



# 5

## CRMC Regulatory Compliance

This narrative chapter is divided into three sections to correlate with the first three sections of the CRMP, where § 1.1 is Authorities and Purpose, Definitions, and Procedures, § 1.2 is Areas Under Council Jurisdiction, and §1.3 is Activities Under Council jurisdiction. CRMP Subsections most pertinent to the Project are outlined below under their respective CRMP Section. They are CRMP Subsections 1.1.5, 1.1.6(F), 1.1.6(I), 1.1.7, 1.1.8, 1.1.9, 1.1.10, 1.1.11, 1.1.12, 1.2.1(C), 1.2.(B), 1.2.2(F), 1.2.3, 1.3.1(A), 1.3.1(B), 1.3.1(F), 1.3.1(G), 1.3.1(J), 1.3.5, and 1.3.6.

### 5.1 CRMP § 1.1 – Authorities and Purpose, Definitions, and Procedures

#### 5.1.1 CRMP § 1.1.5 – Review Categories and Prohibited Activities in Tidal Waters and on Adjacent Shoreline Features

According to the Activity Matrix in Table 1, under CRMP § 1.1.5(A), the construction of structural shoreline protection on Coastal Headlands, Bluffs, and Cliffs abutting Type 2 Waters requires the filing of a CRMC Category B application. Therefore, all activities associated with the construction of the riprap revetment are being filed under this Category B application for CRMC review.

#### 5.1.2 CRMP § 1.1.6(F) – Category B Applications

*Applicants for activities and alterations listed as "B" in Tables 1, 2, or 3 in § 1.1.5 of this Part, in addition to adhering to the applicable policies, prerequisites, and standards, are required to address all Category B requirements as listed in applicable sections of the program and, where appropriate, other issues identified by the Council.\**

In accordance with CRMC § 1.1.6(F)(1), it fully is the Applicant's intention to demonstrate adherence to the applicable CRMC policies, prerequisites, and standards, or identify thoroughly why such standards cannot be met, and to adequately address all applicable Category B requirements listed in the CRMP.

\* Italicized text henceforth in Section 5 of this document indicates text excerpted from the CRMP.



### 5.1.3 CRMP § 1.1.6(I) – Coastal Hazard Analysis Application

Based on a May 8, 2024 conversation between CRMC permitting staff and the Applicant's representative (VHB), it is the Applicant's understanding that a coastal hazards analysis will not be required for the Project.

### 5.1.4 CRMP § 1.1.7 – Variances

According to Table 1 in CRMP § 1.1.5(A), the construction of structural shoreline protection on Coastal Bluff alongside Type 2 waters is permissible under a Category B Assent without the need for a variance. VHB confirmed this determination with CRMC on July 3, 2024.

### 5.1.5 CRMP § 1.1.8 – Special Exceptions

The Project does not propose any prohibited activities, as identified under CRMP § 1.1.5, and thus does not require a Special Exception.

### 5.1.6 CRMP § 1.1.9 – Setbacks

CRMP § 1.1.2.A.155 notes that structural shoreline protection structures "*...are located within the fifty (50) foot minimum setback...*" by definition, and structural shoreline protection is permissible along Type 2 Waters on headlands, bluffs, and cliffs, according to Table 1 in CRMP § 1.1.5. As such, it is the Applicant's understanding relative to Setbacks that the construction of structural shoreline protection on Coastal Bluff can be permitted under a Category B Application without the need for a variance or special exception. VHB confirmed this determination with CRMC on July 3, 2024.

### 5.1.7 CRMP § 1.1.10 – Climate Change and Sea Level Rise

Based on a May 8, 2024 conversation between CRMC permitting staff and VHB, a coastal hazards analysis will not be required for the Project. The Project is being proposed to harden the shoreline for the purpose of resiliency against wave action and elevated seas to protect public transportation infrastructure and the surrounding residential neighborhood.

