

## **ARTICLE 4: SHORELAND ZONING DISTRICT STANDARDS**

### **4.1 Purposes.**

The purposes of this article are to further the maintenance of safe and healthful conditions; to prevent and control water pollution; to protect fish spawning grounds, aquatic life, bird and other wildlife habitat; to protect buildings and lands from flooding and accelerated erosion; to protect archaeological and historic resources; to protect commercial fishing and maritime industries; to protect freshwater and coastal wetlands; to control building sites, placement of structures and land uses; to conserve shore cover, and visual as well as actual points of access to inland and coastal waters; to conserve natural beauty and open space, as appropriate in an island environment; and to anticipate and respond to the impacts of development in shoreland areas.

### **4.2 Authority.**

This Article has been prepared in accordance with the provisions of Title 38 sections 435-449 of the Maine Revised Statutes Annotated (M.R.S.A.).

### **4.3 Applicability.**

This article applies to all land areas within 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal action. This Article also applies to any structure built on, over or abutting a dock, wharf or pier, or other structure extending or located below the normal high-water line of a water body or within a wetland.

### **4.4 Effective Date.**

#### **A. Effective Date of Article and Article Amendments.**

This Article, which was adopted by the municipal legislative body on May 8, 2010, shall not be effective unless approved by the Commissioner of the Department of Environmental Protection. In the case of Amendments to this Article, the adoption date of the Amendment is specified with the amended language. This Article and any Amendments thereto must either be approved or disapproved by the Commissioner within forty-five (45) days of his/her receipt of the Article or Amendments. If the Commissioner does not act within this time limit, the Article or Amendment shall be automatically approved. Any application for a permit submitted to the municipality within the forty-five (45) day period shall be governed by the terms of this Article or Article Amendment if the Article or Article Amendment is approved by the Commissioner.

#### **B. Section 4.15(O-1)(3)(c).**

Section 4.15(O-1)(3)(c) becomes effective on the date specified by 38 M.R.S.A. section 438-B(5).

### **4.5 Reserved.**

### **4.6 Severability.**

Should any section or provision of this article be declared by the courts to be invalid, such decision shall not invalidate any other section or provision of the article.

### **4.7 Conflicts with Other Ordinances.**

Whenever a provision of this article conflicts with or is inconsistent with another provision of the Town of Long Island Land Use Ordinance or of any other ordinance, regulation or statute administered by the municipality, the more restrictive provision shall control.

### **4.8 Reserved.**

#### **4.9 Shoreland Zone Map.**

**A. Official Shoreland Zoning Map.** The State mandated Shoreland Zone is an overlay zone imposed on existing zones as defined in Article 3 of this ordinance and shown on the Town of Long Island Official Zoning Map(s) which is (are) made a part of this ordinance.

**B. Reserved.**

**C. Certification of Official Shoreland Zoning Map.** The Official Shoreland Zoning Map shall be certified by the attested signature of the Municipal Clerk and shall be located in the municipal office.

**D. Changes to the Official Shoreland Zoning Map.** If amendments are made in the district boundaries or other matter portrayed on the Official Shoreland Zoning Map, such changes shall be made on the Official Shoreland Zoning Map within thirty (30) days after the amendment has been approved by the Commissioner of the Department of Environmental Protection.

#### **4.10 Interpretation of Shoreland Zone Boundary.**

The location of the shoreland zone boundary is given on the Town of Long Island Official Zoning Map. Where uncertainty exists as to the exact location of any part of this boundary, the Board of Appeals shall be the final authority as to location.

#### **4.11 Land Use Requirements.**

Except as hereinafter specified, no building, structure or land shall hereafter be used or occupied, and no building or structure or part thereof shall hereafter be erected, constructed, expanded, moved, or altered and no new lot shall be created in the shoreland zone except in conformity with all of the regulations herein specified, unless a variance is granted.

#### **4.12 Non-conformance.**

##### **A. Purpose.**

It is the intent of this Article to promote land use conformities, except that non-conforming conditions that existed before the effective date of this Article or amendments thereto shall be allowed to continue, subject to the requirements set forth in Section 4.12. Except as otherwise provided in this Article, a non-conforming condition shall not be permitted to become more non-conforming. See section 4.17 of this Article for the definitions of non-conforming structures, lots and uses.

##### **B. General**

(1) Transfer of Ownership. Non-conforming structures, lots, and uses may be transferred, and the new owner may continue the non-conforming use or continue to use the non-conforming structure or lot, subject to the provisions of this Article.

(2) Repair and Maintenance. This Article allows, without a permit, the normal upkeep and maintenance of non-conforming uses and structures including repairs or renovations that do not involve expansion of the non-conforming use or structure, and such other changes in a non-conforming use or structure as federal, state, or local building and safety codes may require.

##### **C. Non-conforming Structures**

(1) Expansions. A non-conforming structure may be added to or expanded after obtaining a permit from the same permitting authority as that for a new structure, if such addition or expansion does not increase the non-conformity of the structure and is in accordance with sub-paragraphs (a) and (b) below.

(a) After January 1, 1989 if any portion of a structure is less than the required setback from the normal high-water line of a water body or tributary stream or the upland edge of a wetland, that portion of the structure shall not be expanded, as measured in floor area or volume, by 30% or more, during the lifetime of the structure. If a replacement structure conforms with the requirements of Section 4.12(C)(3), and is less than the required setback from a water body, tributary stream or wetland, the replacement structure may not be expanded if the original structure existing on January 1, 1989 had been expanded by 30% in floor area and volume since that date.

(b) Whenever a new, enlarged, or replacement foundation is constructed under a non-conforming structure, the structure and new foundation must be placed such that the setback requirement is met to the greatest practical extent as determined by the Code Enforcement Officer, basing the decision on the criteria specified in Section 4.12(C)(2) Relocation, below. If the completed foundation does not extend beyond the exterior dimensions of the structure, except for expansion in conformity with Section 4.12(C)(1)(a) above, and the foundation does not cause the structure to be elevated by more than three (3) additional feet, as measured from the uphill side of the structure (from original ground level to the bottom of the first floor sill), it shall not be considered to be an expansion of the structure.

(2) Relocation. A non-conforming structure may be relocated within the boundaries of the parcel on which the structure is located provided that the site of relocation conforms to all setback requirements to the greatest practical extent as determined by the Code Enforcement Officer, and provided that the applicant demonstrates that the present subsurface sewage disposal system meets the requirements of State law and the State of Maine Subsurface Wastewater Disposal Rules (Rules), or that a new system can be installed in compliance with the law and said Rules. In no case shall a structure be relocated in a manner that causes the structure to be more non-conforming.

In determining whether the building relocation meets the setback to the greatest practical extent, the Code Enforcement Officer shall consider the size of the lot, the slope of the land, the potential for soil erosion, the location of other structures on the property and on adjacent properties, the location of the septic system and other on-site soils suitable for septic systems, and the type and amount of vegetation to be removed to accomplish the relocation. When it is necessary to remove vegetation within the water or wetland setback area in order to relocate a structure, the Code Enforcement Officer shall require replanting of native vegetation to compensate for the destroyed vegetation. In addition, the area from which the relocated structure was removed must be replanted with vegetation. Replanting shall be required as follows:

(a) Trees removed in order to relocate a structure must be replanted with at least one native tree, three (3) feet in height, for every tree removed. If more than five trees are planted, no one species of tree shall make up more than 50% of the number of trees planted. Replaced trees must be planted no further from the water or wetland than the trees that were removed.

Other woody and herbaceous vegetation, and ground cover, that are removed or destroyed in order to relocate a structure must be re-established. An area at least the same size as the area where vegetation and/or ground cover was disturbed, damaged, or removed must be reestablished within the setback area. The vegetation and/or ground cover must consist of similar native vegetation and/or ground cover that was disturbed, destroyed or removed.

(b) Where feasible, when a structure is relocated on a parcel the original location of the structure shall be replanted with vegetation which may consist of grasses, shrubs, trees, or a combination thereof.

(3) Reconstruction or Replacement. Any non-conforming structure which is located less than the required setback from a water body, tributary stream, or wetland and which is removed, or damaged or destroyed, regardless of the cause, by more than 50% of the market value of the structure before such damage, destruction or removal, may be reconstructed or replaced provided that a permit is obtained within eighteen (18) months of the date of said damage, destruction, or removal, and provided that such reconstruction or replacement is in compliance with the water body, tributary stream or wetland setback requirement to the greatest practical extent as determined by the Code Enforcement Officer in accordance with the purposes of this Article. In no case shall a structure be reconstructed or replaced so as to increase its non-conformity. If the reconstructed or replacement structure is less than the required setback it shall not be any larger than the original structure, except as allowed pursuant to Section 4.12(C)(1) above, as determined by the non-conforming floor

area and volume of the reconstructed or replaced structure at its new location. If the total amount of floor area and volume of the original structure can be relocated or reconstructed beyond the required setback area, no portion of the relocated or reconstructed structure shall be replaced or constructed at less than the setback requirement for a new structure. When it is necessary to remove vegetation in order to replace or reconstruct a structure, vegetation shall be replanted in accordance with Section 4.12(C)(2) above.

