and can be adequately reviewed by the Conservation Agent.

This process is intended to expedite review and permitting of such projects.

2. Applicability:

If a project meets ALL of the conditions below, the work may be approved by the Conservation Agent without the filing of a Request for Determination of Applicability (RDA) or a Notice of Intent (NOI). Each approval must be ratified by the Conservation Commission prior to commencement of work.

If the Agent or the Commission has any doubt that the project meets the requirements, then the applicant will be required to file a formal application (RDA or NOI) and request a hearing.

3. Project Criteria:

a) Vegetation Projects:

- i. No removal of vegetation within any inland or coastal wetland resource.
- ii. No uprooting of vegetation.
- iii. No mowing to the ground or clear cutting.
- iv. Any proposed tree removal is demonstrated to be necessary, e.g., to protect existing structures, public safety, traffic visibility, etc.
- v. Mitigation may be required, i.e., an area to be planted with native species of trees or shrubs.
- vi. Trees for removal must be tagged for inspection.
- vii. No excavation by machinery is required or proposed.

b) Sheds and Other Construction Projects:

- i. No construction *within* any wetland resource except for minimal projects with the consent of the Conservation Agent.
- ii. Any proposed new construction is more than 50 feet from the edge of the resource area.
- iii. No excavation by machinery is required or proposed.
- iv. Foundation for structure will only consist of concrete blocks or sonotubes
- v. Repairs or replacement of existing structures remain within the same footprint.
- vi. New structures must be less than 160 square feet.

4. Procedure:

- a) The Property Owner (or contractor acting with owner's written permission) shall submit the Administrative Review Application, containing sufficient information to determine where the project is located and whether it meets the criteria set forth above.
- b) The fee as set in the Wetlands Fee Schedule must be submitted with the Administrative Review Application.
- c) Following receipt of a completed Application, the Agent or her designee will conduct a site visit, at which time the proposed project must be clearly defined in the field with stakes and appropriate marking or tagging.
- d) If the Agent determines that all of the conditions of this Policy are met, then the Agent may approve the Application. If the Agent finds that the conditions of this policy are not met, or that the application is not complete, or that the identification in the field is not adequate, then the Agent shall deny the Application.
- e) If the Agent approves the Application, such Approval must be ratified by the Truro Conservation Commission prior to the issuance of any permit and *prior to the commencement of any work*.
- f) Any Property Owner, contractor or other agent of the owner performing any work pursuant to an Administrative Review permit shall have a copy of the permit available at the site at all times during the period that the work is being performed.

5. General Provisions Applicable to All Administrative Review Applications:

- a) Once the Agent's Review Permit is ratified by the Commission, it shall be filed as a permanent record with the Commission.
- b) Upon approval and ratification by the Commission, an Administrative Permit shall issue.
- c) The applicant is required to notify the Commission prior to the start of the work, and must complete the work within thirty (30) days of issuance of the permit, unless otherwise permitted by the Commission.
- d) If the request for Administrative Review is denied, the applicant may file a RDA.
- e) The Conservation Agent or her designee shall inspect the property to verify that the work completed is within the scope of the Approved Application.
- f) Any work beyond the scope of the approved Administrative Review shall be subject to enforcement action.

Chapter 6: Beach Raking

1. **Rationale:** To address potential public health concerns while protecting the functions of the Coastal Beach and Coastal Dune and the public Interests of the wetlands protection act regulations.
2. **Definitions:**

Barrier Beach: a low lying strip of land bordered on both sides by bodies of water; generally consisting of coastal dunes and coastal beaches

Beach Area: the area between the extreme low tide line and the seaward edge of the primary dune.

Coastal Dune: Any natural hill, mound or ridge of sediment landward of a Coastal Beach deposited by wind action or storm over wash. Coastal Dune also means sediment deposited by artificial means and serving the function of storm damage prevention or flood control.

Mechanical removal: Includes use of a tractor drawn rake to remove/relocate wrack. Hand raking is not mechanical.

Natural Vegetation: shall include the terms native vegetation or indigenous vegetation and specifically includes American beach grass, sea rocket, seaside golden rod, bayberry, beach pea, salt spray rose, or any other plants which grow in sand or may be planted on the slopes of dunes

Wrack Line includes washed up marine vegetation and organic material deposited on the beach during high tides and storms. These deposits often contain fragments and seeds of dune plants, which are beneficial for dune redevelopment.

Upper wrack line is produced by the winter spring tides (highest tides of the year) which contain natural deposits of ocean borne seaweed and seeds, rhizomes or detached plants which can germinate and or grow to produce a zone of new dune vegetation.

3. **Requirements:**

The public's need for a sanitary beach must be balanced with the Commission's goal of maintaining that same beach as a functioning unit of a healthy ecosystem.

Mechanical raking of the beach to remove or relocate sea weed may affect vegetation and the process of revegetation and may also impact the wrack line, which is an important feeding habitat for many marine organisms, thereby interrupting nutrient cycles.

Beach raking may also impact directly or indirectly beach nesting birds, such as Piping Plovers (*Charadrius melodus*) and Least Terns (*Sterna antillarum*). The removal of seaweed in general may eliminate sources of shelter and feeding for these bird species and many others. For these reasons, and pursuant to Chapter 8 of the Truro General Bylaws and the Conservation Commission policies, procedures and regulations the Truro Conservation Commission promulgates the following beach raking requirements:

- a. No mechanical raking or other activities deemed alterations of Coastal Beaches or Coastal Dunes shall be conducted without a valid Order of Conditions.
- b. No raking shall take place less than 10' from vegetation or the toe of the Coastal Dune.
- c. Cleaning or raking a beach shall be accomplished without removal or destruction of vegetation or the impairment of the growth of such vegetation.
- d. Prior to relocating wrack, the wrack must first be cleaned by hand of all man-made debris from large pieces of wood to small pieces of plastic and cigarette butts. Only once the wrack has been cleaned, may it be relocated to below the high tide line.
- e. The beach rake must be sure to shake the sediment from the seaweed to the extent possible.

- f. Cleaning or raking of a beach without a permit, is prohibited in the high wrack zone, which lies between the mean high tide and the spring high tide line. Drift line zones collect material during high spring tides and/or storms. They may contain large quantities of marine algae, eelgrass, and marsh detritus all of which contribute to wildlife habitat. Moreover, bacteria and fungi quickly break down this organic matter, releasing nutrients into the sand and eventually back to the sea.
- g. These regulations shall not be construed to preclude hand removal of unnatural debris or recreational and minimally invasive “beachcombing” or reasonable traditional uses, any of which may be allowed without permitting at the Commission’s discretion.
- h. The Commission strongly encourages the hand removal of man-made debris, for which no permit is required.

SECTION III– WETLANDS FEE SCHEDULE

Adopted at the October 3, 2011 Public Hearing

Pursuant to §8-12-1. Truro Conservation By-Law the Commission adopts the following wetlands fee schedule. (MassDEP Filing fees are not included).

Filing Fee Type	Fee
Notice of Intent	\$100.00
Engineering Structure (bulkheads, serpentine fences)	\$2.00/linear foot
Docks	\$2.00/linear foot
Natural Fiber or Other Coastal Engineering Structure	\$2.00/linear foot
Abbreviated Notice of Intent	\$100.00
Request for Determination of Applicability	\$50.00
Amended Order of Conditions	\$50.00
Certificate of Compliance	\$25.00
Extension of Order of Conditions	\$25.00
Administrative Review Permit	\$50.00
Request for Administrative Review for Change in Plans	\$50.00
After the Fact Filing	Local fee doubled
Inspections for Projects Involving Ongoing Maintenance	\$45.00
Reissuance of Order of Conditions, Certificates of Compliance	\$20.00
Extension of Order of Conditions, Determination of Applicability	
Amended Order of Conditions etc.	

Fees may be waived by the Commission upon showing of substantial hardship

APPENDIX A

Massachusetts General Law Chapter 40; Powers and Duties of Cities and Towns

Section 8C. Conservation Commission; establishment; powers and duties

A city or town which accepts this section may establish a conservation commission, hereinafter called the commission, for the promotion and development of the natural resources and for the protection of watershed resources of said city or town. Such commission shall conduct researches into its local land areas and shall seek to co-ordinate the activities of unofficial bodies organized for similar purposes, and may advertise, prepare, print and distribute books, maps, charts, plans and pamphlets which in its judgment it deems necessary for its work. Among such plans may be a conservation and passive outdoor recreation plan which shall be, as far as possible, consistent with the town master plan and with any regional plans relating to the area. The commission may, from time to time, amend such plan. Such plan shall show open areas including marsh land, swamps and other wetlands, and shall show which areas are subject to restrictions or wetland zoning provisions and any other matters which may be shown on a plat index under section thirty-three of chapter one hundred and eighty-four. Acquisitions of interests in land under this section and other municipal open lands shall be shown thereon as well as lands owned by other entities kept open through any legal requirement. Such plan shall show other areas which public necessity requires to be retained for conservation and passive recreation use. It shall keep accurate records of its meetings and actions and shall file an annual report which shall be printed in the case of towns in the annual town report. The commission may appoint a director, clerks, consultants and other employees, and may contract for materials and services within available funds insofar as the same are not supplied by other departments. The commission shall consist of not less than three nor more than seven members. In cities the members shall be appointed by the mayor, subject to the provisions of the city charter, except that in cities having or operating under a Plan D or Plan E form of city charter, said appointments shall be by the city manager, subject to the provisions of the charter; and in towns they shall be appointed by the selectmen, excepting towns having a manager form of government, in which towns appointments shall be made by the town manager, subject to the approval of the selectmen. When a commission is first established, the terms of the members shall be for one, two or three years, and so arranged that the terms of approximately one third of the members will expire each year, and their successors shall be appointed for terms of three years each. Any member of a commission so appointed may, after a public hearing, if requested, be removed for cause by the appointing authority. A vacancy occurring otherwise than by expiration of a term shall in a city or town be filled for the unexpired term in the same manner as an original appointment. Said commission may receive gifts, bequests or devises of personal property or interests in real property of the kinds mentioned below in the name of the city or town, subject to the approval of the city council in a city or of the selectmen in a town. It may purchase interests in such land with sums available to it. If insufficient funds are available or other reasons so require, a city council or a town meeting may raise or transfer funds so that the commission may acquire in the name of the city or town by option, purchase, lease or otherwise the fee in such land or water rights, conservation restrictions, easements or other contractual rights including conveyances on conditions or with limitations or reversions, as may be necessary to acquire,

maintain, improve, protect, limit the future use of or otherwise conserve and properly utilize open spaces in land and water areas within its city or town, and it shall manage and control the same. For the purposes of this section a city or town may, upon the written request of the commission, take by eminent domain under chapter seventy-nine, the fee or any lesser interest in any land or waters located in such city or town, provided such taking has first been approved by a two-thirds vote of the city council or a two-thirds vote of an annual or special town meeting, which land and waters shall thereupon be under the jurisdiction and control of the commission. Upon a like vote, a city or town may expend monies in the fund, if any, established under the provisions of this section for the purpose of paying, in whole or in part, any damages for which such city or town may be liable by reason of any such taking. The commission may adopt rules and regulations governing the use of land and waters under its control, and prescribe penalties, not exceeding a fine of one hundred dollars, for any violation thereof. No action taken under this section shall affect the powers and duties of the state reclamation board or any mosquito control or other project operating under or authorized by chapter two hundred and fifty-two, or restrict any established public access. Lands used for farming or agriculture, as defined in section one A of chapter one hundred and twenty-eight, shall not be taken by eminent domain under the authority of this section.