### 5.1.8 CRMP § 1.1.11 – Coastal Buffer Zones

Given the proximity of Narragansett Avenue to the inland edge of the Coastal Bluff, existing conditions do not include a coastal Buffer Zone, and creating one would be infeasible given the Project type. VHB confirmed that a coastal Buffer Zone would not be required under proposed conditions in a July 3, 2024 conversation with CRMC permitting staff.

### 5.1.9 CRMP § 1.1.12 – Fees

Municipal projects are not subject to CRMC application filing fees.



## 5.2 CRMP § 1.2 – Areas Under Council Jurisdiction

### 5.2.1 CRMP § 1.2.1(C) – Type 2 Low Intensity Use Waters

The tidal waters of Narragansett Bay, east of the Project site, are identified as Type 2 Low Intensity Use Waters, as previously described in narrative Section 3.2 above. Proposed project activities are believed to be consistent with the Council's Policies for Type 2 Waters, as further described in the narrative sections that address CRMP § 1.3 below. Proposed stone riprap installation along Type 2 Waters, as required for the revetment construction, constitutes structural shoreline protection and may be permitted if no adverse impact to coastal resources can be demonstrated. The Project will result in no new stormwater point discharges or changes in runoff patterns (relative to the Stormwater Rules at 250-RICR-150-10-8). Measures taken to ensure that the Project is compatible with the scenic quality of the area, in accordance with CRMP § 1.3.5, are described in narrative Section 5.3.6. With respect to CRMP § 1.2.1(C)(2)(G), all pre-existing public uses of the Coastal Bluff and adjacent Coastal Beach are expected to be maintained, though the existing timber staircases that provide pedestrian access to the beach will be removed at the request of CRMC permitting staff, as they evidently were installed in the absence of CRMC authorization.

### 5.2.2 CRMP § 1.2.2(A) – Coastal Beaches

The Coastal Beach east of the proposed riprap revetment, as identified in narrative Section 3.7.2, is not expected to be disturbed or altered as part of the proposed project activities. The Project's limits of disturbance extend to the landward edge of, but not within, the Coastal Beach. Should any temporary machinery access be required along the Bluff toe be required, then any disturbance of the abutting beach will be restored in accordance with the Maintenance Assent issued on April 15, 2024.

### 5.2.3 CRMP § 1.2.2(D) – Coastal Headlands, Bluffs, and Cliffs

The Council's Policies under CRMC § 1.2.2.(D) seek to protect Coastal Cliffs and Bluffs from alterations that may damage their value as sources of sediment to beaches and as a buffer against storm waves and flooding. The existing bluff is in a heavily eroded condition due to storm damage. The Project proposes to construct structural shoreline protection in the form of a stone riprap revetment to effectively resist the erosive forces of tidal currents and wave action. As such, the Applicant believes that the Project as currently proposed complies with the Council's Policies regarding Coastal Bluffs.

### 5.2.4 CRMP § 1.2.3 – Areas of Historic and Archaeological Significance

Areas of historic and archaeological significance are not known to be present in the Project area. The only properties on Prudence Island listed in the National Registry of Historic Places and the State of Rhode Island Historical Preservation and Heritage Commission List are Farnham Farm and Prudence Island Lighthouse. Neither of these properties will be disturbed by the proposed project activities.



## 5.3 CRMP § 1.3 – Activities Under Council Jurisdiction

### 5.3.1 CRMP § 1.3.1(A) – Category B Requirements

The Category B written requirements specified in the CRMP are italicized below, and the Applicant's responses follow in non-italicized text.

*The requirements herein for a Category B Assent are necessary data and information for the purposes of federal consistency reviews. All persons applying for a Category B Assent are required to:*

- a. *Demonstrate the need for the proposed activity or alteration.*

The Coastal Bluff along Narragansett Avenue has eroded to the point that the roadway is at risk of being severely damaged if structural shoreline protection is not constructed. Loss of the roadway would propose significant hardship to the residents of Prudence Island, as Narragansett Avenue serves as the primary thoroughfare on the eastern coast of the island. The larger stones proposed for construction of the revetment will stabilize the shoreline, limit future erosion, and protect public transportation infrastructure.