Any non-conforming structure which is located less than the required setback from a water body, tributary stream, or wetland and which is removed by 50% or less of the market value, or damaged or destroyed by 50% or less of the market value of the structure, excluding normal maintenance and repair, may be reconstructed in place if a permit is obtained from the Code Enforcement Officer within one year of such damage, destruction, or removal.

In determining whether the building reconstruction or replacement meets the setback to the greatest practical extent the Code Enforcement Officer shall consider, in addition to the criteria in Section 4.12(C)(2) above, the physical condition and type of foundation present, if any.

(4) Change of Use of a Non-conforming Structure. The use of a non-conforming structure may not be changed to another use unless the Planning Board, after receiving a written application, determines that the new use will have no greater adverse impact on the tributary stream or coastal wetland, or on the subject or adjacent properties and resources than the existing use.

In determining that no greater adverse impact will occur, the Planning Board shall require written documentation from the applicant, regarding the probable effects on public health and safety, erosion and sedimentation, water quality, fish and wildlife habitat, vegetative cover, visual and actual points of public access to waters, natural beauty, floodplain management, archaeological and historic resources, and commercial fishing and maritime activities, and other functionally water-dependent uses.

#### **D. Non-conforming Uses**

(1) Expansions. Expansions of non-conforming uses are prohibited, except that non-conforming residential uses may, after obtaining a permit from the Planning Board, be expanded within existing residential structures or within expansions of such structures as allowed in Section 4.12(C)(1)(a) above.

(2) Resumption Prohibited. A lot, building or structure in or on which a non-conforming use is discontinued for a period exceeding one year, or which is superseded by a conforming use, may not again be devoted to a non-conforming use except that the Planning Board may, for good cause shown by the applicant, grant up to a one year extension to that time period. This provision shall not apply to the resumption of a use of a residential structure provided that the structure has been used or maintained for residential purposes during the preceding five (5) year period.

(3) Change of Use. An existing non-conforming use may be changed to another non-conforming use provided that the proposed use has no greater adverse impact on the subject and adjacent properties and resources, including water dependent uses in the IB Zone, than the former use, as determined by the Planning Board. The determination of no greater adverse impact shall be made according to criteria listed in Section 4.12(C)(4) above.

#### **E. Non-conforming Lots**

(1) Non-conforming Lots: A non-conforming lot of record as of the effective date of this Article or amendment thereto may be built upon, without the need for a variance, provided that such lot is in separate ownership and not contiguous with any other lot in the same ownership, and that all provisions of this Article except lot area, lot width and shore frontage can be met. Variances relating to setback or other requirements not involving lot area, lot width or shore frontage shall be obtained by action of the Board of Appeals.

(2) Contiguous Built Lots: If two or more contiguous lots or parcels are in a single or joint ownership of record at the time of adoption of this Article, if all or part of the lots do not meet the dimensional requirements of this Article, and if a principal use or structure exists on each lot, the non-conforming lots may be conveyed separately or together, provided

that the State Minimum Lot Size Law (12 M.R.S.A. sections 4807-A through 4807-D) and the State of Maine Subsurface Wastewater Disposal Rules are complied with.

If two or more principal uses or structures existed on a single lot of record on the effective date of this Article, each may be sold on a separate lot provided that the above referenced law and rules are complied with. When such lots are divided each lot thus created must be as conforming as possible to the dimensional requirements of this Article.

(3) Contiguous Lots - Vacant or Partially Built: If two or more contiguous lots or parcels are in single or joint ownership of record at the time of or since adoption or amendment of this Article, if any of these lots do not individually meet the dimensional requirements of this Article or subsequent amendments, and if one or more of the lots are vacant or contain no principal structure the lots shall be combined to the extent necessary to meet the dimensional requirements.

This provision shall not apply to 2 or more contiguous lots, at least one of which is non-conforming, owned by the same person or persons on the effective date of this Article and recorded in the registry of deeds if the lot can accommodate a subsurface sewage disposal system in conformance with the State of Maine Subsurface Wastewater Disposal Rules; and

(a) Each lot contains at least 100 feet of shore frontage and at least 20,000 square feet of lot area; or

(b) Any lots that do not meet the frontage and lot size requirements of Section 4.12(E)(3)(a) are reconfigured or combined so that each new lot contains at least 100 feet of shore frontage and 20,000 square feet of lot area.

#### **4.13 Establishment of Districts.**

See Article 3.

#### **4.14 Table of Land Uses.**

See Article 3.

#### **4.15 Land Use Standards.**

All land use activities within the shoreland zone shall conform with the following provisions, if applicable.

##### **A. Minimum Lot Standards**

###### **(1) Lot Size and Shore Frontage**

###### **(a) Minimum Lot Size:**

###### **(i) Residential Development adjacent to tidal areas:**

The more stringent of the lot size specified in Article 3 for the underlying zone or thirty thousand (30,000) square feet per single family dwelling or dwelling unit.

###### **(ii) Governmental, Institutional or Commercial Development adjacent to tidal areas:**

The more stringent of the lot size specified in Article 3 for the underlying zone or forty thousand (40,000) square feet per principal structure.

###### **(b) Minimum Shore Frontage:**

###### **(i) Residential Development adjacent to tidal areas:**

One-hundred and fifty (150) feet per single family dwelling or dwelling unit.

(ii) Governmental, Institutional or Commercial Development adjacent to tidal areas:

Two-hundred (200) feet per principal structure.

(2) Land below the upland edge of a wetland and land beneath roads serving more than two (2) lots shall not be included toward calculating minimum lot area.

(3) Lots located on opposite sides of a public or private road shall be considered each a separate tract or parcel of land unless such road was established by the owner of land on both sides thereof after September 22, 1971.

(4) The minimum width of any portion of any lot within one hundred (100) feet, horizontal distance, of the upland edge of a wetland shall be equal to or greater than the shore frontage requirement for a lot with the proposed use.

(5) If more than one single family dwelling or dwelling unit, principal governmental, institutional, commercial or industrial structure or use, or combination thereof, is constructed or established on a single parcel, all dimensional requirements shall be met for each additional dwelling unit, principal structure, or use.

**B. Principal and Accessory Structures**

(1) All new principal and accessory structures shall be set back at least seventy-five (75) feet, horizontal distance, from tributary streams or the upland edge of a coastal wetland, except that in the IB Zone the setback shall be at least twenty five (25) feet, horizontal distance. In a Resource Protection Zone the setback requirement shall be 250 feet, horizontal distance, except for structures, roads, parking spaces or other regulated objects specifically allowed in that district in which case the setback requirements specified above shall apply. In addition:

(a) The water body, tributary stream, or wetland setback provision shall neither apply to structures which require direct access to the water body or wetland as an operational necessity, such as piers, docks and retaining walls, nor to other functionally water-dependent uses.

(b) Reserved .

(c) For principal structures, wetland setback measurements shall be taken from the top of a coastal bluff that has been identified on Coastal Bluff maps as being “highly unstable” or “unstable” by the Maine Geological Survey pursuant to its “Classification of Coastal Bluffs” and published on the most recent Coastal Bluff map. If the applicant and the permitting official(s) are in disagreement as to the specific location of a “highly unstable” or “unstable” bluff, or where the top of the bluff is located, the applicant may at his or her expense, employ a Maine Registered Professional Engineer, a Maine Certified Soil Scientist, a Maine State Geologist, or other qualified individual to make a determination. If agreement is still not reached, the applicant may appeal the matter to the board of appeals.

(d) On a non-conforming lot of record on which only a residential structure exists, and it is not possible to place an accessory structure meeting the required water body, tributary stream or wetland setbacks, the Code Enforcement Officer may issue a permit to place a single accessory structure, with no utilities, for the storage of yard tools and similar equipment. Such accessory structure shall not exceed eighty (80) square feet in area or eight (8) feet in height, and shall be located as far from the shoreline or tributary stream as practical and shall meet all other applicable standards, including lot coverage and vegetation clearing limitations. In no case shall the structure be located closer to the shoreline or tributary stream than the principal structure.

(2) Reserved.

(3) Reserved.

(4)The total footprint area of all structures, parking lots and other non-vegetated surfaces, within the shoreland zone shall not exceed twenty (20) percent of the lot or a portion thereof, located within the shoreland zone, including land area previously developed, except in the IB zone adjacent to tidal waters—where lot coverage shall not exceed seventy (70) percent.

