

#17-16-OA~~B~~**AN ORDINANCE OF THE TOWNSHIP OF BERKELEY, COUNTY OF OCEAN, STATE OF NEW JERSEY, AMENDING AND SUPPLEMENTING CHAPTER XXVII OF THE TOWNSHIP CODE, ENTITLED "DOCKS AND MARINE BULKHEADS"**

February 27, 2017

**BE IT ORDAINED** by the Mayor and Township Council of the Township of Berkeley, County of Ocean, State of New Jersey, as follows:

**SECTION 1.** Chapter XXVII of the Township of Berkeley, entitled "Docks and Bulkheads," Section 27-2, entitled "Construction of Bulkhead" is hereby amended and supplemented to read in its entirety in the following manner:

**§27-2 CONSTRUCTION OF MARINE BULKHEADS.****§27-2.1 Definitions.**

*Erosion* shall mean the wearing away of natural (earth) and unnatural (embankment, slope, protection, structure, etc.) surfaces by the action of natural forces, particularly moving water and materials carried by it.

*Lagoon* shall mean any man-made or man-improved body of water. (1974 Code § 62-1)

*Marine Bulkhead* shall mean any bulkhead or retaining wall which retains earth (or other material) on one side and is exposed to water in a lagoon or other body of water along all or part of any of its boundary lines.

*Marine Bulkhead Construction* shall mean new construction, reconstruction, alteration, extension or repair to the bulkhead.

*Revetment* shall mean bank protection to prevent erosion.

*Riprap (or rip rap)* shall mean rock or boulders, 6" or greater in diameter, used to armor shorelines, streambeds, bridge abutments, pilings and other shoreline structures against scour and water or ice erosion.

*Waterfront Lot* shall mean any lot which has a lagoon or other body of water along all or part of any of its boundary lines.

**§27-2.2 Building Permit Required.**

- a. No marine bulkhead construction and no fill shall be placed on any waterfront lot without being certified by a Professional Engineer and obtaining a building permit for such construction to the bulkhead, from the Construction Office of the Township of Berkeley.

**§27-2.3 Bulkhead Required for new construction.**

- a. No building permit shall be issued for the construction of any principal structure on a waterfront lot until a Professional Engineer certification has been obtained, certifying that the existing bulkhead is acceptable and there is no need for marine bulkhead construction on the lot. If the existing bulkhead is unacceptable or if construction of a bulkhead is necessary, a building permit for construction of the bulkhead shall be obtained on such lot. The application for the building permit to construct the bulkhead may be made simultaneously with the application for the building permit for the construction of the principal structure.
- b. All development on waterfront lots shall provide bulkhead or bank stabilization in accordance with the New Jersey Department of Environmental Protection.
- c. New marine bulkheads must utilize vinyl sheathing, whereas re-sheathing an existing wood bulkhead with wood sheets is permitted.
- d. Where bulkhead is not permissible by the New Jersey Department of Environmental Protection, and rip-rap is used instead for erosion control and for shoreline protection, the rip-rap should be maintained as per all applicable requirements at all times.

**§27-2.4 Permit Applications.**

- a. Application for Permits:
  - i. Applications for a bulkhead permit shall be submitted to the Township Construction Office on the form provided by the Township and shall be accompanied by fees established by the Township of Berkeley.
  - ii. All new, altered, replacement, or reconstructed marine bulkheads in the Township of Berkeley shall be designed by a Professional Engineer licensed to practice in the State of New Jersey.
  - iii. Applications shall be accompanied by **four (4)** sets of signed and sealed plans and specifications, showing the size, shape, configuration, materials, dimensions, **soil profile** and location of the bulkhead(s), including existing and proposed bulkheads.
  - iv. All plans shall be based upon an accurate, current survey, within five (5) years of the application date, of the premises prepared by a Professional Surveyor licensed to practice in the State of New Jersey.
  - v. Applications shall be accompanied by fees as established by the Township Council of the Township of Berkeley.