A city or town may appropriate money in any year to a conservation fund of which the treasurer shall be the custodian. Prior to the adoption of any rule or regulation which seeks to further regulate matters established by section forty of chapter one hundred and thirty-one or regulations authorized thereunder relative to agricultural or aquacultural practice, the commission shall, no later than seven days prior to the commission's public hearing on the adoption of said rules and regulations, give notice of the said proposed rules and regulations to the farmland advisory board established pursuant to section forty of chapter one hundred and thirty-one. He may deposit or invest the proceeds of said fund in savings banks, trust companies incorporated under the laws of the commonwealth, banking companies incorporated under the laws of the commonwealth which are members of the Federal Deposit Insurance Corporation, or national banks, or invest it in paid up shares and accounts of and in co-operative banks or in shares of savings and loan associations or in shares of federal savings and loan associations doing business in the commonwealth, and any income therefrom shall be credited to the fund. Money in said fund may be expended by said commission for any purpose authorized by this section; provided, however, that no expenditure for a taking by eminent domain shall be made unless such expenditure has been approved in accordance with this section.

APPENDIX B

Massachusetts General Law Chapter 131; Inland Fisheries and Game and Other Natural Resources

Section 40 Removal, fill, dredging, or altering of land bordering waters

No person shall remove, fill, dredge or alter any bank, riverfront area, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding, other than in the course of maintaining, repairing or replacing, but not substantially changing or enlarging, an existing and lawfully located structure or facility used in the service of the public and used to provide electric, gas, water, telephone, telegraph and other telecommunication services, without filing written notice of his intention to so remove, fill, dredge or alter, including such plans as may be necessary to describe such proposed activity and its effect on the environment and without receiving and complying with an order of conditions and provided all appeal periods have elapsed. Said notice shall be filed by delivery in hand to the conservation commission or its authorized representative or by certified mail, return receipt requested, to said commission, or, if none, to the board of selectmen in a town or the mayor of a city in which the proposed activity is to be located. Upon such filing, the receipt of such notice shall be acknowledged in writing on the face thereof and shall include the time and date so received. A person delivering said notice by hand shall be given a receipt in writing acknowledging the time and date of such filing. Copies of such notice shall be sent at the same time by certified mail to the department of environmental protection. To defray state and local administrative costs each person filing such a notice shall pay a filing fee, determined on a sliding scale basis by the commissioner of administration after consultation with the secretary of environmental affairs. Fifty percent of any filing fee in excess of twenty-five dollars shall be made payable to the department of environmental protection, in a manner to be determined by the commissioner of environmental protection, at the same time as the copies of the notice are sent to the department of environmental protection. The remainder of said fee shall be made payable to the city or town; provided, that said remainder shall be expended solely by the local conservation commission for the performance of its duties under this chapter and shall accompany the copy of the notice sent to the city or town. No such notice shall be sent before all permits, variances, and approvals required by local by-law with respect to the proposed activity, which are obtainable at the time of such notice, have been obtained, except that such notice may be sent, at the option of the applicant, after the filing of an application or applications for said permits, variances, and approvals; provided, that such notice shall include any information submitted in connection with such permits, variances, and approvals which is necessary to describe the effect of the proposed activity on the environment. Upon receipt of any notice hereunder the department of environmental protection, hereinafter called the department, shall designate a file number for such notice and shall send a notification of such number to the person giving notice to the conservation commission, selectmen or mayor to whom the notice was given. Said notification shall state the name of the owner of the land upon which the proposed work is to be done and the location of said land.

[First paragraph as amended by 2012, 238, Sec. 48 effective August 7, 2012. For text effective until August 7, 2012, see above.]

No person shall remove, fill, dredge or alter any bank, riverfront area, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding, other than in the course of maintaining, repairing or replacing, but not substantially changing or enlarging, an existing and lawfully located structure or facility used in the service of the public and used to provide electric, gas, sewer, water, telephone, telegraph and other telecommunication services, without filing written notice of his intention to so remove, fill, dredge or alter, including such plans as may be necessary to describe such proposed activity and its effect on the environment and without receiving and complying with an order of conditions and provided all appeal periods have elapsed. Said notice shall be filed by delivery in hand to the conservation commission or its authorized representative or by certified mail, return receipt requested, to said commission, or, if none, to the board of selectmen in a town or the mayor of a city in which the proposed activity is to be located. Upon such filing, the receipt of such notice shall be acknowledged in writing on the face thereof and shall include the time and date so received. A person delivering said notice by hand shall be given a receipt in writing acknowledging the time and date of such filing. Copies of such notice shall be sent at the same time by certified mail to the department of environmental protection. To defray state and local administrative costs each person filing such a notice shall pay a filing fee, determined on a sliding scale basis by the commissioner of administration after consultation with the secretary of environmental affairs. Fifty percent of any filing fee in excess of twenty-five dollars shall be made payable to the department of environmental protection, in a manner to be determined by the commissioner of environmental protection, at the same time as the copies of the notice are sent to the department of environmental protection. The remainder of said fee shall be made payable to the city or town; provided, that said remainder shall be expended solely by the local conservation commission for the performance of its duties under this chapter and shall accompany the copy of the notice sent to the city or town. No such notice shall be sent before all permits, variances, and approvals required by local by-law with respect to the proposed activity, which are obtainable at the time of such notice, have been obtained, except that such notice may be sent, at the option of the applicant, after the filing of an application or applications for said permits, variances, and approvals; provided, that such notice shall include any information submitted in connection with such permits, variances, and approvals which is necessary to describe the effect of the proposed activity on the environment. Upon receipt of any notice hereunder the department of environmental protection, hereinafter called the department, shall designate a file number for such notice and shall send a notification of such number to the person giving notice to the conservation commission, selectmen or mayor to whom the notice was given. Said notification shall state the name of the owner of the land upon which the proposed work is to be done and the location of said land.

[Second paragraph effective until August 7, 2012. For text effective August 7, 2012, see below.]

Any person filing a notice of intention with a conservation commission shall at the same time give written notification thereof, by delivery in hand or certified mail, return receipt requested, to all abutters within one-hundred feet of the property line of the land where the activity is proposed, at the mailing addresses shown on the most recent applicable tax list of the assessors, including, but not limited to, owners of land directly opposite said proposed activity on any public or private street or way, and in another municipality or across a body of water. Said notification shall be at the applicant's expense, and shall state where copies of the notice of intention may be examined and obtained and where information regarding the date, time and

place of the public hearing may be obtained. Proof of such notification, with a copy of the notice mailed or delivered, shall be filed with the conservation commission.

[Second paragraph as amended by 2012, 238, Sec. 49 effective August 7, 2012. For text effective until August 7, 2012, see above.]

Any person filing a notice of intention with a conservation commission shall at the same time give written notification thereof, by delivery in hand or certified mail, return receipt requested, to all abutters within one-hundred feet of the property line of the land where the activity is proposed, at the mailing addresses shown on the most recent applicable tax list of the assessors, including, but not limited to, owners of land directly opposite said proposed activity on any public or private street or way, and in another municipality or across a body of water. When a notice of intent proposes activities on land under water bodies and waterways or on a tract of land greater than 50 acres, written notification shall be given to all abutters within 100 feet of the proposed project site. For the purposes of this section, "project site" shall mean lands where the following activities are proposed to take place: dredging, excavating, filling, grading, the erection, reconstruction or expansion of a building or structure, the driving of pilings, the construction or improvement of roads or other ways and the installation of drainage, sewerage and water systems, and "land under water bodies and waterways" shall mean the bottom of, or land under, the surface of the ocean or an estuary, creek, river stream, pond or lake. When a notice of intent proposes activity on a linear shaped project site longer than 1,000 feet in length, notification shall be given to all abutters within 1,000 feet of the proposed project site. If the linear project site takes place wholly within an easement through another person's land, notice shall also be given to the landowner. Said notification shall be at the applicant's expense, and shall state where copies of the notice of intention may be examined and obtained and where information regarding the date, time and place of the public hearing may be obtained. Proof of such notification, with a copy of the notice mailed or delivered, shall be filed with the conservation commission.

Within twenty-one days of the receipt by a conservation commission of a written request made by any person and sent by certified mail, said commission shall make a written determination as to whether this section is applicable to any land or work thereon. When such person is other than the owner, notice of any such determination shall also be sent to the owner.

The term "applicant" as used in this section shall mean the person giving notice of intention to remove, fill, dredge or alter.

The term "person" as used in this section shall include any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the commonwealth or political subdivision thereof, administrative agency, public or quasipublic corporation or body, or any other legal entity or its legal representative, agents or assigns.