(5)Retaining walls that are not necessary for erosion control shall meet the structure setback requirement, except for low retaining walls and associated fill provided all of the following conditions are met:

- (a) The site has been previously altered and an effective vegetated buffer does not exist;
- (b) The wall(s) is (are) at least 25 feet, horizontal distance, from a tributary stream or upland edge of a coastal wetland;
- (c)The site where the retaining wall will be constructed is legally existing lawn or is a site eroding from lack of naturally occurring vegetation, and which cannot be stabilized with vegetative plantings;
- (d)The total height of the wall(s), in the aggregate, is no more than 24 inches;
- (e) Retaining walls are located outside of the 100-year floodplain on coastal wetlands and tributary streams, as designated on the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Maps or Flood Hazard Boundary Maps.
- (f) The area behind the wall is revegetated with grass, shrubs, trees, or a combination thereof, and no further structural development will occur within the setback area, including patios and decks; and
- (g) A vegetated buffer area is established within 25 feet, horizontal distance, of the normal high-water line of a water body, tributary stream, or upland edge of a wetland when a natural buffer area does not exist. The buffer area must meet the following characteristics:
  - (i) The buffer must include shrubs and other woody and herbaceous vegetation. Where natural ground cover is lacking the area must be supplemented with leaf or bark mulch;
  - (ii) Vegetation plantings must be in quantities sufficient to retard erosion and provide for effective infiltration of storm water runoff;
  - (iii)Only native species may be used to establish the buffer area;
  - (iv)A minimum buffer width of 15 feet, horizontal distance, is required, measured perpendicularly to the normal high-water line or upland edge of a wetland;
  - (v)A footpath not to exceed the standards in Section 4.15(P)(2)(a), may traverse the buffer;

(6) Notwithstanding the requirements stated above, stairways or similar structures may be allowed with a permit from the Code Enforcement Officer, to provide shoreline access in areas of steep slopes or unstable soils provided: that the structure is limited to a maximum of four (4) feet in width; that the structure does not extend over the upland edge of a coastal\_wetland, (unless permitted by the Department of Environmental Protection pursuant to the Natural Resources Protection Act, 38 M.R.S.A. section 480-C); and that the applicant demonstrates that no reasonable access alternative exists on the property.

**C. Piers, Docks, Wharves, Bridges and Other Structures and Uses Extending Over or Below the Normal High-Water Line of a Water Body or Within a Wetland.**

(1) Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.

- (2) The location shall not interfere with existing developed or natural beach areas.
- (3) The facility shall be located so as to minimize adverse effects on fisheries.
- (4) The facility shall be no larger in dimension than necessary to carry on the activity and be consistent with the surrounding character and uses of the area. A temporary pier, dock or wharf in non-tidal waters shall not be wider than six feet for non-commercial uses.
- (5) No new structure shall be built on, over or abutting a pier, wharf, dock or other structure extending within a coastal wetland unless the structure requires direct access to the coastal wetland as an operational necessity.
- (6) New permanent piers and docks on non-tidal waters shall not be permitted unless it is clearly demonstrated to the Planning Board that a temporary pier or dock is not feasible, and a permit has been obtained from the Department of Environmental Protection, pursuant to the Natural Resources Protection Act.
- (7) No existing structures built on, over or abutting a pier, dock, wharf or other structure extending beyond the upland edge of a coastal wetland shall be converted to residential dwelling units in any district.
- (8) Except in the IB Zone structures built on, over or abutting a pier, wharf, dock or other structure extending within a coastal wetland shall not exceed twenty (20) feet in height above the pier, wharf, dock or other structure.

#### **D. Campgrounds.**

See Article 3(7)(E).

#### **E. Individual Private Campsites.**

See Article 3(7)(F).

#### **F. Reserved.**

#### **G. Parking Areas**

- (1) Parking areas shall meet the shoreline and tributary stream setback requirements for structures for the district in which such areas are located. The setback requirement for parking areas serving public boat launching facilities shall be no less than fifty (50) feet, horizontal distance, from the shoreline or tributary stream if the Planning Board finds that no other reasonable alternative exists further from the shoreline or tributary stream.
- (2) Parking areas shall be adequately sized for the proposed use and shall be designed to prevent storm water runoff from flowing directly into a tributary stream or coastal wetland and where feasible, to retain all runoff on-site.
- (3) In determining the appropriate size of proposed parking facilities, the following shall apply:
  - (a) Typical parking space: Approximately ten (10) feet wide and twenty (20) feet long, except that parking spaces for a vehicle and boat trailer shall be forty (40) feet long.
  - (b) Internal travel aisles: Approximately twenty (20) feet wide.

#### **H. Roads and Driveways.**

The following standards shall apply to the construction of roads and/or driveways and drainage systems, culverts and other related features.

- (1) Roads and driveways shall be set back at least seventy-five (75) feet, horizontal distance from the normal high-water

line of tributary streams or the upland edge of a wetland unless no reasonable alternative exists as determined by the Planning Board. If no other reasonable alternative exists, the road and/or driveway setback requirement shall be no less than fifty (50) feet, horizontal distance, upon clear showing by the applicant that appropriate techniques will be used to prevent sedimentation of the tributary stream or wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or the effective use of additional ditch relief culverts and turnouts placed so as to avoid sedimentation of the water body, tributary stream, or wetland.

On slopes of greater than twenty (20) percent the road and/or driveway setback shall be increased by ten (10) feet, horizontal distance, for each five (5) percent increase in slope above twenty (20) percent.

Section 4.15 (H)(1) does not apply to approaches to water crossings or to roads or driveways that provide access to permitted structures and facilities located nearer to the shoreline or tributary stream due to an operational necessity, excluding temporary docks for recreational uses. Roads and driveways providing access to permitted structures within the setback area shall comply fully with the requirements of Section 4.15(H)(1) except for that portion of the road or driveway necessary for direct access to the structure.

(2) Existing public roads may be expanded within the legal road right of way regardless of their setback from a water body, tributary stream or wetland.

(3) Reserved.

(5) New roads and driveways are prohibited in a Resource Protection Zone except that the Planning Board may grant a permit to construct a road or driveway to provide access to permitted uses within the district. A road or driveway may also be approved by the Planning Board in a Resource Protection District, upon a finding that no reasonable alternative route or location is available outside the district. When a road or driveway is permitted in a Resource Protection Zone the road and/or driveway shall be set back as far as practicable from the normal high-water line of a tributary stream or upland edge of a wetland.

(6) Road and driveway banks shall be no steeper than a slope of two (2) horizontal to one (1) vertical, and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Section 4.15(Q).

(7) Road and driveway grades shall be no greater than ten (10) percent except for segments of less than two hundred (200) feet.

(8) In order to prevent road and driveway surface drainage from directly entering tributary streams or coastal wetlands, roads and driveways shall be designed, constructed, and maintained to empty onto an unscarified buffer strip at least (50) feet plus two times the average slope, in width between the outflow point of the ditch or culvert and the normal high-water line of a tributary stream or upland edge of a coastal wetland. Surface drainage which is directed to an unscarified buffer strip shall be diffused or spread out to promote infiltration of the runoff and to minimize channelized flow of the drainage through the buffer strip.

(8) Ditch relief (cross drainage) culverts, drainage dips and water turnouts shall be installed in a manner effective in directing drainage onto unscarified buffer strips before the flow gains sufficient volume or head to erode the road, driveway, or ditch. To accomplish this, the following shall apply:

(a) Ditch relief culverts, drainage dips and associated water turnouts shall be spaced along the road, or driveway at intervals no greater than indicated in the following table:

Grade (Percent)	Spacing (Feet)
0-2	250
3-5	200-135
6-10	100-80
11-15	80-60
16-20	60-45

(b) Drainage dips may be used in place of ditch relief culverts only where the grade is ten (10) percent or less.

(c) On sections having slopes greater than ten (10) percent, ditch relief culverts shall be placed at approximately a thirty (30) degree angle down slope from a line perpendicular to the centerline of the road or driveway.

(d) Ditch relief culverts shall be sufficiently sized and properly installed in order to allow for effective functioning, and their inlet and outlet ends shall be stabilized with appropriate materials.

(9) Ditches, culverts, bridges, dips, water turnouts and other storm water runoff control installations associated with roads and driveways shall be maintained on a regular basis to assure effective functioning.

### **I. Signs.**

The following provisions shall govern the use of signs in the Resource Protection zone and the shoreland zone sections of the IR1, IR2 and IB Zones:

(1) Signs relating to goods and services sold on the premises shall be allowed, provided that such signs shall not exceed six (6) square feet in area and shall not exceed two (2) signs per premises. In the IB Zone, however, such signs shall not exceed sixteen (16) square feet in area. Signs relating to goods or services not sold or rendered on the premises shall be prohibited.

(2) Name signs are allowed, provided such signs shall not exceed two (2) signs per premises, and shall not exceed twelve (12) square feet in the aggregate.

(3) Residential users may display a single sign not over three (3) square feet in area relating to the sale, rental, or lease of the premises.

(4) Signs relating to trespassing and hunting shall be allowed without restriction as to number provided that no such sign shall exceed two (2) square feet in area.

(5) Signs relating to public safety shall be allowed without restriction.

(6) No sign shall extend higher than twenty (20) feet above the ground.

(7) Signs may be illuminated only by shielded, non-flashing lights.

### **J. Storm Water Runoff**

(1) All new construction and development shall be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces and wooded areas, shall be retained in order to reduce runoff and encourage infiltration of storm waters.

(2) Storm water runoff control systems shall be maintained as necessary to ensure proper functioning.

### **K. Septic Waste Disposal**

(1) All subsurface sewage disposal systems shall be installed in conformance with the State of Maine Subsurface Wastewater Disposal Rules, and the following:

a) clearing or removal of woody vegetation necessary to site a new system and any associated fill extensions, shall not extend closer than seventy-five (75) feet, horizontal distance, from the upland edge of a coastal wetland and

b) a holding tank is not allowed for a first-time residential use in the shoreland zone.