- vi. Applications shall be accompanied by copies of permits from the New Jersey Department of Environmental Protection regarding the proposed bulkhead.

b. Permit approvals:

- i. The Township Engineer shall review the application and plans and grant or deny the application within twenty (20) business days upon receipt of a complete application.
- ii. The review by the Township Engineer shall be in conformance with this Chapter, consistent with the standards contained herein.
- iii. No building permit shall be issued by the Construction Official until he has received such plans marked "approved by the Township Engineer."

**§27-2.5 Inspections Prior to Issuance of Certificate of Occupancy for new construction.**

Prior to the issuance of a certificate of occupancy for a building on a waterfront lot, the Construction Official shall inspect and approve the installed bulkhead with particular reference to conformance with the plans approved and with the standards of materials set forth below.

**§27-2.6 Standards for Marine Bulkhead Construction.**

All marine bulkheads shall conform to the following standards:

- a. The design engineer shall certify on the plan the type of water (i.e., freshwater or saltwater) to which the exposed side of the marine bulkhead will be exposed.
- b. The design engineer is responsible for obtaining a soil sample from behind the wall (land side of wall). This soil profile shall be provided on the plans indicating the description, analysis and conditions of soils, at a minimum depth of the proposed pile of the bulkhead.
- c. The design engineer shall provide a soil analysis in front of the wall (water side) indicating water depth in front of the wall, depth of mud line, depth of firm bottom and the allowance for future dredging, if needed.
- d. All marine bulkhead designs shall take into account the following minimum factors:
  - i. Soil analysis and conditions in front of the wall
  - ii. Soil analysis and conditions behind the wall

- iii. Water depth in front of the wall (to mud line and to firm bottom, with allowance for future dredging, if needed)
  - iv. Tide fluctuations
  - v. Sheet pile and face pile (if used) embedment depth
  - vi. Sheet pile and face pile (if used) exposed length above bottom of lagoon and above water
  - vii. Sheet pile anchorage conditions behind wall.
  - viii. Currents, scour, and wave action potential
  - ix. Use of the wall and land behind the wall (boat anchorage, davit attachments, special loading, driveways, buildings, surcharges, decks, swimming pools, etc.)
  - x. Drainage behind the wall
  - xi. Wall backfill materials
  - xii. Slope behind the wall
  - xiii. Type and strength of materials used in the wall
- e. All marine bulkheads shall be generally of the deep-water, anchored (or "navy") type, unless otherwise approved by the Township Engineer, which typically consist of the following elements:
- i. Face piles (tapered, round piles seaward of all other bulkhead components).
  - ii. Sheet piles (sheathing).
  - iii. Walers (horizontal beams between face piles and sheet piles)
    - a) One at the top of the wall.
    - b) One at or right above low tide (if needed for design conditions).

- c) Intermediate (if needed for design conditions).
  - d) Maximum spacing of 4' between walers.
- iv. Anchor systems will be either :
- a) Steel tie rods with ogee washers and nuts, through the face piles and sheet piles, and tied into deadmen, drag, and/or anchor piling, or
  - b) Helical anchoring system through the face piles and sheet piles.
  - c) Helical anchor systems will be designed by a professional engineer in the State of NJ and a certifications will be required after construction that the helical anchoring system has been constructed per the plans and specifications.
- v. Key logs, deadmen, drag, and/or anchor piles for tie rod anchorage.
- vi. Wall caps.
- f. Piles and wales shall be pressure-treated in accordance with all regulations. Anchor piles and anchor logs may be untreated local oak or pine timbers. However, anchor piles and anchor logs are to be treated if any portion is to be constructed above mean low water.
- g. Sheet piling shall be tongue and groove.
- h. Only clean fill shall be used for fill behind or on the landward side of the bulkhead.
- i. All hardware used in the construction of bulkheads shall be new, unused and galvanized or stainless steel. All such hardware shall be to the dimensions shown in the respective designs as submitted to and approved by the Township.