The term "bogs" as used in this section shall mean areas where standing or slowly running water is near or at the surface during a normal growing season and where a vegetational community has a significant portion of the ground or water surface covered with sphagnum moss (*Sphagnum*) and where the vegetational community is made up of a significant portion of one or more of, but not limited to nor necessarily including all, of the following plants or groups of plants: aster (*Aster nemoralis*), azaleas (*Rhododendron canadense* and *R. viscosu*), black spruce (*Picea mariana*), bog cotton (*Eriophorum*), cranberry (*Vaccinium macrocarpon*), high-bush blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), laurels (*Kalmia angustifolia* and *K. polifolia*), leatherleaf (*Chamaedaphne calyculata*), orchids (*Arethusa*, *Calopogon*, *Pogonia*),

pitcher plants (*Sarracenia purpurea*), sedges (*Cyperaceae*), sundews (*Droseraccae*), sweet gale (*Myrica gale*), white cedar (*Chamaecyparis thyoides*).

The term "coastal wetlands", as used in this section, shall mean any bank, marsh, swamp, meadow, flat or other lowland subject to tidal action or coastal storm flowage.

The term "freshwater wetlands", as used in this section, shall mean wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent plant communities in inland waters; that portion of any bank which touches any inland waters.

The term "swamps", as used in this section, shall mean areas where ground water is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, and where a significant part of the vegetational community is made up of, but not limited to nor necessarily include all of the following plants or groups of plants: alders (*Alnus*), ashes (*Fraxinus*), azaleas (*Rhododendron canadense* and *R. viscosum*), black alder (*Ilex verticillata*), black spruce (*Picea mariana*), button bush (*Cephalanthus occidentalis*), American or white elm (*Ulmus americana*), white Hellebore (*Veratrum viride*), hemlock (*Tsuga canadensis*), highbush blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), cowslip (*Caltha palustris*), poison sumac (*Toxicodendron vernix*), red maple (*Acer rubrum*), skunk cabbage (*Symplocarpus foetidus*), sphagnum mosses (*Sphagnum*), spicebush (*Lindera benzoin*), black gum tupelo (*Nyssa sylvatica*), sweet pepper bush (*Clethra alnifolia*), white cedar (*Chamaecyparis thyoides*), willow (*Salicaceae*).

The term "wet meadows", as used in this section where ground water is at the surface for a significant part of the growing season and near the surface throughout the year and where a significant part of the vegetational community is composed of various grasses, sedges and rushes; made up of, but not limited to nor necessarily including all, of the following plants or groups of plants: blue flag (*Iris*), vervain (*Verbena*), thoroughwort (*Eupatorium*), dock (*Rumex*), false loosestrife (*Ludwigia*), hydrophilic grasses (*Graminae*), loosestrife (*Lythrum*), marsh fern (*Dryopteris thelypteris*), rushes (*Juncaceae*), sedges (*Cyperaceae*), sensitive fern (*Onoclea sensibilis*), smartweed (*Polygonum*).

The term "marshes", as used in this section, shall mean areas where a vegetational community exists in standing or running water during the growing season and where a significant part of the vegetational community is composed of, but not limited to nor necessarily including all, of the following plants or groups of plants: arums (*Araceae*), bladder worts (*Utricularia*), bur reeds (*Sparganiaceae*), button bush (*Cephalanthus occidentalis*), cattails (*Typha*), duck weeds (*Lemnaceae*), eelgrass (*Vallisneria*), frog bits (*Hydrocharitaceae*), horsetails (*Equisetaceae*), hydrophilic grasses (*Gramineae*), leatherleaf (*Chamaedaphne calyculata*), pickerel weeds (*Pontederiaceae*), pipeworts (*Eriocaulon*), pond weeds (*Potamogeton*), rushes (*Juncaceae*), sedges (*Cyperaceae*), smartweeds (*Polygonum*), sweet gale (*Myrica gale*) water milfoil (*Halcragaceae*), water lilies (*Nymphaeaceae*), water starworts (*Callitrichaceae*), water willow (*Decodon verticillatus*).

The term "Densely developed areas", as used in this section shall mean, any area of ten acres or more that is being utilized, or includes existing vacant structures or vacant lots formerly utilized as of January first, nineteen hundred and forty-four or sooner for, intensive industrial, commercial, institutional, or residential activities or combinations of such activities, including, but not limited to the following: manufacturing, fabricating, wholesaling, warehousing, or other commercial or industrial activities; retail trade and service activities; medical and educational

institutions; residential dwelling structures at a density of three or more per two acres; and mixed or combined patterns of the above. Designation of a densely developed area is subject to the secretary of the executive office of environmental affairs approval of a city or town's request for such designation. Land which is zoned for intensive use but is not being utilized for such use as of January first, nineteen hundred and ninety-seven or which has been subdivided no later than May first, nineteen hundred and ninety-six shall not be considered a densely developed area for the purposes of this chapter.

The term "Mean annual high-water line", as used in this section, shall mean with respect to a river, the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and which distinguishes between predominantly aquatic and predominantly terrestrial land. The mean high tide line shall serve as the mean annual high water line for tidal rivers.

The term "River", as used in this section, shall mean a natural flowing body of water that empties to any ocean, lake, or other river and which flows throughout the year.

The term "Riverfront area", as used in this section, shall mean that area of land situated between a river's mean annual high-water line and a parallel line located two hundred feet away, measured outward horizontally from the river's mean annual high-water line. This definition shall not create a buffer zone, so-called, beyond such riverfront area. Riverfront areas within municipalities with (i) a population of ninety thousand or more persons or (ii) a population density greater than nine thousand persons per square mile, as determined by the nineteen hundred and ninety federal census; (iii) that are within densely developed areas as defined herein; (iv) land in Waltham between the Charles river on the north, and the Crescent street and Pine street on the south, and the intersection of the Charles river and a line extended from the center line of Walnut street on the west, and the railroad right-of-way now or formerly of the Boston and Maine Railroad on the east; or (v) property located in the town of Milton shown on Milton assessors Map G, Block 56, Lot 13, located on 2 Granite Avenue shall be defined as that area of land situated between a river's mean annual high-water line and a parallel line located twenty-five feet away, measured outward horizontally, from the river's mean annual high-water line. The riverfront area shall not include land now or formerly associated with historic mill complexes including, but not limited to, the mill complexes in the Cities of Holyoke, Taunton, Fitchburg, Haverhill, Methuen and Medford in existence prior to nineteen hundred and forty-six and situated landward of the waterside facade of a retaining wall, building, sluiceway, or other structure existing on the effective date of this act. The riverfront area shall not apply to any mosquito control work done under the provisions of clause (36) of section five of chapter forty, of chapter two hundred and fifty-two or of any special act or to forest harvesting conducted in accordance with a cutting plan approved by the department of environmental management, under the provisions of sections forty to forty-six, inclusive, of chapter one hundred and thirty-two; and shall not include any area beyond one hundred feet of river's mean annual high water mark: in which maintenance of drainage and flooding systems of cranberry bogs occurs; in which agricultural land use or aquacultural use occur; to construction, expansion, repair, maintenance or other work on piers, docks, wharves, boat houses, coastal engineering structures, landings, and all other structures and activities subject to licensing or permitting under chapter ninety-one and its regulations; provided that such structures and activities shall remain subject to statutory and regulatory requirements under chapter ninety-one and section forty of chapter one hundred and thirty-one or is the site of any project authorized by special act prior to January first, nineteen hundred and seventy-three.

The term "Riverfront area boundary line", as used in this section, shall mean the line located at the outside edge of the riverfront area.

The conservation commission, selectmen or mayor receiving notice under this section shall hold a public hearing on the proposed activity within twenty-one days of the receipt of said notice. Notice of the time and place of said hearing shall be given by the hearing authority at the expense of the applicant, not less than five days prior to such hearing, by publication in a newspaper of general circulation in the city or town where the activity is proposed and by mailing a notice to the applicant and to the board of health and the planning board of said city or town. The conservation commission and its agents, officers and employees and the commissioner of environmental protection and his agents and employees, may enter upon privately owned land for the purpose of performing their duties under this section. No conditions shall be imposed, nor shall any determination be rendered by a conservation commission, in reference to this section, unless the conservation commission meets with a quorum present.

If after said hearing the conservation commission, selectmen or mayor, as the case may be, determine that the area on which the proposed work is to be done is significant to public or private water supply, to the groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to protection of land containing shellfish, to the protection of wildlife habitat or to the protection of fisheries or to the protection of the riverfront area consistent with the following purposes: to protect the private or public water supply; to protect the ground water; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries, such conservation commission, board of selectmen or mayor shall by written order within twenty-one days of such hearing impose such conditions as will contribute to the protection of the interests described herein, and all work shall be done in accordance therewith. If the conservation commission, selectmen or mayor, as the case may be, make a determination that the proposed activity does not require the imposition of such conditions, the applicant shall be notified of such determination within twenty-one days after said hearing. Such order or notification shall be signed by the mayor or a majority of the conservation commission or board of selectmen, as the case may be, and a copy thereof shall be sent forthwith to the applicant and to the department.