## **L. Essential Services**

- (1) Where feasible, the installation of essential services shall be limited to existing public ways and existing service corridors.
- (2) The installation of essential services, other than road-side distribution lines, is not allowed in a Resource Protection Zone, except to provide services to a permitted use within said zone, or except where the applicant demonstrates that no reasonable alternative exists. Where allowed, such structures and facilities shall be located so as to minimize any adverse impacts on surrounding uses and resources, including visual impacts.
- (3) Damaged or destroyed public utility transmission and distribution lines, towers and related equipment may be replaced or reconstructed without a permit.

## **M. Mineral Exploration and Extraction.**

Mineral exploration to determine the nature or extent of mineral resources shall be accomplished by hand sampling, test boring, or other methods which create minimal disturbance of less than one hundred (100) square feet of ground surface. A permit from the Code Enforcement Officer shall be required for mineral exploration which exceeds the above limitation. All excavations, including test pits and holes, shall be immediately capped, filled or secured by other equally effective measures to restore disturbed areas and to protect the public health and safety.

Mineral extraction may be permitted under the following conditions:

- (1) A reclamation plan shall be filed with, and approved, by the Planning Board before a permit is granted. Such plan shall describe in detail procedures to be undertaken to fulfill the requirements of Section 4.15 (M)(4) below.
- (2) No part of any extraction operation, including drainage and runoff control features, shall be permitted within seventy-five (75) feet, horizontal distance, of a tributary stream, or the upland edge of a coastal wetland. Extraction operations shall not be permitted within fifty (50) feet, horizontal distance, of any property line without written permission of the owner of such adjacent property.
- (3) Reserved.
- (4) Within twelve (12) months following the completion of extraction operations at any extraction site, which operations shall be deemed complete when less than one hundred (100) cubic yards of materials are removed in any consecutive twelve (12) month period, ground levels and grades shall be established in accordance with the following:
  - (a) All debris, stumps, and similar material shall be removed for disposal in an approved location, or shall be buried on-site. Only materials generated on-site may be buried or covered on-site.
  - (b) The final graded slope shall be two and one-half to one (2 1/2:1) slope or flatter.
  - (c) Top soil or loam shall be retained to cover all disturbed land areas, which shall be reseeded and stabilized with vegetation native to the area. Additional topsoil or loam shall be obtained from off-site sources if necessary to complete the stabilization project.
- (5) In keeping with the purposes of this Article, the Planning Board may impose such conditions as are necessary to minimize the adverse impacts associated with mineral extraction operations on surrounding uses and resources.

## **N. Agriculture**

- (1) All spreading of manure shall be accomplished in conformance with the Manure Utilization Guidelines published by the Maine Department of Agriculture on November 1, 2001, and the Nutrient Management Law (7 M.R.S.A. sections 4201-4209).

(2) Manure shall not be stored or stockpiled within seventy-five (75) feet, horizontal distance, of tributary streams or wetlands. All manure storage areas within the shoreland zone must be constructed or modified such that the facility produces no discharge of effluent or contaminated storm water.

(3) Agricultural activities involving tillage of soil greater than forty thousand (40,000) square feet in surface area, within the shoreland zone shall require a Conservation Plan to be filed with the Planning Board. Non-conformance with the provisions of said plan shall be considered to be a violation of this Article.

(4) There shall be no new tilling of soil within seventy-five (75) feet, horizontal distance, from coastal wetlands; nor within twenty-five (25) feet, horizontal distance, of tributary streams. Operations in existence on the effective date of this Article and not in conformance with this provision may be maintained.

(5) Newly established livestock grazing areas shall not be permitted within seventy-five (75) feet, horizontal distance, of coastal wetlands, nor; within twenty-five (25) feet, horizontal distance, of tributary streams. Livestock grazing associated with ongoing farm activities, and which are not in conformance with the above setback provisions may continue, provided that such grazing is conducted in accordance with a Conservation Plan.

## **O-1. Timber Harvesting**

### Statewide Standards

(1) Shoreline integrity and sedimentation. Persons conducting timber harvesting and related activities must take reasonable measures to avoid the disruption of shoreline integrity, the occurrence of sedimentation of water, and the disturbance of tributary stream banks, tributary stream channels, shorelines, and soil lying within tributary streams and coastal wetlands. If, despite such precautions, the disruption of shoreline integrity, sedimentation of water, or the disturbance of tributary stream banks tributary stream channels, shorelines, and soil lying within tributary streams and coastal wetlands occurs, such conditions must be corrected.

(2) Slash treatment. Timber harvesting and related activities shall be conducted such that slash or debris is not left below the normal high-water line of any tributary stream, or the upland edge of a coastal wetland. Section 4.15(O-1)(2) does not apply to minor, incidental amounts of slash that result from timber harvesting and related activities otherwise conducted in compliance with this section.

(a) Slash actively used to protect soil from disturbance by equipment or to stabilize exposed soil, may be left in place, provided that no part thereof extends more than 4 feet above the ground.

(b) Adjacent coastal wetlands:

(i) No accumulation of slash shall be left within 50 feet, horizontal distance, of the upland edge of a coastal wetland; and

(ii) Between 50 feet and 250 feet, horizontal distance, of the upland edge of a coastal wetland, all slash larger than 3 inches in diameter must be disposed of in such a manner that no part thereof extends more than 4 feet above the ground.

(3) Timber harvesting and related activities must leave adequate tree cover and shall be conducted so that a well-distributed stand of trees is retained. This requirement may be satisfied by following one of the following three options:

(a) Option 1 (40% volume removal), as follows:

(i) Harvesting of no more than 40 percent of the total volume on each acre of trees 4.5 inches DBH or greater in any 10 year period is allowed. Volume may be considered to be equivalent to basal area;

(ii) A well-distributed stand of trees which is windfirm, and other vegetation including existing ground cover, must be maintained; and,

(iii) Within 75 feet, horizontal distance, of the upland edge of coastal wetlands, there must be no cleared openings. At distances greater than 75 feet, horizontal distance, of the upland edge of a coastal wetland, timber harvesting and related activities must not create single cleared openings greater than 14,000 square feet in the forest canopy. Where such openings exceed 10,000 square feet, they must be at least 100 feet, horizontal distance, apart. Such cleared openings will be included in the calculation of total volume removal. Volume may be considered equivalent to basal area.

(b) Option 2 (60 square foot basal area retention), as follows:

(i) The residual stand must contain an average basal area of at least 60 square feet per acre of woody vegetation greater than or equal to 1.0 inch DBH, of which 40 square feet per acre must be greater than or equal to 4.5 inches DBH;

(ii) A well-distributed stand of trees which is windfirm, and other vegetation including existing ground cover, must be maintained; and,

(iii) Within 75 feet, horizontal distance, of the upland edge of coastal wetlands, there must be no cleared openings. At distances greater than 75 feet, horizontal distance, of the upland edge of a coastal wetland, timber harvesting and related activities must not create single cleared openings greater than 14,000 square feet in the forest canopy. Where such openings exceed 10,000 square feet, they must be at least 100 feet, horizontal distance, apart. Such cleared openings will be included in the calculation of the average basal area. Volume may be considered equivalent to basal area.

(c) Option 3 (Outcome based) [Becomes effective on effective date established in Section 4.4(B)], which requires: An alternative method proposed in an application, signed by a Licensed Forester or certified wildlife professional, submitted by the landowner or designated agent to the State of Maine Department of Conservation's Bureau of Forestry (Bureau) for review and approval, which provides equal or better protection of the shoreland area than this rule.

Landowners must designate on the Forest Operations Notification form required by 12 M.R.S.A. chapter 805, subchapter 5 which option they choose to use. If landowners choose Option 1 or Option 2, compliance will be determined solely on the criteria for the option chosen. If landowners choose Option 3, timber harvesting and related activities may not begin until the Bureau has approved the alternative method.

The Bureau may verify that adequate tree cover and a well-distributed stand of trees is retained through a field procedure that uses sample plots that are located randomly or systematically to provide a fair representation of the harvest area.

(4) Skid trails, yards, and equipment operation. This requirement applies to the construction, maintenance, and use of skid trails and yards in shoreland areas.

(a) Equipment used in timber harvesting and related activities shall not use tributary stream channels as travel routes except when surface waters are frozen and snow covered, and the activity will not result in any ground disturbance.

(b) Skid trails and yards must be designed and constructed to prevent sediment and concentrated water runoff from entering a tributary stream or coastal wetland. Upon termination of their use, skid trails and yards must be stabilized.

(c) Setbacks:

(i) Equipment must be operated to avoid the exposure of mineral soil within 25 feet, horizontal distance, of any tributary stream or coastal wetland. On slopes of 10 percent or greater, the setback for equipment operation must be increased by 20 feet, horizontal distance, plus an additional 10 feet, horizontal distance, for each 5 percent increase in slope above 10 percent. Where slopes fall away from the resource, no increase in the 25-foot setback is required.