- j. All bulkheads shall be erected true to lines and grades shown in the application for the building permit and shall be properly backfilled so they will remain firm and in place. Minor modifications shall be permitted when required by the NJDEP due to field conditions.
- k. Pilings are to be spaced a maximum of **eight (8)** feet apart on center, and driven a minimum of 8' into solid bottom, or greater if determined by the design engineer.
- l. Sheets will be driven a minimum of 5' into solid bottom, or greater if determined by the design engineer.
- m. All bulkheads shall be constructed to tie into existing bulkheads on either or both sides, if any exist, or shall be constructed with returns (at 90 degrees to the main bulkhead) into the protected property, to prevent flanking of the main bulkhead.
- n. According to New Jersey Department of Environmental Protection (NJDEP) swimming pools shall be set back 15 feet. If a swimming pool is setback closer than 15 feet an NJDEP permit is required. In any instance where a pool is to be installed adjacent to a bulkhead, a Professional Engineering certification is required stating that the pool will not have a negative effect on the bulkhead.
- o. The contractor shall not cut or alter any bulkhead tie rods or auger piles to accommodate the construction of an in ground pool.
- p. Decking or structures shall not be constructed on top of the bulkhead or attached to the bulkhead.
- q. Decking or structures shall not be cantilevered over the bulkhead.
- r. The bulkhead height must be reviewed by the Township Engineer for conformance on a case-by-case basis.
- s. New bulkhead will replace existing bulkhead and shall not be constructed waterward of the existing bulkhead except as permitted by the New Jersey Department of Environmental Protection, and shall be in line with and tie into any adjacent legally constructed bulkheads, except as otherwise permitted or required by the New Jersey Department of Environmental Protection.
- t. If the requirements of New Jersey Department of Environmental Protection does not permit any of these standards, then New Jersey Department of Environmental Protection determination shall govern.

**§27-2.7****Minimum Material Standards.**

All materials, preservatives, and components incorporated into bulkheads constructed within the Township shall conform and be maintained in accordance with the following requirements:

a. Wood

i. Material

All wood used in marine bulkhead construction shall be Southern Pine (or a wood of equivalent strength and durability approved by the Township Bulkhead Engineer), and graded by a recognized lumber grading agency, meeting the following minimum standards:

- a) Round piles: ASTM D 25 8" tip diameter, natural taper, spaced a maximum of 8' center, and driven a minimum of 8' into solid bottom, or greater if determined by the design engineer.
- b) Square or sawn piling: not permitted
- c) Walers: Marine Framing Grade No. 2, minimum 6" x 6".
- d) Stringer, decking, handrail and wall caps: No. 1
- e) Anchor piles: ASTM D 25, minimum 8" tip diameter, natural taper, and length and depth as determined by the design engineer.
- f) Key logs: minimum 6" x 8" or 8" diameter and 16' long, continuous for the entire length of the bulkhead with 4' overlaps.

ii. Preservative

All wood used in bulkhead construction shall be pressure-treated in accordance with the following specifications:

- a) Round piles: saltwater 2.5 CCA, AWPAC3&C18
  - b) Walers: saltwater 2.5 CCA, AWPAC2&C18
  - c) Sheet piles: saltwater 2.5 CCA, AWPA C2 & C18
  - d) Wallcaps: 0.25 CCA
- ii. If required, wood shall be wrapped utilizing New Jersey Department of Environmental Protection approved materials.

b. Vinyl

- i. Vinyl used in bulkhead shall be extruded from rigid impact modified, weatherable, UV resistant, polyvinyl chloride (PVC) Such PVC shall meet the minimum requirements of ASTM D-4216 for cell classification, current edition, and shall be rated by the manufacturer to resist rot, decay, marine borer, termite, and ultraviolet deterioration on a pro-rated basis for a minimum of fifty (50) years from the date of installation.
- ii. All vinyl materials shall be installed in strict accordance with the specifications, recommendations, and installation instructions of the vinyl sheet pile manufacturer.

c. Steel

i. Galvanized steel (or Stainless Steel)

- a. All tie rods shall be ASTM A-36 steel, 3/4" minimum diameter, hot-dipped galvanized steel, per ASTM A-153 with 2.0 ounces of zinc per square foot, with matching hexagonal nuts (ASTM A-307) and cast iron ogee washers (ASTM A-47).
- b. All bolts shall be 5/8" minimum diameter, hot-forged bolts, with hexagonal heads (ASTM A-307), with matching hexagonal nuts and washers.
- c. All hardware (including plates and turnbuckles) shall be of the same materials and protective coatings as the tie rods.
- d. Stainless steel: if stainless steel is used for tie rods or hardware, it shall be 300 series stainless steel, with matching hexagonal nuts and washers.