If a conservation commission has failed to hold a hearing within the twenty-one day period as required, or if a commission, after holding such a hearing has failed within twenty-one days therefrom to issue an order, or if a commission, upon a written request by any person to determine whether this section is applicable to any work, fails within twenty-one days to make said determination, or where an order does issue from said commission, the applicant, any person aggrieved by said commission's order or failure to act, or any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which said land is located, may, by certified mail and within ten days from said commission's order or failure to act, request the department of environmental protection to determine whether the area on which the proposed work is to be done is significant to public or private water supply, to the groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to protection of land containing shellfish, to the protection of wildlife habitat or to the protection of fisheries or to the protection of the riverfront area consistent with the following purposes: to protect the private or public water supply; to protect the ground water; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries. The commissioner of environmental protection or his designee also may request such a determination within said ten days. The party making any

such request shall at the same time send a copy thereof by certified mail to the conservation commission, board of selectmen or mayor which conducted the hearing hereunder. If such party is other than the applicant, a copy of such request shall also be sent at the same time by certified mail to the applicant. Upon receipt of such request the department shall make the determination requested and shall by written order issued within seventy days of receipt of such request and signed by the commissioner or his designee, impose such conditions as will contribute to the protection of the interests described herein; provided, however, that said department shall notify the applicant within thirty days of the receipt of such request if his application or request is not in proper form or is lacking information or documentation necessary to make the determination. Such order shall supersede the prior order of the conservation commission, board of selectmen or mayor, and all work shall be done in accordance therewith, but in no event shall any work commence until ten days have elapsed following the issuance of said order. In the case of riverfront areas, no order issued by a conservation commission, board of selectmen, mayor, or the department shall permit any work unless the applicant, in addition to meeting the otherwise applicable requirements of this section, has proved by a preponderance of the evidence that (1) such work, including proposed mitigation measures, will have no significant adverse impact on the riverfront area for the following purposes: to protect the private or public water supply; to protect the ground water; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries, and (2) there is no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on such purposes. An alternative is practicable and substantially economically equivalent if it is available and capable of being done after taking into consideration: costs, and whether such costs are reasonable or prohibitive to the owner; existing technology; the proposed use; and logistics in light of overall project purposes. For activities associated with access for one dwelling unit, the area under consideration for practicable alternatives will be limited to the lot; provided, that said lot shall be on file with the registry of deeds as of the August first, nineteen hundred and ninety-six. For other activities including, but not limited to, the creation of a real estate subdivision, the area under consideration shall be the subdivided lots, any parcel out of which the lots were created, and any other parcels that are adjacent to such parcel or adjacent through other parcels formerly or presently owned by the same owner at any time on or after August first, nineteen hundred and ninety-six or any land which can reasonably be obtained; provided, that an ownership interest can reasonably be obtained after taking into consideration: cost, and whether such cost is reasonable or prohibitive to the owner; existing technology; the proposed use; and logistics in light of overall project purposes. At any time prior to a final order of determination by the department, any party requesting a determination may in writing withdraw the request, and such withdrawal shall be effective upon receipt by the department. Notwithstanding the withdrawal, the commissioner or his designee may continue the determination if he notifies all parties within ten days of receipt of the withdrawal. A copy of such order shall be sent to the applicant, to the conservation commission, board of selectmen or mayor which conducted the hearing hereunder. As used in this section the words "wildlife habitat" shall mean those areas subject to this section which, due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas, or breeding areas for wildlife.

No work proposed in any notice of intention shall be undertaken until the final order, determination or notification with respect to such work has been recorded in the registry of deeds, or if the land affected thereby be registered land, in the registry section of the land court

for the district wherein the land lies. If the final order, determination or notification requires the recording of a plan which (1) shows the location of the work, (2) is prepared by a registered professional engineer or land surveyor and (3) is in recordable form, no work proposed in the notice of intention shall be undertaken until such plan has been recorded in the registry of deeds or, if the land affected thereby is registered land, in the registry section of the land court for the district wherein such land lies.

Within twenty-one days of the receipt of a written request, by the applicant or the owner of the property, for a certificate of compliance, the issuer of the final order shall grant such request if the activity, or portions thereof, complies with such final order. The certificate of compliance shall state that the activity, or portions thereof, has been completed in accordance with such order.

Any site where work is being done which is subject to this section shall display a sign of not less than two square feet or more than three square feet bearing the words, "Massachusetts Department of Environmental Protection File Number" and the sign shall display the file number assigned to the project.

If the department of environmental protection finds that any proposed work would violate the provisions of chapter ninety-one, it shall proceed immediately to enforce the provisions of said chapter.

The provisions of this section shall not apply to any mosquito control work done under the provisions of clause (36) of section five of chapter forty, of chapter two hundred and fifty-two or of any special act; to maintenance of drainage and flooding systems of cranberry bogs, to work performed for normal maintenance or improvement of land in agricultural use or in aquacultural use; or to any project authorized by special act prior to January first, nineteen hundred and seventy-three.

Within one hundred and twenty days of the effective date of this act, the department, upon the advice and consent of the Commissioner of the Department of Food and Agriculture, shall promulgate rules and regulations pursuant to this section which shall establish definitions for the term "normal maintenance or improvement of land in agricultural, or in aquacultural use", for each agricultural commodity, or where appropriate because of similarities in cultural practices, groups or commodities in the Commonwealth. The department shall create a farmland advisory board to be appointed by the commissioner consisting of five persons one a member of the cooperative extension service, one a member of the USDA soil conservation service, one a member of a municipal conservation commission who has demonstrated expertise in agricultural issues, and two commercial farmers with expertise in different agricultural commodities to assist the department in the drafting of rules and regulations pursuant to this paragraph.

[Twenty-sixth paragraph effective until August 7, 2012. For text effective August 7, 2012, see below.]

The notice of intention required in the first paragraph of this section shall not apply to emergency projects necessary for the protection of the health or safety of the commonwealth which are to be performed or which are ordered to be performed by an agency of the commonwealth or a political subdivision thereof. An emergency project shall mean any project certified to be an emergency by the conservation commission of the city or town in which the project would be undertaken, or if none, by the mayor of said city or the selectmen of said town. If the conservation commission, mayor, or selectmen, as the case may be, fail to act favorably within

twenty-four hours of receipt of a request for certification of an emergency project, said project may be so certified by the commissioner or his designee. In no case shall any removal, filling, dredging, or alteration authorized by such certification extend beyond the time necessary to abate the emergency.

[Twenty-sixth paragraph as amended by 2012, 238, Sec. 50 effective August 7, 2012. For text effective until August 7, 2012, see above.]

The notice of intention required in the first paragraph of this section shall not apply to emergency projects necessary for the protection of the health or safety of the commonwealth which are to be performed or which are ordered to be performed by an agency of the commonwealth or a political subdivision thereof. An emergency project shall mean any project certified to be an emergency by the conservation commission of the city or town in which the project would be undertaken, or if none, by the mayor of said city or the selectmen of said town. If the conservation commission, mayor, or selectmen, as the case may be, fail to act favorably within twenty-four hours of receipt of a request for certification of an emergency project, said project may be so certified by the commissioner or his designee. In no case shall any removal, filling, dredging, or alteration authorized by such certification extend beyond the time necessary to abate the emergency. The permitting and emergency provisions in this paragraph shall not apply to severe weather emergencies as declared by the commissioner of environmental protection following a destructive weather event requiring widespread recovery efforts, debris cleanup or roadway or utility repair. A severe weather emergency declaration shall allow for emergency related work to occur as necessary for the protection of the health or safety of the residents of the commonwealth. A severe weather emergency declaration by the commissioner shall describe the types of work allowed without filing a notice of intent, any general mitigating measures to condition the work that may be required in performing such work, any notification or reporting requirements, the geographic area of the declaration's effect and the period of time the declaration shall be in effect which, in no event, shall be longer than 3 months unless extended by the commissioner. A severe weather emergency declared by the commissioner shall be sent electronically to all conservation commissions in the geographic area of the severe weather emergency and shall be made widely available to the general public through appropriate channels for emergency communications. A declaration of a severe weather emergency by the commissioner shall not impact the department's ability to enforce any general or special law or rule or regulation that is not altered by the commissioner's declaration.

Notwithstanding the provisions of section fourteen of chapter twenty-one A or any other provision of law to the contrary, the notice of intention required in the first paragraph of this section shall not apply to a maintenance dredging project for which a license has been previously issued within ten years by the division of waterways of the department of environmental protection. A person intending to fill or dredge under such previously issued license shall file a written notice by certified mail to the conservation commission or if none, to the board of selectmen in a town or mayor of a city in which the land upon which such dredging project is located. Such notice shall contain the name and address of the applicant.

If the conservation commission, the board of selectmen or mayor fails to notify the applicant at the applicant's address within twenty days of the receipt of such notice of the specific objections to the commencement of such dredging fill or maintenance dredging contemplated under said

license, the applicant may commence such work without any further notice to other agencies of the commonwealth. Notwithstanding failure to notify an applicant, as hereinbefore provided, the conservation commission, the board of selectmen or mayor may at any time designate an area at which spoilage from the dredging may be placed and may require the relocation of shellfish before such maintenance dredging takes place.

If the conservation commission, the board of selectmen or mayor cites specific objections to the notice of intention, such conservation commission, board of selectmen or mayor may order a hearing as provided in this section and all other pertinent provisions of this section shall apply.

Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of the provisions of this section or in violation of any order issued under this section shall forthwith comply with any such order or restore such real estate to its condition prior to any such violation; provided, however, that no action, civil or criminal, shall be brought against such person unless such action is commenced within three years following the recording of the deed or the date of the death by which such real estate was acquired by such person. Any court having equity jurisdiction may restrain a violation of this section and enter such orders as it deems necessary to remedy such violation, upon the petition of the attorney general, the commissioner, a city or town, an owner or occupant of property which may be affected by said removal, filling, dredging or altering, or ten residents of the commonwealth under the provisions of section seven A of chapter two hundred and fourteen.

Rules and regulations shall be promulgated by the commissioner to effectuate the purposes of this section. However, failure by the commissioner to promulgate rules and regulations shall not act to suspend or invalidate the effect of this section. In addition to the other duties provided for in this section, a conservation commission and its agents, officers, and employees; the commissioner, his agents and employees; environmental officers, and any officer with police powers may issue enforcement orders directing compliance with this section and may undertake any other enforcement action authorized by law. Any person who violates the provisions of this section may be ordered to restore property to its original condition and take other actions deemed necessary to remedy such violations.

No person shall remove, fill, dredge or alter any area subject to protection under this section without the required authorization, or cause, suffer or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with an enforcement order issued pursuant to this section. Each day such violation continues shall constitute a separate offense except that any person who fails to remove unauthorized fill or otherwise fails to restore illegally altered land to its original condition after giving written notification of said violation to the conservation commission and the department shall not be subject to additional penalties unless said person thereafter fails to comply with an enforcement order or order of conditions.

Whoever violates any provision of this section, (a) shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each violation.

APPENDIX C

Truro Conservation Bylaw Chapter VIII of the General By-Laws: Effective 9/30/10

1. Purpose

- a) The purpose of this Bylaw is to protect the natural resources and wetlands existing in the Town of Truro by review and control of activities deemed to have a significant direct or cumulative adverse effect upon resource area values, including but not limited to public or private water supply, groundwater supply and quality, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, water pollution control, fisheries, shellfisheries, wildlife habitat, rare species habitat including rare plant and animal species, and aquaculture.
- b) This Bylaw is adopted under the Home Rule Amendment of the Massachusetts Constitution and the Home Rule statutes, independent of the Wetlands Protection Act (G.L. c. 131 §40) and Regulations thereunder (310 CMR 10.00).