(ii) Where such setbacks are impracticable, appropriate techniques shall be used to avoid sedimentation of the tributary stream or coastal wetland. Such techniques may include the installation of sump holes or settling basins, and/or the effective use of additional ditch relief culverts and ditch water turnouts placed to avoid sedimentation of the tributary stream or coastal wetland. If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(5) Land Management Roads. Land management roads, including approaches to crossings of tributary stream channels, ditches and other related structures, must be designed, constructed, and maintained to prevent sediment and concentrated water runoff from directly entering the tributary stream or coastal wetland. Surface water on or adjacent to water crossing approaches must be diverted through vegetative filter strips to avoid sedimentation of the watercourse or coastal wetland. Because roadside ditches may not extend to the resource being crossed, vegetative filter strips must be established in accordance with the setback requirements in Section 4.15(O-1)(7) of this rule.

(a) Land management roads and associated ditches, excavation, and fill must be set back at least:

(i) 100 feet, horizontal distance, from a coastal wetland; and

(ii) 25 feet, horizontal distance, from the normal high-water line of tributary streams

(b) The minimum 100 foot setback specified in Section 4.15(O-1)(5)(a)(i) above may be reduced to no less than 50 feet, horizontal distance, if, prior to construction, the landowner or the landowner's designated agent demonstrates to the Planning Board's satisfaction that no reasonable alternative exists and that appropriate techniques will be used to prevent sedimentation of the coastal wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or the effective use of additional ditch relief culverts and turnouts placed to avoid sedimentation of the coastal wetland. If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(c) On slopes of 10 percent or greater, the land management road setback must be increased by at least 20 feet, horizontal distance, plus an additional 10 feet, horizontal distance, for each 5 percent increase in slope above 10 percent.

(d) New land management roads are not allowed within a Resource Protection District, unless, prior to construction, the landowner or the landowner's designated agent makes a clear demonstration to the Planning Board's satisfaction that no reasonable alternative route exists outside the shoreland zone, and that the new road must be set back as far as practicable from any tributary stream or coastal wetland.

(e) Ditches, culverts, bridges, dips, water turnouts and other water control installations associated with roads must be maintained on a regular basis to assure effective functioning. Drainage structures shall deliver a dispersed flow of water into an unscarified filter strip no less than the width indicated in the setback requirements in Section 4.15(O-1)(7). Where such a filter strip is impracticable, appropriate techniques shall be used to avoid sedimentation of the tributary stream or coastal wetland. Such techniques may include the installation of sump holes or settling basins, and/or the effective use of additional ditch relief culverts and ditch water turnouts placed to avoid sedimentation of the tributary stream or coastal wetland. If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(f) Road closeout and discontinuance. Maintenance of the water control installations required in Section 4.15(O-1)(5)(e) must continue until use of the road is discontinued and the road is put to bed by effective installation of water bars or other adequate road drainage structures at appropriate intervals, constructed to avoid surface water

flowing over or under the water bar, and extending a sufficient distance beyond the traveled way so that water does not reenter the road surface.

(g) Upgrading existing roads. Extension or enlargement of presently existing roads must conform to the provisions of Section 4.15(O-1). Any nonconforming existing road may continue to exist and to be maintained, as long as the nonconforming conditions are not made more nonconforming.

(h) Exception. Extension or enlargement of presently existing roads need not conform to the setback requirements of Section 4.15(O-1)(5)(a) if, prior to extension or enlargement, the landowner or the landowner's designated agent demonstrates to the Planning Board's satisfaction that no reasonable alternative exists and that appropriate techniques will be used to prevent sedimentation of the tributary stream or coastal wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or the effective use of additional ditch relief culverts and turnouts placed to avoid sedimentation of the tributary stream, or coastal wetland. If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(i) Additional measures. In addition to the foregoing minimum requirements, persons undertaking construction and maintenance of roads and tributary stream crossings must take reasonable measures to avoid sedimentation of surface waters.

(6) Crossings of water bodies. Crossings of tributary streams must allow for fish passage at all times of the year, must not impound water, and must allow for the maintenance of normal flows.

(a) Determination of flow. Provided they are properly applied and used for the circumstances for which they are designed, methods including but not limited to the following are acceptable as a means of calculating the 10 year and 25 year frequency water flows and thereby determining water crossing sizes as required in Section 4.15(O-1): The United States Geological Survey (USGS) Methods; specifically: Hodgkins, G. 1999. Estimating the Magnitude of Peak Flows for Streams in Maine for Selected Recurrence Intervals. U.S. Geological Survey. Water Resources Investigations Report 99-4008. 45 pp.

(b) Upgrading existing water crossings. Extension or enlargement of presently existing water crossings must conform to the provisions of Section 4.15(O-1). Any nonconforming existing water crossing may continue to exist and be maintained, as long as the nonconforming conditions are not made more nonconforming; however, any maintenance or repair work done below the normal high-water line must conform to the provisions of Section 4.15(O-1).

(c) Other Agency Permits. Any timber harvesting and related activities involving the design, construction, and maintenance of crossings on water bodies other than a tributary stream may require a permit from the Land Use Regulation Commission, the Department of Environmental Protection, or the US Army Corps of Engineers.

(d) Reserved.

(e) Notice to Bureau of Forestry. Written notice of all water crossing construction maintenance, alteration and replacement activities in shoreland areas must be given to the Bureau prior to the commencement of such activities. Such notice must contain all information required by the Bureau, including:

- (i) a map showing the location of all proposed permanent crossings;
- (ii) the GPS location of all proposed permanent crossings;
- (iii) for any temporary or permanent crossing that requires a permit from state or federal agencies, a copy of the approved permit or permits; and
- (iv) a statement signed by the responsible party that all temporary and permanent crossings will be constructed, maintained, and closed out in accordance with the requirements of this Section.

(f) Water crossing standards. Tributary streams may be crossed using temporary structures that are not bridges or culverts provided:

- (i) concentrated water runoff does not enter the stream or tributary stream;
- (ii) sedimentation of surface waters is reasonably avoided;
- (iii) there is no substantial disturbance of the bank or tributary stream channel;
- (iv) fish passage is not impeded; and,
- (v) water flow is not unreasonably impeded.

Subject to Section 4.15(O-1)(6)(f)(i-v) above, skid trail crossings of tributary streams when channels of such streams and tributary streams are frozen and snow-covered or are composed of a hard surface which will not be eroded or otherwise damaged are not required to use permanent or temporary structures.

(g) Bridge and Culvert Sizing. For crossings of tributary stream channels with a bridge or culvert, the following requirements apply:

(i) Bridges and culverts must be installed and maintained to provide an opening sufficient in size and structure to accommodate 10 year frequency water flows or with a cross-sectional area at least equal to 2 1/2 times the cross-sectional area of the tributary stream channel.

(ii) Temporary bridge and culvert sizes may be smaller than provided in Section 4.15(O-1)(6)(g)(i) if techniques are effectively employed such that in the event of culvert or bridge failure, the natural course of water flow is maintained and sedimentation of the tributary stream is avoided. Such crossing structures must be at least as wide as the channel and placed above the normal high-water line. Techniques may include, but are not limited to, the effective use of any, a combination of, or all of the following:

1. use of temporary skidder bridges;
2. removing culverts prior to the onset of frozen ground conditions;
3. using water bars in conjunction with culverts;
4. using road dips in conjunction with culverts.

(iii) Culverts utilized in tributary stream crossings must:

1. be installed at or below river, stream or tributary stream bed elevation;
2. be seated on firm ground;
3. have soil compacted at least halfway up the side of the culvert;
4. be covered by soil to a minimum depth of 1 foot or according to the culvert manufacturer's specifications, whichever is greater; and
5. have a headwall at the inlet end which is adequately stabilized by riprap or other suitable means to reasonably avoid erosion of material around the culvert.

(iv) Tributary stream crossings allowed under Section 4.15(O-1), but located in flood hazard areas (i.e. A zones) as identified on a community's Flood Insurance Rate Maps (FIRM) or Flood Hazard Boundary Maps (FHBM), must be designed and constructed under the stricter standards contained in that community's National Flood Insurance Program (NFIP). For example, a water crossing may be required to pass a 100-year flood event.

(v) Exception. Skid trail crossings of tributary streams within shoreland areas and coastal wetlands adjacent to such streams may be undertaken in a manner not in conformity with the requirements of the foregoing subsections provided persons conducting such activities take reasonable measures to avoid the disruption of shoreline integrity, the occurrence of sedimentation of water, and the disturbance of stream banks, stream channels, shorelines, and soil lying within ponds and wetlands. If, despite such precautions, the disruption of shoreline integrity, sedimentation of water, or the disturbance of tributary stream banks and channels, shorelines, and soil lying within coastal wetlands occurs, such conditions must be corrected.