**§27-2.8 Minimum Installation Standards.**

- a. All wood materials shall be installed in strict accordance with the specifications, recommendations, and installation instructions of the Southern Pine Council (SPC) as contained in the current edition of the SPC Marine Construction Manual.
- b. All materials shall be installed in strict accordance with the specifications, recommendations, and installation instructions as per the design plans.
- c. A design professional shall provide to the Township Floodplain Manager and the Construction Official a certification indicating that the particular type, length, thickness and shape of bulkhead and the type of support and anchoring system is adequate and appropriate for the loads and conditions anticipated at the site and that all materials have been constructed per the approved specifications and design plans and/or copies of the material delivery tickets



from the contractors shall be provided indicating all materials and quantities of the piles, sheeting and anchoring system per the approved specifications and plans.

**§27-2.9 Fees.**

Prior to the issuance of any permit for constructing the bulkheads, a fee of two hundred fifty (\$250.00) dollars shall be collected to cover the flood review.

In addition to this fee, the township permit fee and inspection fees will be determined by the Construction Subcode Official and will also be collected at the time of review.

**§27-2.10 Notification of Commencement of Construction.**

- a. No Marine Bulkhead construction shall commence before and unless a permit for construction has been obtained in accordance with the requirements of this Chapter.
- b. The permittee shall notify the Township Construction Officer at least two (2) business days before construction is to commence or recommence on any Marine Bulkhead for which a permit has been issued.
- c. Any work performed without notification to the Township Construction Officer is subject to removal by and at the cost and expense of the permittee.
- d. The Township Construction Officer may make periodic visits to the job site to verify that the work is proceeding in accordance with permit requirements.
- e. The permittee and the contractor shall provide safe and adequate access to the site of the work for the Township Construction Officer for purposes of making the required inspections.
- f. After construction of the bulkhead, the professional engineer shall provide to the Township Flood Mitigation Officer and/or the Construction Official a certification indicating that the particular type, length, thickness and shape of bulkhead and the type of support and anchoring system is adequate and appropriate for the loads and conditions anticipated at the site, that all materials have been constructed per the approved specifications and installed per the approved design plans.

**SECTION 2. Chapter XXVII of the Township of Berkeley, entitled "Docks and Bulkheads," is hereby amended so as to create Section 27-3, entitled "Maintenance of Bulkheads and Waterfront Lots", which shall read as follows:**

**§27-3 MAINTENANCE OF BULKHEADS AND WATERFRONT LOTS**

**§27-3.0 Maintenance of bulkheads and waterfront lots; duty to repair**

- a. Statutory Authorization. The Legislature of the State of New Jersey has in N.J.S.A. 40:68-4 entitled, "Ordinances relating to waterfronts," delegated the responsibility to local government units to adopt and promulgate rules and regulations for waterfront properties.
- b. All private bulkheads and waterfront lots within the Township of Berkeley shall be maintained so that they shall not pose a danger to the health, safety, or welfare of citizens of the Township.
- c. All bulkheads and water front lots shall be kept in a state of repair which will prevent erosion or damage to abutting, adjacent, or adjoining properties, or the lagoon on which it fronts.
- d. Whenever a bulkhead on a waterfront lot has deteriorated to such a degree that it poses a danger to the property, or the abutting, adjacent, or adjoining properties, or to the lagoon on which its fronts, the owner shall be required to make the necessary repairs to correct such conditions.
- e. The Berkeley Township Code Enforcement Officer and/or the Flood Mitigation Officer are hereby appointed to administer and implement the maintenance requirements of bulkheads on waterfront lots.
- f. The Township Code Enforcement Officer and/or Flood Mitigation Officer may:
  - i. perform visual inspections of bulkheads as per resident complaints, at the time of property sale and/or issuance of a Certificate of Occupancy, and/or at the time of repairs to the structure on the property
  - ii. document any form of degradation as follows:
    - a. Members, which are missing, bowed, bent, leaning, leaking.
    - b. Holes in the sheet piles.
    - c. Evidence of settlement or sinkholes in the ground landward of the bulkhead.
    - d. Evidence of Bulkhead backfill deposited in the lagoon seaward of the bulkhead.
    - e. Other indications that it is structurally unsound or unsafe.