2. Definitions

- a) Except as otherwise provided in this Bylaw or in regulations of the Conservation Commission (hereinafter "Commission"), the definition of terms in this Bylaw shall be as set forth in the Wetlands Protection Act (G.L. c. 131 §40) and Regulations thereunder (310 CMR 10.00).

3. Jurisdiction

- a) No person shall remove, fill, dredge, build upon, degrade, discharge into or otherwise alter any Resource Area or buffer zone without first filing a written Notice of Intent with the Commission of the Town of Truro and receiving and complying with an Order of Conditions issued by said Commission pursuant to this Bylaw.
- b) Other than for emergency exemption identified in Section 9 herein, and the agricultural exemption contained in the Wetlands Protection Act (G.L. c. 131 §40) and Regulations thereunder (310 CMR 10.00), no other exemptions shall apply to this Bylaw, and a permit shall be required as set forth in this Bylaw whether or not an Order of Conditions is also required under the Wetland Protection Act or Regulations thereunder.

4. Applications and Procedure

- a) A written application in the form of a Notice of Intent (NOI) shall be filed with the Commission prior to the performance of any activities which involve removing, filling, dredging, building upon, degrading, discharging into or otherwise altering any Resource Area protected by this Bylaw. The permit application shall include such information and plans as are deemed necessary by the Commission to describe both the proposed activities and their effects on the Resource Areas protected by this Bylaw. The NOI application shall be sent by certified mail or be hand-delivered to the Commission at the Town Offices.

- b) Upon the written request of any person, the Commission may make a Determination of Applicability of this Bylaw to any proposed activity or to any area. Such a Request for Determination of Applicability (RDA) shall include such information and plans as are deemed necessary by the Commission to make the determination.
- c) Filing of NOI or RDA application may be accomplished in the same manner as provided in the Massachusetts Wetlands Protection Act (G.L. c. 131 §40) and Regulations thereunder, and shall conform in all respects with any submission guidelines adopted by the Commission as part of its Regulations. The Commission, in its discretion, may hear any oral presentation under this Bylaw at the same public hearing required to be held under the provisions of the Wetlands Protection Act. The Commission may combine the orders issued under this Bylaw with the orders issued under the Wetland Protection Act.
- d) At the time of filing an NOI or RDA application with the Commission, the applicant shall pay a filing fee set by the Commission to cover the costs of administering this local Bylaw. This fee is in addition to that required by the Wetlands Protection Act. These fees are not refundable.
- e) Upon receipt of an application, or at any point during the hearing process, the Commission is authorized to require an applicant to pay a consultant fee for the reasonable costs and expenses borne by the Commission for specific expert engineering and other consultant services deemed necessary by the Commission to come to a final decision on the application. The specific consultant services may include, but are not limited to, performing or verifying the accuracy of resource area survey and delineation; analyzing resource area functions and values, including wildlife habitat evaluations, hydro geologic and drainage analysis; and researching environmental or land use law. The exercise of discretion by the Commission in making its determination to require the payment of a consultant fee shall be based upon its reasonable finding that additional information available only through outside consultants is necessary for the making of an objective decision.

5. Notice and Public Hearing

- a) Any person filing an NOI, RDA or any other application with the Commission shall, at the same time, give written notice thereof, by certified mail (return receipt requested) or by hand delivery, to all abutters at their mailing addresses shown on the most recent applicable tax list of the assessors, including owners of land directly opposite any water body or any public or private street or way, and abutters to the abutters within 300 feet of the property line of the applicant, including any in another municipality. The notice to abutters shall enclose a copy of the application or request, and shall state where site plans and additional information filed with the Commission may be examined and obtained by abutters. An affidavit of the person providing such notice, with a copy of the notice mailed or delivered, shall be filed with the Commission. Written notice of the public hearing on such application shall be given by the Commission at the cost of the applicant at least five business days prior to the hearing, in a newspaper of general circulation in the municipality.

- b) The Commission shall commence the public hearing within 21 days of receipt of a completed application unless an extension is authorized in writing by the applicant. The Commission shall have authority to continue the hearing to a specific date announced at the hearing, for reasons stated at the hearing, which may include the need for additional information from the applicant. The Commission shall issue its decision, order or determination in writing within 21 days of the close of the public hearing thereon unless the applicant consents, in writing, to an extension.

6. Action on Application

- a) If the Commission, after a public hearing, determines that the activities which are subject to the permit application or the land and water uses which will result therefrom, are likely to have a significant individual or cumulative effect upon the resource area values protected by this Bylaw, the Commission shall issue an Order of Conditions, permitting the activities requested or denying the application.
- b) If the Commission issues an Order of Conditions permitting the work, the Commission shall impose conditions which the Commission deems necessary or desirable to protect those values, and all activities shall be done in accordance with those conditions.
- c) Where the work cannot be conditioned to avoid or prevent significant or cumulative effects upon the Resource Areas protected under this Bylaw, the Commission shall issue an Order of Conditions denying the project for failure to meet the requirements of this Bylaw. It may also deny a permit application for failure to meet the performance standards and other requirements provided for in the regulations of the Commission.
- d) The Commission shall take into account the cumulative adverse effects resulting from past activities, permitted and exempt, and foreseeable future activities. In all determinations of the Commission, the applicant shall have the burden of proving by clear and convincing evidence that the activity proposed will not have a significant direct or cumulative effect upon the environmental values protected by this Bylaw. Due consideration shall be given to any demonstrated hardship on the applicant by reason of denial, as presented at the public hearing. Failure to provide adequate evidence to the Commission supporting this burden shall be sufficient cause for the Commission to deny a permit or grant a permit with conditions.

7. Orders of Condition Permitting the Work

- a) An Order of Conditions ("Order") shall expire three (3) years from the date of issuance. Any Order may be extended for a period of up to two (2) additional years, provided that a request for renewal is received in writing by the Commission prior to the expiration. Notwithstanding the above, an Order may identify specific conditions which shall remain enforceable for a stated number of years beyond three (3), or indefinitely, or until permanent protection is in place, and shall be applicable to all successor owners of the land.
- b) If any work subject to an Order of Conditions issued under this Bylaw is not completed

within three (3) years from the date of issuance thereof, or any timely granted extension thereof, a new Notice of Intent must be filed, public hearing(s) held and the work re-conditioned or denied by the Commission applying all regulations in effect at the time of re-application.

- c) The Commission may grant waivers and/or administrative review in cases where warranted, pursuant to rules adopted by the Commission.

8. Appeals

- a) Any person aggrieved by the Commission's order or determination or failure to act may appeal to the Department of Environmental Protection and to an appropriate court..

9. Emergency Repair Exemption

- a) Emergency Repairs. The NOI application required by Section 4 of this Bylaw shall not apply to emergency projects necessary for the protection of the property, or health or safety of the citizens of the Town of Truro. As used in this Section, the term “emergency project” means a project to remedy an unsafe or dangerous condition arising from storm, fire, or other disaster. The work permitted by this Section shall only include such work as shall be immediately necessary to ensure safety and to prevent further damage. Where storm or water damage washes out or undermines structure in coastal areas, property owners may secure such structures and may remove debris, and with the prior approval of the conservation agent and at least one member of the Commission, may also add, move or remove sand. In all instances, the emergency project shall be limited in scope to the work necessary to secure the area and prevent further damage. Any more extensive remediation shall only be undertaken in conformity with the procedures set forth in Section 4 of this Bylaw.
- b) Procedure. The work of an “emergency repair” must be detailed in an "Emergency Repair Application" available from the Conservation Agent, and must be filed prior to the commencement of the work or within 24 hours after commencement. No filing fee shall be required. Following inspection of the site by the Conservation Agent, such application may be approved by the Agent, except as to those applications to move, add or remove sand, which may be approved by the Agent and at least one member of the Commission, following the site inspection. Upon completion of the “emergency repair” the applicant shall so certify to the Commission. All emergency repair applications, permits and certificates of completion shall be reviewed at the next regularly scheduled meeting of the Conservation Commission. All “Emergency Repair Applications”, permits and certificates of completion shall be maintained as public records of the Commission.

10. Security

- a) The Commission may require the posting of security in the form of a deposit of money, or negotiable securities, or other undertaking of financial responsibility, or a bond with surety running to the municipality, and sufficient as to form and surety in the opinion of the Commission's Counsel, to secure faithful and satisfactory performance of the work required by any Order of Conditions, in such sum and upon such conditions as the Commission may require. The amount of such bond shall not exceed 150% of the

estimated cost of the work required or the restoration of affected lands and properties if the work is not performed as required, whichever is greater.

11. Enforcement

- a) The Commission, its agents and a constable shall have authority to enforce this Bylaw, its regulations and Orders issued thereunder by violation notices, administrative orders, citations, and civil court actions. Any person who violates provisions of this Bylaw may be ordered to restore the property to its original condition and take other action deemed necessary to remedy such violations, or may be fined, or both.
- b) Any person who violates any provision of this Bylaw, or regulations, permits or administrative orders issued thereunder, may be punished by a fine of not more than \$300.00. Each day or portions thereof during which a violation continues shall constitute a separate offense. If more than one, each condition violated shall constitute a separate offense.

12. Regulations

- a) After public notice and public hearing, the Commission may promulgate and, from time to time, amend, rules and regulations to effectuate the purpose of this local Bylaw, which shall become effective when voted by the Commission and filed with the Town Clerk. The scope and extent of the Commission's authority to promulgate and amend rules and regulations shall be limited to defining key terms in this Bylaw, creating and defining performance standards for specific Resource Areas, creating and defining design standards for specific categories of projects (i.e., fences, docks, landscape or mitigation plans, etc.), creating consultant and filing fee schedules, creating schedules for fines, creating policies and procedures relative to filings and variances, and creating administrative review procedures for smaller projects. More substantive regulations which exceed the scope and extent described above will require further Town Meeting vote. Failure or delay by the Commission in promulgating such regulations, or a legal declaration of their invalidity by a court of law, shall not act to suspend or invalidate the effect of this Bylaw, nor shall such failure be construed to required the Commission to apply only the minimum standards contained in the Wetlands Protection Act and Regulations where this Bylaw authorizes greater protection for Resource Areas protected by this Bylaw.