(h) Skid trail closeout. Upon completion of timber harvesting and related activities, or upon the expiration of a

Forest Operations Notification, whichever is earlier, the following requirements apply:

- (i) Bridges and culverts installed for tributary stream crossings by skid trails must either be removed and areas of exposed soil stabilized, or upgraded to comply with the closeout standards for land management roads in Section 4.15(O-1)(6)(i) below.
- (ii) Water crossing structures that are not bridges or culverts must either be removed immediately following timber harvesting and related activities, or, if frozen into the tributary stream bed or bank, as soon as practical after snowmelt.
- (iii) Tributary stream channels, banks and approaches to crossings of tributary streams must be immediately stabilized on completion of harvest, or if the ground is frozen and/or snow-covered, as soon as practical after snowmelt. If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(i) Land management road closeout. Maintenance of the water control features must continue until use of the road is discontinued and the road is put to bed by taking the following actions:

- (i) Effective installation of water bars or other adequate road drainage structures at appropriate intervals, constructed to reasonably avoid surface water flowing over or under the water bar, and extending sufficient distance beyond the traveled way so that water does not reenter the road surface.
- (ii) Water crossing structures must be appropriately sized or dismantled and removed in a manner that reasonably avoids sedimentation of the water body or tributary stream.
- (iii) Any bridge or water crossing culvert in roads to be discontinued shall satisfy one of the following requirements:

- 1. it shall be designed to provide an opening sufficient in size and structure to accommodate 25 year frequency water flows;
- 2. it shall be designed to provide an opening with a cross-sectional area at least 3 1/2 times the cross-sectional area of the river, stream or tributary stream channel; or
- 3. it shall be dismantled and removed in a fashion to reasonably avoid sedimentation of the river, stream or tributary stream.

If, despite such precautions, sedimentation or the disruption of shoreline integrity occurs, such conditions must be corrected.

(7)Slope Table

Filter strips, skid trail setbacks, and land management road setbacks must be maintained as specified in Section 4.15(O-1), but in no case shall be less than shown in the following table.

Average slope of land between exposed mineral soil and the shoreline (percent)	Width of strip between exposed mineral soil and shoreline (feet along surface of the ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

**P. Clearing or Removal of Vegetation for Activities Other Than Timber Harvesting**

(1) In any Resource Protection District the cutting or removal of vegetation shall be limited to that which is necessary for uses expressly authorized in that district.

(2) Except in areas as described in Section 4.25(P)(1), above, and except to allow for the development of permitted uses, within a strip of land extending seventy-five (75) feet, horizontal distance, from any tributary stream or the upland edge of a coastal wetland, a buffer strip of vegetation shall be preserved as follows:

(a) There shall be no cleared opening greater than 250 square feet in the forest canopy (or other existing woody vegetation if a forested canopy is not present) as measured from the outer limits of the tree or shrub crown. However, a footpath not to exceed six (6) feet in width as measured between tree trunks and/or shrub stems is allowed provided that a cleared line of sight to the water through the buffer strip is not created.

(b) Selective cutting of trees within the buffer strip is allowed provided that a well-distributed stand of trees and other natural vegetation is maintained. For the purposes of Section 4.15(P)(2)(b) a "well-distributed stand of trees" adjacent to tributary streams or coastal wetlands shall be defined as maintaining a rating score of 16 or more in each 25 foot by 50 foot rectangular (1250 square feet) area as determined by the following rating system.

Diameter of Tree at 4-1/2 feet Above Ground Level (inches)	Points
2 - < 4 in.	1
4 – <8 in.	2
8-< 12 in.	4
12 in. or greater	8

The following shall govern in applying this point system:

- (i)The 25-foot by 50-foot rectangular plots must be established where the landowner or lessee proposes clearing within the required buffer;
- (ii)Each successive plot must be adjacent to, but not overlap a previous plot;
- (iii)Any plot not containing the required points must have no vegetation removed except as otherwise allowed by this Article;
- (iv)Any plot containing the required points may have vegetation removed down to the minimum points required or as otherwise allowed by is Article;
- (v)Where conditions permit, no more than 50% of the points on any 25-foot by 50-foot rectangular area may consist of trees greater than 12 inches in diameter.

For the purposes of Section 4.15(P)(2)(b) “other natural vegetation” is defined as retaining existing vegetation under three (3) feet in height and other ground cover and retaining at least five (5) saplings less than two (2) inches in diameter at four and one half (4 ½) feet above ground level for each 25-foot by 50-foot rectangle area. If five saplings do not exist, no woody stems less than two (2) inches in diameter can be removed until 5 saplings have been recruited into the plot.

Notwithstanding the above provisions, no more than 40% of the total volume of trees four (4) inches or more in diameter, measured at 4 1/2 feet above ground level may be removed in any ten (10) year period.

(c) In order to protect water quality and wildlife habitat, existing vegetation under three (3) feet in height and other ground cover, including leaf litter and the forest duff layer, shall not be cut, covered, or removed, except to provide for a footpath or other permitted uses as described in Section 4.15(P) paragraphs (2) and (2)(a) above.

(d) Pruning of tree branches, on the bottom 1/3 of the tree is allowed.

(e) In order to maintain a buffer strip of vegetation, when the removal of storm-damaged, diseased, unsafe, or

dead trees results in the creation of cleared openings, these openings shall be replanted with native tree species unless existing new tree growth is present.

Section 4.15(P)(2) does not apply to those portions of public recreational facilities adjacent to public swimming areas as long as cleared areas are limited to the minimum area necessary.

(3) At distances greater than seventy-five (75) feet, horizontal distance, from a tributary stream or the upland edge of a coastal wetland, there shall be allowed on any lot, in any ten (10) year period, selective cutting of not more than forty (40) percent of the volume of trees four (4) inches or more in diameter, measured 4 1/2 feet above ground level. Tree removal in conjunction with the development of permitted uses shall be included in the forty (40) percent calculation. For the purposes of these standards volume may be considered to be equivalent to basal area.

In no event shall cleared openings for any purpose, including but not limited to, principal and accessory structures, driveways, lawns and sewage disposal areas, exceed in the aggregate, 25% of the lot area within the shoreland zone or ten thousand (10,000) square feet, whichever is greater, including land previously cleared. This provision shall not apply to the Island Business Zone.

(4) Legally existing nonconforming cleared openings may be maintained, but shall not be enlarged, except as allowed by this Article.

(5) Fields and other cleared openings which have reverted to primarily shrubs, trees, or other woody vegetation shall be regulated under the provisions of Section 4.15(P).

#### **Q. Erosion and Sedimentation Control**

(1) All activities which involve filling, grading, excavation or other similar activities which result in unstabilized soil conditions and which require a permit shall also require a written soil erosion and sedimentation control plan. The plan shall be submitted to the permitting authority for approval and shall include, where applicable, provisions for:

(a) Mulching and revegetation of disturbed soil.

(b) Temporary runoff control features such as hay bales, silt fencing or diversion ditches.

(c) Permanent stabilization structures such as retaining walls or rip-rap.

(2) In order to create the least potential for erosion, development shall be designed to fit with the topography and soils of the site. Areas of steep slopes where high cuts and fills may be required shall be avoided wherever possible, and natural contours shall be followed as closely as possible.

(3) Erosion and sedimentation control measures shall apply to all aspects of the proposed project involving land disturbance, and shall be in operation during all stages of the activity. The amount of exposed soil at every phase of construction shall be minimized to reduce the potential for erosion.

(4) Any exposed ground area shall be temporarily or permanently stabilized within one (1) week from the time it was last actively worked, by use of riprap, sod, seed, and mulch, or other effective measures. In all cases permanent stabilization shall occur within nine (9) months of the initial date of exposure. In addition:

(a) Where mulch is used, it shall be applied at a rate of at least one (1) bale per five hundred (500) square feet and shall be maintained until a catch of vegetation is established.

(b) Anchoring the mulch with netting, peg and twine or other suitable method may be required to maintain the mulch cover.

(c) Additional measures shall be taken where necessary in order to avoid siltation into the water. Such measures

may include the use of staked hay bales and/or silt fences.

(5) Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed in order to carry water from a twenty five (25) year storm or greater, and shall be stabilized with vegetation or lined with riprap.

#### **R. Soils.**

All land uses shall be located on soils in or upon which the proposed uses or structures can be established or maintained without causing adverse environmental impacts, including severe erosion, mass soil movement, improper drainage, and water pollution, whether during or after construction. Proposed uses requiring subsurface waste disposal, and commercial or industrial development and other similar intensive land uses, shall require a soils report based on an on-site investigation and be prepared by state-certified professionals. Certified persons may include Maine Certified Soil Scientists, Maine Registered Professional Engineers, Maine State Certified Geologists and other persons who have training and experience in the recognition and evaluation of soil properties. The report shall be based upon the analysis of the characteristics of the soil and surrounding land and water areas, maximum ground water elevation, presence of ledge, drainage conditions, and other pertinent data which the evaluator deems appropriate. The soils report shall include recommendations for a proposed use to counteract soil limitations where they exist.

#### **S. Water Quality.**

No activity shall deposit on or into the ground or discharge to the waters of the State any pollutant that, by itself or in combination with other activities or substances, will impair designated uses or the water classification of the water body, tributary stream or wetland.

#### **T. Archaeological Site.**

Any proposed land use activity involving structural development or soil disturbance on or adjacent to sites listed on, or eligible to be listed on the National Register of Historic Places, as determined by the permitting authority, shall be submitted by the applicant to the Maine Historic Preservation Commission for review and comment, at least twenty (20) days prior to action being taken by the permitting authority. The permitting authority shall consider comments received from the Commission prior to rendering a decision on the application.