- f. Evidence of any soil loss or damage to any adjoining property or adjoining structures.
  - iii. Advise permittee when additional local, Federal or State permits may be required.
  - iii. Maintain written reports or maintenance records for each property inspected. Records shall be kept on file for FEMA inspection.
  - iv. Maintain all records pertaining to the administration of this subsection and make these records available for inspection.
  - v. Service any notice of violation, issue stop-work orders, revoke permits and take corrective actions as required to enforce these requirements.
- g. Township Flood Mitigation Officer Procedures.
  - i. Inspection of Bulkheads. Prior to selling or renting any building on a bulkheaded property, the Township Flood Mitigation Officer may make as many inspections of the property in question as may be necessary to ensure that all provisions of this subsection are fully administered. In exercising this power, the Township Flood Mitigation Officer has a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction at any reasonable hour for the purposes of inspection or other action of enforcement that may be required.
  - ii. Rejection of Permits. The Township Flood Mitigation Officer may reject an application for certificate of compliance by notifying the applicant in writing, stating the reason for the rejection. Applications may be rejected for refusal or failure to comply with any requirement of this subsection, local, State or Federal laws; or for false statements or misrepresentations made in attempting to secure a certificate of compliance. Any certification mistakenly issued in violation of an applicable State or local law may be revoked.
  - iii. Determination for Remediation. When the Flood Mitigation Officer determines that remediation of a bulkhead is required; it shall be his duty to notify the owner of the property. The owner or occupant shall remedy any defect. Subsequent to remediation, the owner shall reapply for areinspection prior to the issuance of a certificate of compliance as promulgated herein. The reinspection fee shall be applicable as specified with subsection 12-3.5 of the Township Code.
  - iv. Appeal. Any owner who has received an order to take corrective action may appeal from the order to the Zoning Board by giving notice of appeal in writing in conformance with subsection 12-3.3 of this Code entitled, "Notice of Violation; Hearings; Appeals; Emergencies."

In the absence of an appeal, the order shall be final. The Board shall hear an appeal within a reasonable time and may affirm, modify and affirm or revoke the order.

- v. Failure to Comply with Order. If the owner of the property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of the Board following an appeal, he shall be guilty of a misdemeanor and shall be punishable at the discretion of the Court in conformance with subsection 12-3.10 "Violations of Penalties" of this Code.
- h. When notified by the Township Code Enforcement Officer and/or Flood Mitigation Officer of a deteriorated bulkhead, a property owner shall submit a plan, along with a notarized letter or Attorney letter, indicating the plan of corrective action to the Township no later than 30 days from the receipt of the notice.
- i. Upon approval of the plan of corrective action by the Township Engineer, the property owner shall complete all necessary repairs within 120 days.
- j. When a property is sold, part of the Certificate of Occupancy inspection will include the bulkhead. If the bulkhead has deteriorated, it will be the responsibility of the buyer to submit a plan, along with a notarized letter or Attorney letter, indicating the plan of corrective action to the Township no later than 30 days from the receipt of the notice. At this point a Certificate of Occupancy will be issued and the owner must complete all necessary repairs within 120 days.
- k. If permits are required from State or Federal Government Agencies, such permits shall be immediately applied for upon receipt of the Township approval.
- l. In the event the property owner fails to submit a corrective action plan, or fails to implement such plan following approval by the Township, he shall be liable for the penalties and violations contained herein.
  - i. If any of the specific time periods as set forth in sections E and F expire or are not extended with the consent of the Township, Code Enforcement shall issue a 10 day notice of violation.
  - ii. After the expiration of the 10 day notice of violation, Code Enforcement shall issue violations of this section with the Township Municipal Court.
- m. Maintenance requirements also apply to bank slopes, rip-rap, revetments, sod vegetation, or other types of bank stabilization on waterfront lots within the Township of Berkeley.