13. Severability

- a) The invalidity of any section or provision of this Bylaw shall not invalidate any other section or provision thereof, nor shall it invalidate any order of determination which previously has been issued.

APPENDIX D

MODEL ORDER ON APPLICATION FOR COASTAL EROSION CONTROL PROJECT

FINDINGS and SPECIAL AND ADDITIONAL GENERAL CONDITIONS

Property owner name, address

dep file number

UNDER WETLANDS PROTECTION ACT (G.L. c. 131, § 40) AND THE TOWN OF TRURO CONSERVATION BYLAW (Chapter VIII)

FINDINGS

1. The Commission finds the site of the proposed shorefront protection to be on a Coastal Bank and work will occur on the adjacent Coastal Beach above mean high water. The areas subject to protection/regulation are coastal banks, coastal beaches and their buffer zones and land subject to coastal storm flowage. The Commission finds the coastal bank to exist in a dynamic coastal environment and to be composed of mixed glacial till and outwash material. The Commission finds that the coastal bank is significant to storm damage prevention and flood control and supplies sediment to down drift coastal resource areas.
2. The Commission finds the coastal banks composed of glacial outwash along the bay side of Truro were subjected to a particularly dynamic and erosive storm season from the winter of 2009-2010, which resulted in the high end of normal erosion rates and a significantly lower beach elevation due to wave action, overland stormwater, and wind/rain during the 2009-2010 season. The beach elevation has not recovered and remained uncharacteristically low during the summer and fall months of 2010 and winter months of 2011, increasing the opportunity that the coastal bank will again experience erosion.
3. The site for this project is located approximately
4. The Applicant acknowledges that the coir tube project is only a temporary measure (5 to 7 years) to protect the coastal bank, its storm damage prevention function, and their home atop the eroding bank. The Applicant has agreed to conduct an engineering, legal and logistical analysis of alternatives to address the proximity of the house to the top of the coastal bank, including relocation, reduction in size and removal of the existing house. This analysis may include alternatives which would protect the coastal bank, and ensure that its functions of storm damage prevention and sediment supply to the beaches are preserved. The Applicant shall submit an alternatives report and shall meet with the Commission to discuss said report prior to the issuance of a Certificate of Compliance for this project.
5. The Applicant acknowledges and understands that his or her property is located on an eroding coastline, that their home is post-1978 construction, and as such revetments and other coastal engineering structures cannot be permitted.

6. The Commission finds that the coastal beach resource area is not significant to state listed species since it is not located in Estimated Habitat of Rare Wildlife as mapped by NHESP and published maps on 10/01/08. The coastal beach is significant to storm damage prevention, flood control and protection of wildlife habitat.
7. These Special Conditions and Additional General Conditions are being issued in accordance with the information submitted in the Notice of Intent, with accompanying attachments, dated _____, the Plan of Record dated _____, and Supplemental information including but not limited to
 - a. In the event of any conflict between these referenced materials and this Order, this Order shall control.
8. This Order is issued pursuant to the Massachusetts Wetlands Protection Act and the Town of Truro's Conservation By-Law.
9. This Order of Conditions allows the following work: the placement and maintenance of sand-filled coir and jute tubes at the base of the coastal bank; the maintenance of a single row of serpentine fencing between the coir tubes and mean high water; placement and maintenance of sand cover over the tubes; placement of compatible beach/bank nourishment sands; the planting of the tubes and coastal bank face with American beach grass and salt tolerant shrubs; and construction of a temporary work staging area and maintenance access area at the top of the coastal bank.

SPECIAL CONDITIONS

10. Tubes
 - a) The tubes shall consist of two layers of coir mat with an interior layer of jute mat.
 - b) Four tubes are allowed, as long as the top tube does not exceed the 100 year flood elevation of 18' based on the provided plan. No plastics or metals (other than the helical anchors) shall be utilized in the construction or securing of the coir tubes.
 - c) The first tube shall be buried a maximum of 1/3 of its total height in the beach at the elevation shown on the plan in order to provide a stable foundation for the other tubes. Nothing else may be placed completely within the beach. The tubes shall be stepped against the bank to reflect the slope of the bank.
 - d) The tubes shall be stepped and tapered to meet the coastal bank gradually 25' from abutters who do not have tubes, unless they give written permission to construct the tubes closer to the property boundary and the Commission concurs.
 - e) Helical anchors shall be placed as noted on the current site plan. If the helical anchors become uncovered and are protruding from the bank or tubes, the Applicant will be required to reinstall them immediately.
11. Nourishment
 - a) Nourishment sands will be compatible with existing bank and beach sand materials. The size and angularity of the grain size from the proposed source must be confirmed at the Applicant's expense and the analysis provided to the Conservation Agent prior to

placement. All nourishment materials shall consist of clean sand determined to be compatible with existing bank and beach sands at and proximate to the project site according to the sediment grain size information provided in the Notice of Intent (Appendix D).

- b) The proposed slope of the nourished bank shall be no steeper than the angle of repose (i.e. 34°).
- c) The initial minimum coverage of all tubes with sand shall be at least 18”.
- d) The Applicant shall be required to perform annual renourishment of the bottom of bank to at least one foot above the top of the coir tubes to ensure the stability and function of the bank and adjacent beach. A minimum depth of 18 inches of cover sand shall be restored and in place prior to Thanksgiving of each year.
- e) Prior to any beach re-nourishment practices, the Conservation Agent shall determine in consultation with the Applicant’s representatives the quantity of sand needed for the site; any disagreement shall be decided by the Commission. In addition, any access needed for equipment and materials shall be approved by the Commission and appropriate parties.
- f) ***Bi-monthly monitoring reports shall be submitted to the Commission to include a file copy with photos and measurements of sand coverage at 5’ from the ends and every 50’ along the tubes. One hard copy along with an electronic copy shall also be sent to the Commission. Monitoring locations shall be identified by GPS and by relative elevation. A minimum coverage of 12” of sand will be maintained at all times. A record of the number of times that the tubes need to be re-covered and the amount of sand deposited in each renourishment shall be documented and submitted to the Commission in an annual report by December 1 of each year. The report shall include copies of invoices for nourishment sand, and shall specify how much sand was deposited.***

12. Plantings

Beach grass shall be planted 6" on center with three to six culms per plant, 8” deep. Salt tolerant shrubs (e.g. saltspray rose, bayberry, beach plum) shall be planted in groups of three or five 10’ on center.

Rooted beach grass may be planted between April 15 and Memorial Day. If such rooted grass is utilized, planting shall be 12” on center. Dormant or rooted beach grass may be planted between Columbus Day and April 15 as initial or replacement plantings. The applicant shall provide documentation to the Commission of the type and placement of beach grass.

- a) In the event that the plantings do not survive, they shall be replaced at the next seasonal opportunity. Failed plantings shall be replaced no later than April 15 of each year.
- b) Monitoring reports which include photographs, copies of invoices for plants and information on how much material was planted shall be submitted to the Commission by December 1 of each year.
- c) Removal of dead and invasive species shall be by hand and shall be transported to an appropriately licensed facility or landfill. The contractor is responsible for removing all invasive species on the top of bank and bank itself. No vegetation shall be removed beyond the limit of work shown on the approved plan. Any vegetation disturbed during construction shall be restored to its pre-existing condition.

- d) Herbicides, pesticides, and fungicides shall not be used. If required, organic low nitrogen, slow-release fertilizers are permitted. Fertilizer use shall be minimal.

13. Damage, Repair and Removal of Tubes

- a) The tubes shall be maintained and repaired to ensure proper function and to prevent any debris. If the tubes are damaged beyond repair, they shall be promptly removed and be properly disposed.
- b) The Applicant shall be responsible for retrieving any and all materials stored, dislodged or washed off-site (excluding sand) for the life of the project. The Commission shall require a current contract between the Applicant and a contractor for inspection, repair and debris removal, and shall identify a responsible party and contact number and address for such clean up work. Such contract shall be submitted to the Commission upon completion of construction and Applicant shall annually thereafter submit a renewal or new contract to the Commission. Each fencing post, picket and support shall be branded or otherwise indelibly marked with the lot and parcel number for this project.
- c) The Applicant shall notify the Conservation Agent concerning the extent of repairs and maintenance necessary prior to proceeding with any repair and maintenance work.
- d) If the Commission has a basis to believe the tubes are causing scour or erosion on abutting properties, or are adversely impacting offshore deposition process, or otherwise creating negative or unintended consequences, it may issue an Order to Show Cause why the tubes should not be removed. The Commission will conduct a hearing to evaluate the evidence and will issue a decision on removal.
- e) Should the tubes be removed and the existing drift fence replaced, the helical anchors may be utilized for a lanyard system on the existing fence panels.
- f) Prior to the commencement of construction, the Applicant shall establish an escrow account in the amount of \$5,000, which may be used by the Commission to remove and dispose of debris, or damaged or end-of-useful life tubes if the Applicant does not perform such work in a reasonable period of time after the Commission orders the performance of such work.

14. No construction work may cause further destabilization of the coastal bank. If the installation of anchors, application of sand from the top or bottom of the coastal bank or any other related work for this project cause any slumping of the bank, work must stop and be evaluated by the Commission.

15. No work on the beach, including access over the beach, shall occur between April 15th and Columbus Day. Work shall not commence prior to 8 a.m. and must end by 6:00 p.m.

16. All work shall be done in accordance with the Construction Protocols and Methodology provided in the NOI, Supplemental Information dated _____, and final plan. In the event of any conflict between the Construction Protocols and Methodology or the final plan and this Order, this Order shall control.

17. All post-construction Monitoring and Maintenance Program/Protocols shall be done in compliance with the NOI and Supplemental Information dated (insert date), except as modified by this Order.