### **4.16 Administration**

**A. General site plan features.** The Planning Board or Code Enforcement Officer shall approve a site plan located within a shoreland zone if it finds that the following standards, in addition to the standards set forth in Article 10 (Site Plan Review) are met:

- (1) The proposal will maintain safe and healthful conditions;
- (2) The proposal will not result in water pollution, erosion, or sedimentation to surface waters;
- (3) The proposal will adequately provide for the disposal of all wastewater;
- (4) The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;
- (5) The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters;
- (6) The proposal will protect archaeological and historic resources;
- (7) The proposal will not adversely affect existing commercial fishing or maritime activities;
- (8) The proposal will avoid problems associated with flood plain development and use; and
- (9) The proposal is in conformance with the standards set forth in this section.

**B. Permit expiration.** In the shoreland zone if a permitted project is not substantially started (30% of project completed) within one year the permit becomes void.

**C. Shoreline Lot Line.** For purposes of these land use ordinances the maximum spring tide level shall be considered to be the shoreline lot line.

#### **4.17 Definitions.**

**Accessory structure or use** - a use or structure which is incidental and subordinate to the principal use or structure. Accessory uses, when aggregated, shall not subordinate the principal use of the lot. A deck or similar extension of the principal structure or a garage attached to the principal structure by a roof or a common wall is considered part of the principal structure.

**Aggrieved party** - an owner of land whose property is directly or indirectly affected by the granting or denial of a permit or variance under this Article; a person whose land abuts land for which a permit or variance has been granted; or any other person or group of persons who have suffered particularized injury as a result of the granting or denial of such permit or variance.

**Agriculture** - the production, keeping or maintenance for sale or lease, of plants and/or animals, including but not limited to: forages and sod crops; grains and seed crops; dairy animals and dairy products; poultry and poultry products; livestock; fruits and vegetables; and ornamental and green-house products. Agriculture does not include forest management and timber harvesting activities.

**Aquaculture** - the growing or propagation of harvestable freshwater, estuarine, or marine plant or animal species.

**Basal Area** - the area of cross-section of a tree stem at 4 1/2 feet above ground level and inclusive of bark.

**Basement** - any portion of a structure with a floor-to-ceiling height of 6 feet or more and having more than 50% of its volume below the existing ground level.

**Boat Launching Facility** - a facility designed primarily for the launching and landing of watercraft, and which may include an access ramp, docking area, and parking spaces for vehicles and trailers.

**Bureau** – State of Maine Department of Conservation’s Bureau of Forestry

**Campground** - any area or tract of land to accommodate two (2) or more parties in temporary living quarters, including, but not limited to tents, recreational vehicles or other shelters.

**Canopy** – the more or less continuous cover formed by tree crowns in a wooded area.

**Coastal wetland** - all tidal and subtidal lands; all lands with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous low land that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes.

**Commercial use** - the use of lands, buildings, or structures, other than a "home occupation," defined below, the intent and result of which activity is the production of income from the buying and selling of goods and/or services, exclusive of rental of residential buildings and/or dwelling units.

**Cross-sectional area** – the cross-sectional area of a stream or tributary stream channel is determined by multiplying the stream or tributary stream channel width by the average stream or tributary stream channel depth. The stream or tributary stream channel width is the straight line distance from the normal high-water line on one side of the channel to the normal high-water line on the opposite side of the channel. The average stream or tributary stream channel depth is the average of the vertical distances from a straight line between the normal high-water lines of the stream or tributary stream channel to the bottom of the channel.

**DBH** – the diameter of a standing tree measured 4.5 feet from ground level.

**Dimensional requirements** - numerical standards relating to spatial relationships including but not limited to setback, lot area, shore frontage and height.

**Disability** - any disability, infirmity, malformation, disfigurement, congenital defect or mental condition caused by bodily injury, accident, disease, birth defect, environmental conditions or illness; and also includes the physical or mental condition of a person which constitutes a substantial handicap as determined by a physician or in the case of mental handicap, by a psychiatrist or psychologist, as well as any other health or sensory impairment which requires special education, vocational rehabilitation or related services.

**Disruption of shoreline integrity** - the alteration of the physical shape, properties, or condition of a shoreline at any location by timber harvesting and related activities. A shoreline where shoreline integrity has been disrupted is recognized by compacted, scarified and/or rutted soil, an abnormal channel or shoreline cross-section, and in the case of flowing waters, a profile and character altered from natural conditions.

**Driveway** - a vehicular access-way less than five hundred (500) feet in length serving two single-family dwellings or one two-family dwelling, or less.

**Emergency operations** - operations conducted for the public health, safety or general welfare, such as protection of resources from immediate destruction or loss, law enforcement, and operations to rescue human beings, property and livestock from the threat of destruction or injury.

**Essential services** - gas, electrical or communication facilities; steam, fuel, electric power or water transmission or distribution lines, towers and related equipment; telephone cables or lines, poles and related equipment; gas, oil, water, slurry or other similar pipelines; municipal sewage lines, collection or supply systems; and associated storage tanks. Such systems may include towers, poles, wires, mains, drains, pipes, conduits, cables, fire alarms and police call boxes, traffic signals, hydrants and similar accessories, but shall not include service drops or buildings which are necessary for the furnishing of such services.

**Expansion of a structure** - an increase in the floor area or volume of a structure, including all extensions such as, but not limited to: attached decks, garages, porches and greenhouses.

**Expansion of use** - the addition of one or more months to a use's operating season; or the use of more floor area or ground area devoted to a particular use.

**Family** - one or more persons occupying a premise and living as a single housekeeping unit.

**Floodway** - the channel of a river or other watercourse and adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation by more than one foot in height.

**Floor area** - the sum of the horizontal areas of the floor(s) of a structure enclosed by exterior walls, plus the horizontal area of any unenclosed portions of a structure such as porches and decks.

**Forest management activities** - timber cruising and other forest resource evaluation activities, pesticide or fertilizer application, management planning activities, timber stand improvement, pruning, regeneration of forest stands, and other similar or associated activities, exclusive of timber harvesting and the construction, creation or maintenance of roads.

**Forested wetland** - a freshwater wetland dominated by woody vegetation that is six (6) meters tall (approximately twenty (20) feet) or taller.

**Forest Stand** - a contiguous group of trees sufficiently uniform in age class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit.

**Foundation** - the supporting substructure of a building or other structure, excluding wooden sills and post supports, but including basements, slabs, frost walls, or other base consisting of concrete, block, brick or similar material.

**Freshwater wetland** - freshwater swamps, marshes, bogs and similar areas, other than forested wetlands, which are:

1. Of ten or more contiguous acres; or of less than 10 contiguous acres and adjacent to a surface water body, excluding any river, stream or brook, such that in a natural state, the combined surface area is in excess of 10 acres; and
2. Inundated or saturated by surface or ground water at a frequency and for a length of time sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils.

Freshwater wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

**Functionally water-dependent uses** - those uses that require, for their primary purpose, location on submerged lands or that require direct access to, or location in, coastal or inland waters and that can not be located away from these waters. The uses include, but are not limited to commercial and recreational fishing and boating facilities, excluding recreational boat storage buildings, finfish and shellfish processing, fish storage and retail and wholesale fish marketing facilities, waterfront dock and port facilities, shipyards and boat building facilities, marinas, navigation aids, basins and channels, retaining walls, industrial uses dependent upon water-borne transportation or requiring large volumes of cooling or processing water that can not reasonably be located or operated at an inland site, and uses that primarily provide general public access to coastal or inland waters.

**Ground cover** – small plants, fallen leaves, needles and twigs, and the partially decayed organic matter of the forest floor.

**Harvest Area** - the area where timber harvesting and related activities, including the cutting of trees, skidding, yarding, and associated road construction take place. The area affected by a harvest encompasses the area within the outer boundaries of these activities, excepting unharvested areas greater than 10 acres within the area affected by a harvest.

**Height of a structure** - the vertical distance between the mean original (prior to construction) grade at the downhill side of the structure and the highest point of the structure, excluding chimneys, steeples, antennas, and similar appurtenances that have no floor area.

**Home occupation** - an occupation or profession which is customarily conducted on or in a residential structure or property and which is 1) clearly incidental to and compatible with the residential use of the property and surrounding residential uses; and 2) which employs no more than two (2) persons other than family members residing in the home.

**Increase in nonconformity of a structure** - any change in a structure or property which causes further deviation from the dimensional standard(s) creating the nonconformity such as, but not limited to, reduction in water body, tributary stream or wetland setback distance, increase in lot coverage, or increase in height of a structure. Property changes or structure expansions which either meet the dimensional standard or which cause no further increase in the linear extent of nonconformance of the existing structure shall not be considered to increase nonconformity. For example, there is no increase in nonconformity with the setback requirement for water bodies, wetlands, or tributary streams if the expansion extends no further into the required setback area than does any portion of the existing nonconforming structure. Hence, a structure may be expanded laterally provided that the expansion extends no closer to the water body, tributary stream, or wetland than the closest portion of the existing structure from that water body, tributary stream, or wetland. Included in this allowance are expansions which in-fill irregularly shaped structures.

**Industrial** - The assembling, fabrication, finishing, manufacturing, packaging or processing of goods, or the extraction of minerals.

**Institutional** – a non-profit or quasi-public use, or institution such as a church, library, public or private school, hospital, or municipally owned or operated building, structure or land used for public purposes.