#### **§27-3.1 Final Inspection**

- a. The permittee shall notify the Township Construction Officer of the completion of the work done under the permit issued.

- b. The Township Construction Officer shall, within 5 business days of the notification, make an inspection of the completed work to determine if it conforms to the approved plans issued with the permit.
- c. If it is in conformance, the permittee will be so advised, and the permit file shall be marked as "completed".
- d. If it is not in conformance, the permittee will be so advised, and will be provided with a list of specific deficiencies requiring correction. The permittee shall then advise the Township Construction Officer when corrections have been made, and a re-inspection will be made.

### **§27-3.2 Utilities**

- a. It is the responsibility of the permittee to protect all existing utilities at the bulkhead site.
- b. The permittee shall obtain current utility mark-out from all applicable utilities prior to commencement of construction.

### **§27-3.3 Nonapplicability.**

This section shall not apply to any valid building permits issued and outstanding prior to the effective date hereof.

### **27-3.4 Violations and Penalties.**

Any person who violates any provisions of this section shall, upon conviction, be liable to the penalty stated in Chapter I, Section 1-5.

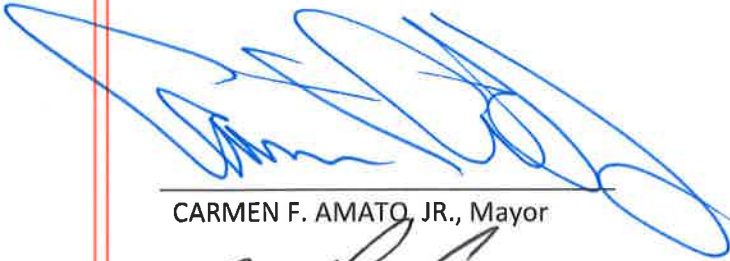
**SECTION 3.** Chapter XII of the Township Code of the Township of Berkeley, entitled "Property Maintenance," is hereby amended so as to delete §12-3.9, entitled "Bulkheaded Properties," which shall be deleted in its entirety.

**SECTION 4.** Chapter XXXV of the Township Code of the Township of Berkeley, entitled "Land Development," is hereby amended so as to delete §35-49.2, entitled "Bulkhead Construction Standards," which shall be deleted in its entirety.

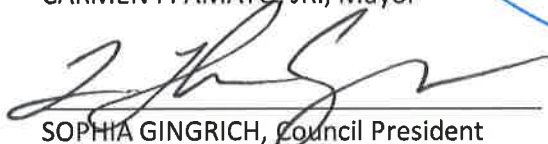
**SECTION 5.** This ordinance shall take effect after second reading and publication as required by law and the filing of the adopted ordinance with the Ocean County Planning Board.

**SECTION 6.**All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

**SECTION 7.**If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions hereof.



CARMEN F. AMATO, JR., Mayor



SOPHIA GINGRICH, Council President

L. THOMAS GROSSE, Council Vice President

**NOTICE**

**NOTICE IS HEREBY GIVEN** that the foregoing ordinance was introduced and passed on first reading at a regular meeting of the Township Council of the Township of Berkeley, in the County of Ocean, State of New Jersey, held on **February 27, 2017**, and will be considered for second reading and final passage at the regular meeting of said Governing Body to be held on the **27<sup>th</sup> day March of, 2017**, at 6:00 p.m., or as soon thereafter as this matter can be reached, at the meeting room of the Municipal Building located at 627 Pinewald-Keswick Road, Bayville, New Jersey, at which time all persons interested shall be given an opportunity to be heard concerning this ordinance.



**BEVERLY CARLE, RMC**

Township Clerk, Township of Berkeley