- a) After each significant storm event, the Applicant will inspect the project area and prepare a field report.
 - b) After each significant storm event and before, during and after any repairs or re-nourishment, the Conservation Agent or her designee will inspect the project area at the Applicant's expense. Inspection time will be billed at the then current rate for such inspections as established by the Truro Conservation Commission. Invoices with dates of on-site inspections will be submitted to the Applicant on a quarterly basis. Payment is due within 30 days of receipt.
18. Prior to issuance of a Certificate of Compliance, the Applicant shall conduct an engineering, legal and logistical analysis of alternatives to address the proximity of the house to the top of the coastal bank, including relocation, reduction in size and removal of the existing house this analysis may include alternatives which would protect the coastal bank, and ensure that its functions of storm damage prevention and sediment supply to the beaches are preserved. The alternatives report shall contain a narrative analysis, feasibility evaluation, cost estimates, permitting requirements, and conceptual layouts. The report shall be submitted to the Commission when requesting a Certificate of Compliance for the project. No Certificate of Compliance shall issue until this analysis has been filed with the Commission and is deemed by the Commission to be complete, nor until the Applicant (or then current owner) has met with the Commission to discuss this alternatives analysis.
19. Special Condition Nos. 11, 12, 13, 14, 15 and 17 shall be continuing conditions which survive a Certificate of Compliance, unless the Commission agrees by written order after notice to abutters to modify the conditions. Any modifications shall be based upon the monitoring reports and written recommendations by a coastal geologist.

In addition to the standard GENERAL CONDITIONS Nos. 1-19, the Commission has determined that it necessary to include the following Additional General Conditions.

ADDITIONAL GENERAL CONDITIONS

- 20. This Order shall apply to any successor in control or successor in interest of the property described in the Notice of Intent and accompanying plans. These obligations shall be incorporated and referenced in covenants in all deeds to succeeding owners of all or any part of the property.
- 21. The form provided at the end of this Order shall be completed and stamped at the appropriate Registry of Deeds, after the expiration of the 10 business day appeal period and if no request for appeal has been filed with the Department of Environmental Protection under the Wetlands Protection Act and the DEP Wetland Protection Regulations (310 CMR 10.00), or under the local Conservation By-Law.
- 22. This Order shall be included in all construction contracts, subcontracts, and specifications dealing with the work proposed and shall supersede any conflicting contract requirements. It is the responsibility of the Applicant, Owner, and/or successor(s) to ensure compliance with all Conditions of this Order. A copy of this Order shall be available at the work site, or posted, during normal work hours, until the work is complete.

23. The Applicant shall give written notice to the Commission 48 hours in advance of commencement of work. Members of the Commission or its Agent, or the DEP reserve the right to enter and inspect the property at all reasonable times, until a Certificate of Compliance is issued, to evaluate compliance with this Order of Conditions, the Wetlands Protection Act, the DEP Wetland Protection Regulations, and the Bylaw, and may require any information, measurements, photographs, observations, and/or materials, or may require the submittal of any data or information deemed necessary by the Commission for that evaluation.
24. Prior to commencement of work, a series of color photos shall be taken of the bank and submitted to the Commission. In addition, a series of color photos shall be taken at the end of construction and submitted to the Commission. All photographs shall include the Assessor's Map and Parcel and date the picture was taken.
25. Prior to the commencement of work, a sign shall be displayed at the site showing the DEP file number assigned to this project. Such sign shall be separately staked and not placed on a living tree.
26. Work shall be halted on the site if the Commission, Conservation Agent or DEP determines that any of the work is not in compliance with this Order. Work shall not resume until the Commission is satisfied that the work will comply with this Order, and has so notified the Applicant in writing.
27. Any changes in the work described in the Notice of Intent or in the plans and specifications shall be submitted to the Commission in writing for a determination of whether the change is significant enough to the interests of the Act and the Bylaw to require a new Notice of Intent. No changes shall be made or implemented in the field prior to the Commission's determination. Should issuance of additional permits result in a change in the project, the Applicant shall promptly submit such changes to the Commission for evaluation under this provision.
28. Upon completion of this project, the Applicant or Owner shall submit a request to the Conservation Commission for issuance of a Certificate of Compliance and the report required by Special Condition No. 18. The Applicant or Owner shall certify in writing that the work was completed in substantial compliance with the plans and documents referenced above. At the request of the Commission, the Applicant or Owner may be required to submit (a) a written statement from a registered professional engineer in the Commonwealth of Massachusetts certifying that the work was completed in substantial compliance with the plan(s) and documents referenced above and as conditioned by the Commission. The Certificate of Compliance shall specify those conditions which are ongoing and survive the Certificate of Compliance.

APPENDIX E

ESCROW AGREEMENT

This Escrow Agreement (this “Agreement”) is made this ____ day of _____(date) between and among _____, the owner of _____, Truro, Massachusetts (the “Owner”), the Truro Conservation Commission (the “Commission”) and Town Treasurer of the Town of Truro, Truro Town Hall, 24 Town Hall Road, Truro, MA 02666 (the “Escrow Agent”).

WHEREAS, on (date) _____, the Commission issued to the Owner an Order of Conditions in DEP File No. _____ approving the placement and maintenance of sand-filled coir and jute envelopes at the base of the coastal bank, placement and maintenance of sand cover over the envelopes, placement of compatible beach/bank nourishment sands, planting of the envelopes and coastal bank face with American beach grass and salt tolerant shrubs, and a temporary work staging area and maintenance area;

WHEREAS, the Amended Order provides for the maintenance, damage, repair and removal of the envelopes in Special Condition No. 13;

WHEREAS, Special Condition No. 13(f) provides that:

Prior to the commencement of construction, the Applicant shall establish an escrow account in the amount of \$5,000, by executing an escrow agreement in a form acceptable to the Commission and payment of the required sum to the Escrow Agent designated by the Commission, which may be used by the Commission to remove and dispose of envelopes where sand and plant cover are not maintained as required, debris, or damaged or end-of-useful life envelopes, if the Applicant does not perform remedial and maintenance work in a reasonable period of time after the Commission orders the performance of such work;

WHEREAS, Special Condition No. 17(b) provides that:

After each significant storm event and before, during and after any repairs or re-nourishment, the Conservation Agent will inspect the project area at the Applicant’s expense. The Agent’s time will be billed at the then current rate set by the Commission per inspection. Invoices with dates of on-site inspections will be submitted to the Applicant on a quarterly basis. Payment is due within 30 days of receipt. In the event timely payment is not made, the Commission shall be entitled to payment from the escrow account established pursuant to this Order;

WHEREAS, Special Condition No. 19 specifies that Special Conditions Nos. Special Condition Nos. 11, 12, 13, 14, 15 and 17 shall be continuing conditions which survive a Certificate of Compliance; and

WHEREAS, Additional General Condition No. 20 requires that:

This Order shall apply to any successor in control or successor in interest of the property described in the Notice of Intent and accompanying plans. These obligations shall be incorporated and referenced in covenants in all deeds to succeeding Owners of all or any part of the property.

NOW, THEREFORE, in consideration of the promises and agreements of the parties contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by each party, the parties agree as follows:

1. Escrow.

- (a) Prior to the commencement of construction, the Owner shall send \$5,000.00 to the Escrow Agent, who agrees to immediately deposit \$5,000.00 ("Escrow Funds") in an interest bearing escrow account. Upon deposit of the Escrow Funds, the Escrow Agent shall acknowledge in writing the deposit of said \$5,000.00 to the Commission, attention of the Chair, and to the Owner.
 - (b) The Owner shall pay all fees and expenses which may be charged by the bank for the establishment and administration of the Escrow Accounts.
- 2. Distribution of Escrow Funds.
 - (a) The Escrow Agent shall distribute the Escrow Funds from the Escrow Account only upon written request and instruction from the Commission, which shall include satisfactory evidence that the Commission had requested and ordered the Owner to remove and dispose of envelopes where sand and plant cover are not maintained as required, debris, or damaged or end-of-useful life envelopes, the Owner had failed to respond or to perform remedial and maintenance work within a reasonable period of time after the request or order; or the Owner has failed to make timely payment of invoiced costs for inspections by the Commission.
 - (b) The balance of the Escrow Account shall be maintained until the envelope system is removed and disposed of either by the Owner or the Commission.
 - (c) The Owner is entitled to all accrued interest on the Escrow Account, which interest will be distributed to the Owner when the principal amount in the Escrow Account is fully distributed. Said accrued interest may be used by the Escrow Agent to pay any fees or expenses charged by the bank for administration of the Escrow Accounts, if the Owner fails to pay such fees and expenses.
- 3. Annual Report.

The Escrow Agent shall provide to the Commission and the Owner an annual report on disbursements from Escrow Account, until such time as all funds are fully expended.
- 4. Limitation of Escrow Agent's Liability.
 - (a) The Escrow Agent shall incur no liability with respect to any action taken or suffered by it in reliance upon any notice, direction, instruction, consent, statement or other documents believed by it to be genuine and duly authorized, nor for other action or inaction except its own willful misconduct or gross negligence. The Escrow Agent shall not be responsible for the validity or sufficiency of this Agreement. In all questions arising under this Agreement, the Escrow Agent may rely on the written advice of counsel (including in-house counsel), and the Escrow Agent shall not be liable to anyone for anything done, omitted or suffered in good faith by the Escrow Agent based on such advice. The Escrow Agent shall not be required to take any action involving any expense, or subjecting it to any liability unless the payment of such expense and indemnification from such liability is made or provided for in a manner reasonably satisfactory to it. The Escrow Agent shall not be bound by any assignment by any party of its rights unless the Escrow Agent shall have received written notice from the assignor and the express written consent of the other parties.

- (b) The Owner hereby agrees to indemnify the Escrow Agent (including its officers, directors, employees, and agents) for, and hold it harmless against, any loss, liability or expense (including without limitation reasonable attorneys fees) incurred without gross negligence or willful misconduct on the part of Escrow Agent, arising out of or in connection with its appointment or its carrying out of its duties.
- (c) The Escrow Agent (i) shall not be responsible for the performance of any other agreements referred to or described herein (including without limitation the Amended Order) except to the extent the Escrow Agent is a party thereto, or for determining or compelling compliance therewith, and shall not otherwise be bound, and (ii) shall be obligated only for the performance of such duties as are expressly and specifically set forth in this Escrow Agreement on its part to be performed, and no implied duties or obligations of any kind shall be read into this Agreement against or on the part of the Escrow Agent. The Escrow Agent shall not be liable to anyone for any action taken or omitted to be taken by it except in the case of the Escrow Agent's own gross negligence or willful misconduct in breach of the terms of this Agreement. In no event shall the Escrow Agent be liable for indirect, punitive, special or consequential damage or loss (including but not limited to lost profits) whatsoever.