**Land Management Road** - a route or track consisting of a bed of exposed mineral soil, gravel, or other surfacing materials constructed for, or created by, the passage of motorized vehicles and used primarily for timber harvesting and related activities, including associated log yards, but not including skid trails or skid roads.

**Licensed Forester** - a forester licensed under 32 M.R.S.A. Chapter 76.

**Lot area** - The area of land enclosed within the boundary lines of a lot, minus land below the normal high-water line of a water body or upland edge of a wetland and areas beneath roads serving more than two lots.

**Marina** - a business establishment having frontage on navigable water and, as its principal use, providing for hire offshore moorings or docking facilities for boats, and which may also provide accessory services such as boat and related sales, boat repair and construction, indoor and outdoor storage of boats and marine equipment, bait and tackle shops and marine fuel service facilities.

**Market value** - the estimated price a property will bring in the open market and under prevailing market conditions in a sale between a willing seller and a willing buyer, both conversant with the property and with prevailing general price levels.

**Mineral exploration** - hand sampling, test boring, or other methods of determining the nature or extent of mineral resources which create minimal disturbance to the land and which include reasonable measures to restore the land to its original condition.

**Mineral extraction** - any operation within any twelve (12) month period which removes more than one hundred (100) cubic yards of soil, topsoil, loam, sand, gravel, clay, rock, peat, or other like material from its natural location and to transport the product removed, away from the extraction site.

**Minimum lot width** - the closest distance between the side lot lines of a lot. When only two lot lines extend into the shoreland zone, both lot lines shall be considered to be side lot lines.

**Multi-unit residential** - a residential structure containing three (3) or more residential dwelling units.

**Native** – indigenous to the local forests.

**Non-conforming condition** – non-conforming lot, structure or use which is allowed solely because it was in lawful existence at the time this Ordinance or subsequent amendment took effect.

**Non-conforming lot** - a single lot of record which, at the effective date of adoption or amendment of this Ordinance, does not meet the area, frontage, or width requirements of the district in which it is located.

**Non-conforming structure** - a structure which does not meet any one or more of the following dimensional requirements; setback, height, or lot coverage, but which is allowed solely because it was in lawful existence at the time this Ordinance or subsequent amendments took effect.

**Non-conforming use** - use of buildings, structures, premises, land or parts thereof which is not allowed in the district in which it is situated, but which is allowed to remain solely because it was in lawful existence at the time this Ordinance or subsequent amendments took effect.

**Normal high-water line (non-tidal waters)** - that line which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or changes in vegetation, and which distinguishes between predominantly aquatic and predominantly terrestrial land.

**Person** - an individual, corporation, governmental agency, municipality, trust, estate, partnership, association, two or more individuals having a joint or common interest, or other legal entity.

**Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland.**

Temporary: Structures which remain in or over the water for less than seven (7) months in any period of twelve (12) consecutive months.

Permanent: Structures which remain in or over the water for seven (7) months or more in any period of twelve (12) consecutive months.

**Principal structure** - a building other than one which is used for purposes wholly incidental or accessory to the use of another building or use on the same premises.

**Principal use** - a use other than one which is wholly incidental or accessory to another use on the same premises.

**Public facility** - any facility, including, but not limited to, buildings, property, recreation areas, and roads, which are owned, leased, or otherwise operated, or funded by a governmental body or public entity.

**Recreational facility** - a place designed and equipped for the conduct of sports, leisure time activities, and other customary and usual recreational activities, excluding boat launching facilities.

**Recreational vehicle** - a vehicle or an attachment to a vehicle designed to be towed, and designed for temporary sleeping or living quarters for one or more persons, and which may include a pick-up camper, travel trailer, tent trailer, camp trailer, and motor home. In order to be considered as a vehicle and not as a structure, the unit must remain with its tires on the ground, and must be registered with the State Division of Motor Vehicles.

**Replacement system** - a system intended to replace: 1.) an existing system which is either malfunctioning or being upgraded with no significant change of design flow or use of the structure, or 2.) an existing overboard wastewater discharge.

**Residential dwelling unit** - a room or group of rooms designed and equipped exclusively for use as permanent, seasonal, or temporary living quarters for only one family at a time, and containing cooking, sleeping and toilet facilities. The term shall include mobile homes and rental units that contain cooking, sleeping, and toilet facilities regardless of the time-period rented. Recreational vehicles are not residential dwelling units.

**Residual basal area** - the average of the basal area of trees remaining on a harvested site.

**Riprap** - rocks, irregularly shaped, and at least six (6) inches in diameter, used for erosion control and soil stabilization, typically used on ground slopes of two (2) units horizontal to one (1) unit vertical or less.

**Residual Stand** - a stand of trees remaining in the forest following timber harvesting and related activities

**Road** - a route or track consisting of a bed of exposed mineral soil, gravel, asphalt, or other surfacing material constructed for or created by the repeated passage of motorized vehicles, excluding a driveway as defined.

**Service drop** - any utility line extension which does not cross or run beneath any portion of a water body provided that:

1. in the case of electric service

- a. the placement of wires and/or the installation of utility poles is located entirely upon the premises of the customer requesting service or upon a roadway right-of-way; and
- b. the total length of the extension is less than one thousand (1,000) feet.

2. in the case of telephone service

- a. the extension, regardless of length, will be made by the installation of telephone wires to existing utility poles, or

b. the extension requiring the installation of new utility poles or placement underground is less than one thousand (1,000) feet in length.

**Setback** - the nearest horizontal distance from the normal high-water line of a water body or tributary stream, or upland edge of a wetland, to the nearest part of a structure, road, parking space or other regulated object or area.

**Shore frontage** - the length of a lot bordering on a water body or wetland measured in a straight line between the intersections of the lot lines with the shoreline.

**Shoreland zone** - the land area located within two hundred and fifty (250) feet, horizontal distance of the upland edge of a coastal wetland, including all areas affected by tidal action.

**Shoreline** – the upland edge of a coastal wetland.

**Skid Road or Skid Trail** - a route repeatedly used by forwarding machinery or animal to haul or drag forest products from the stump to the yard or landing, the construction of which requires minimal excavation.

**Slash** - the residue, e.g., treetops and branches, left on the ground after a timber harvest.

**Structure** - anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground, exclusive of fences, and poles, wiring and other aerial equipment normally associated with service drops as well as guying and guy anchors. The term includes structures temporarily or permanently located, such as decks, patios, and satellite dishes.

**Substantial start** - completion of thirty (30) percent of a permitted structure or use measured as a percentage of estimated total cost.

**Subsurface sewage disposal system** – any system designed to dispose of waste or waste water on or beneath the surface of the earth; includes, but is not limited to: septic tanks; disposal fields; grandfathered cesspools; holding tanks; pretreatment filter, piping, or any other fixture, mechanism, or apparatus used for those purposes; does not include any discharge system licensed under 38 M.R.S.A. section 414, any surface waste water disposal system, or any municipal or quasi-municipal sewer or waste water treatment system..

**Sustained slope** - a change in elevation where the referenced percent grade is substantially maintained or exceeded throughout the measured area.

**Tidal waters** – all waters affected by tidal action during the maximum spring tide.

**Timber harvesting** - the cutting and removal of timber for the primary purpose of selling or processing forest products. The cutting or removal of trees in the shoreland zone on a lot that has less than two (2) acres within the shoreland zone shall not be considered timber harvesting. Such cutting or removal of trees shall be regulated pursuant to Section 4.15 (P), Clearing or Removal of Vegetation for Activities Other Than Timber Harvesting.

**Timber harvesting and related activities** - timber harvesting, the construction and maintenance of roads used primarily for timber harvesting and other activities conducted to facilitate timber harvesting.

**Tributary stream** – means a channel between defined banks created by the action of surface water, which is characterized by the lack of terrestrial vegetation or by the presence of a bed, devoid of topsoil, containing waterborne deposits or exposed soil, parent material or bedrock; and which is connected hydrologically with other water bodies. “Tributary stream” does not include rills or gullies forming because of accelerated erosion in disturbed soils where the natural vegetation cover has been removed by human activity.

This definition only applies to that portion of the tributary stream located within the shoreland zone of the receiving water body or wetland.

**Upland edge of a wetland** - the boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the maximum spring tide level, including all areas affected by tidal action.

**Vegetation** - all live trees, shrubs, and other plants including without limitation, trees both over and under 4 inches in diameter, measured at 4 1/2 feet above ground level.

**Velocity zone** - an area of special flood hazard extending from offshore to the inland limit of the primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

**Volume of a structure** - the volume of all portions of a structure enclosed by roof and fixed exterior walls as measured from the exterior faces of these walls and roof.

**Water crossing** - any project extending from one bank to the opposite bank of a tributary stream or wetland whether under, through, or over the water or wetland. Such projects include but may not be limited to roads, fords, bridges, culverts, water lines, sewer lines, and cables as well as maintenance work on these crossings. This definition includes crossings for timber harvesting equipment and related activities.

**Wetland** - a coastal wetland.

**Windfirm** - the ability of a forest stand to withstand strong winds and resist windthrow, wind rocking, and major breakage.

**Woody Vegetation** - live trees or woody, non-herbaceous shrubs.