5 Notices.

Any notice permitted or required shall be deemed duly delivered four (4) business days after it is sent by registered or certified mail, return receipt requested, postage prepaid, or one (1) business day after it is sent for next-day delivery via a reputable, nationwide, overnight courier service, in each case to the intended recipient as set forth below; provided, however, that in no event shall any request, demand, claim or other communication to the Escrow Agent be deemed to have been received by it unless and until actually received by it.

If to the Commission:

xxxxxxx, Chair
Truro Conservation Commission
24 Town Hall Road
P.O. Box 2030
Truro, MA 02666-0630

If to the Owner:

address

If to the Escrow Agent:

Town Treasurer
Truro Town Hall
24 Town Hall Road
Truro, MA 02666

6 Modifications.

This Agreement may not be altered or modified without the prior express written consent of the parties. No course of conduct shall constitute a waiver of any of the terms and conditions of this Agreement, unless such waiver is specified in writing, and then only to the extent so specified. A waiver of any of the terms and conditions of this Agreement on one occasion shall not constitute a waiver of the other terms of this Agreement, or of such terms and conditions on any other occasion.

7 Assignment and Binding Effect.

No assignment of any rights or delegation of any obligations may be made by any party without the express written consent of the other parties, except for the provisions respecting Successor Escrow Agents. This Escrow Agreement shall inure to the benefit of any binding upon the successors, heirs, personal representatives and permitted assigns of the parties.

8 Section Headings.

The section headings contained in this Agreement are inserted for purposes of convenience of reference only and shall not affect the meaning or interpretation.

9 Counterparts.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which shall constitute one agreement.

10 Governing Law.

All transactions, disputes or claims relating to this Agreement shall be construed under and governed by the internal laws of the Commonwealth of Massachusetts without regard to its rules of conflict of laws.

11 Consent to Jurisdiction and Service.

The Owner hereby absolutely and irrevocably consents and submits to the jurisdiction of the state and federal courts located in the Commonwealth of Massachusetts in connection with any actions or proceedings brought against the Owner by the Escrow Agent arising out of or relating to this Escrow Agreement. In any such action or proceedings, the Owner hereby absolutely and irrevocably waives personal service of any summons, complaint, declaration or other process and hereby absolutely and irrevocably agrees that

the service thereof may be made by certified or registered first-class mail directed to the Owner in accordance with Section 5.

12 Force Majeure.

Neither the Owner nor the Escrow Agent shall be responsible for delays or failures in the performance of the Escrow Agent's duties resulting from acts beyond its control. Such acts shall include, without limitation, acts of God, strikes, lockouts, riots, acts of war, epidemics, governmental regulations superimposed after the fact, fire, communication line failures, computer viruses, power failures, earthquakes or other disasters.

13 Effective Date.

The effective date of this Escrow Agreement shall be the last date signed by the parties.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement.

THE OWNER

By: _____
Name

Dated: _____

THE TRURO CONSERVATION COMMISSION

By: _____
_____, Chair

Dated: _____

THE ESCROW AGENT

By: _____
TOWN TREASURER OF THE TOWN OF TRURO

Dated: October __, 20__

Dated: October __, 20__ APPROVED AS TO FORM

E. James Veara, Esq.
ZISSON & VEARA

APPENDIX F - APPROVED PLANTINGS

ACCEPTABLE PLANTINGS FOR BUFFER ZONES TO RESOURCE AREAS							
A resource list provided by the Truro Conservation Commission							
	Stabilize Steep Embankments	Provide Windbreaks Screening	Tolerates Wind/Salt	Tolerates Moist Soils	Tolerates Shade	Thrives in Full Sun	Tolerates Dry Conditions
TREES							
Acer rubrum Red Maple	X	X		X	X	X	
Betula populitalia Gray Birch		X	X				X
Betula papyrifera White Birch				X		X	
Betula nigra River Birch				X	X	X	
Cornus alternifolia Pagoda Dogwood				X	X	X	
Cornus florida Flowering Dogwood				X	X	X	
Fagus grandifolia American Beech	X	X		X	X		
Ilex opaca American Holly		X				X	
Juniperus virginiana Red Cedar	X	X	X	X		X	X
Nyssa sylvatica Black Gum				X		X	X
Ostrya virginiana Hop Hornbeam	X	X		X	X		X
Pinus strobus White Pine	X		X	X	X	X	X
Populus grandidentata Aspen	X					X	
Prunus pensylvanica Pin Cherry	X	X	X	X		X	X
Prunus serotina Black Cherry	X		X	X		X	X
Prunus virginia Chokecherry	X			X	X	X	X
Quercus alba White Oak	X	X					
Quercus bicolor Swamp White Oak		X	X	X	X	X	X
Quercus rubra Red Oak	X	X				X	X
Quercus velutina Black Oak	X	X	X			X	X
Rhus typhina or glabra Sumac	X		X			X	X
Tsuga Canadensis East. Hemlock	X	X		X	X		
**Other plant species may be planted in the 100ft. Buffer zone with prior consent of the Truro Conservation Commission							

	Embankments	Screening	Wind/Salt	Soils	Shade	Full Sun	Conditions
SCRUBS							
Amelanchier canadensis Shadbush	X	X		X		X	X
Aronia arbutifolia Red Chokeberry			X	X	X	X	X
Aronia melanocarpa Black Chokeberry			X	X	X	X	X
Cephananthus occidentalis Buttonbush		X		X		X	X
Clethra Alnifolia Sweet Pepper Bush	X			X	X	X	X
Comptonia peregrina Sweet Fern	X	X	X		X	X	X
Cornus amomum Silky Dogwood				X		X	
Cornus sericea Redosier Dogwood				X		X	
Hydrangea quercifolia Oakleaf Hydrangea	X	X		X	X		X
Ilex glabra Inkberry		X	X	X	X	X	
Ilex verticillata Winterberry Holly				X	X	X	
Juniperus Communis Common Juniper	X	X	X			X	X
Kalmia latifolia Mountain Laurel	X	X		X	X		
Lindera benzoin Common Spicebush	X			X	X		
Myrica pensylvanica Bayberry	X	X	X	X		X	X
Potentilla fruticosa Bush Cinquefoil		X	X	X		X	X
Prunus maritima Beach Plum	X	X	X			X	X
Rhododendron nudiflorum Pink Azalea				X	X		
Rhododendron roseum Mountain Azalea	X			X	X	X	X
Rosa virginia/carolina Virgina/Carolina Rose	X		X	X		X	X
Rubus occidentalis or strigosus Raspberry				X	X	X	X
Salix discolor Pussy Willow	X	X		X	X	X	X
Sambucus canadensis Common Elderberry	X			X	X	X	X
Spirea latifolia Meadowsweet				X		X	X
Spirea tomentosa Steeplebush				X		X	X
Vaccinium corymbosum Highbush Blueberry			X	X	X	X	X
Viburnum acerfolium Mapleleaf Viburnum	X			X	X	X	X
Viburnum dentatum Northern Arrowwood	X		X	X	X	X	X
Viburnum lentago Nannyberry	X			X	X		X
Viburnum prunifolium Blackhaw Viburnum	X			X	X	X	X
Viburnum trilobum American Cranberrybush	X			X	X	X	

	Embankments	Screening	Wind/Salt	Soils	Shade	Full Sun	Conditions
GROUNDCOVERS							
Arctostaphylos Uva-Ursi Bearberry	X		X		X	X	X
Juniperus conferta Shore Juniper	X		X			X	X
Vaccinium angustifolium Low bush blueberry	X			X	X	X	X
Dennstaedtia punctilobula Hay Scented Fern							
Juncus effusus Soft Rush				X	X	X	
Chamaecrista fasciculata Partridge Pea						X	X
Matteuccia struthiopteris Ostrich Fern				X	X		
Onelea sensibilis Sensitive Fern				X	X	X	
GRASSES							
Agrostis stolonifera Creeping Bent Grass	X			X		X	
Ammophila brevifolulata Amer. Beach Grass	X		X			X	X
Festuca rubra Creeping Red Fescue	X				X	X	X
Elymus virginicus Virginia Wild Rye	X				X	X	X
Elymus canadensis Canada Wild Rye	X				X	X	X
Elymus villosus Silky Wild Rye	X				X	X	X
Panicum clandestinum Deertongue	X				X	X	X
Panicum virgatum Switchgrass	X				X	X	X
Poa palustris Fowl Bluegrass	X				X	X	X
Deschampsia flexulosa Crinkled Hair Grass	X				X		X
Andropogon gerardi Big Bluestem	X					X	X
Schizachyrium scoparius Little Bluestem	X					X	X
Sorghastrum nutrans Indian Grass	X					X	X
Sporobolus cryptandrus Sand Dropseed	X					X	X
Panicum virgatum Shelter Switchgrass	X				X	X	X
Agrostis alba Red Top	X				X	X	X

	Stabilize Steep Embankments	Provide Windbreaks Screening	Tolerates Wind/Salt	Tolerates Moist Soils	Tolerates Shade	Thrives in Full Sun	Tolerates Dry Conditions
WILDFLOWERS							
Aster umbellatus Flat-Top Aster	X					X	X
Eupatorium fistulosum Joe-Pye Weed				X		X	
Eupatorium perfoliatum Boneset	X			X		X	
Verbena hastata Blue Vervain	X					X	X
Bidens Cernua Nodding Bur-Marigold	X					X	X
Solidago canadensis Canada Goldenrod	X					X	X
Solidago graminifolia Grass-Leaved Goldenrod	X					X	X
Helianthus annuus Annual Sunflower						X	X
Desmodium canadense Showy Tick-trefoil						X	X
Asclepias syriaca Common Milkweed	X			X		X	X
Aster lateriflorus Calico Aster	X					X	X
Aster nova-angliae New England Aster	X					X	X
Aster nova-belgii New York Aster	X					X	X
Aster laevis Smooth Aster	X					X	X
Penstemon digitalis Beard Tongue	X					X	X
Lespedeza capitata Bush Clover	X					X	X
Asclepias tuberosa Butterfly Milkweed	X			X		X	
Lupinus perennis Wild Blue Lupine						X	X