- b. *Demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met; local approvals are required for activities as specifically prescribed for nontidal portions of a project in §§ 1.3.1(B), (C), (F), (H), (I), (K), (M), (O) and (Q) of this Part; for projects on state land, the state building official, for the purposes of this section, is the building official.*

State Licensed Professional Engineering consultants have designed all Project components that require a RI-licensed Professional Engineer's stamp. Where relevant, the licensed professionals adhered to accepted engineering standards, and they certify that the designs are of sound engineering practice.

Submission of the CRMC Building Official and Zoning Officer Form indicate compliance with building codes, and the CRMC Category B application is presumed to satisfy requirements of the Town of Portsmouth Zoning Ordinance. The Project does not include activities that require local approvals, as defined under CRMP § 1.3.1.

- c. *Describe the boundaries of the coastal waters and land area that is anticipated to be affected.*

The Project Area includes the eastern shoulder of Narragansett Avenue and the Coastal Bluff immediately seaward of the road shoulder; no work is proposed on the Coastal Beach adjacent to the Bluff. All Project work will occur landward of the Mean High Water line, machinery access will be from Narragansett Avenue, and staging areas will be confined to Narragansett Avenue and its east shoulder. The CRMC-regulated coastal features subject to proposed work activities include the Coastal Bluff and 200-foot Contiguous Area. No work in tidal waters is proposed.

- d. *Demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition processes along the shore and in tidal waters.*

Wave damage has eroded the face of the existing Coastal Bluff, creating sloughed gullies and exposed soil escarpments along Narragansett Avenue. Construction of the riprap revetment will prevent further erosion via the introduction of properly sized stones to effectively armor the Bluff.



- e. *Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life.*

Work will occur within Narragansett Avenue's shoulder and on the eroded Coastal Bluff. The contiguous beach and lower portions of the Bluff were observed to be unvegetated. Limited areas of dense vegetation are intermittently present within the Project Area along the top of the Bluff and road shoulder, but they are primarily composed of invasive species, including Japanese knotweed (*Reynoutria japonica*), common mugwort (*Artemisia vulgaris*), wild carrot (*Daucus carota*), Japanese honeysuckle (*Lonicera japonica*), Asiatic bittersweet (*Celastrus orbiculatus*), and multiflora rose (*Rosa multiflora*). Native species are limited to early goldenrod (*Solidago juncea*) and sparse occurrences of staghorn sumac (*Rhus typhina*). The remaining vegetated portion of the Project Area is composed of maintained grass in the road shoulder. Consequently, adverse effects to the abundance and diversity of flora and fauna are not expected.

- f. *Demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore.*

The Project will remove five timber staircases that provide access to the Coastal Beach from Narragansett Avenue, at the request of CRMC permitting staff and as indicated under General Stipulation D of the Maintenance Assent issued on April 15, 2024. It is the Applicant's understanding based on conversations with CRMC permitting staff that these staircases were never permitted through CRMC and are thus unlawful. The Project is not intended to preclude public access to the shoreline, and the revetment will not serve as a barrier.

- g. *Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation.*

The proposed Project will occur landward of the MHW line and federal High Tide Line. Consequently, it is not expected to adversely change tidal flow patterns. It will not appreciably change the shoreline configuration and will help stabilize the eroding Coastal Bluff. Any loss of sediment deposition potential in Narragansett Bay due to revetment construction is expected to be minimal.

- h. *Demonstrate that there will be no significant deterioration in the quality of the water in the immediate vicinity as defined by DEM.*

The Project will not be a generator of stormwater pollutants, and no change in the paved surface area of Narragansett Avenue is proposed. The Bluff will remain permeable, and the revetment will reduce sediment transport and trap and filter road runoff, relative to water quality considerations.

- i. *Demonstrate that the alteration or activity will not result in significant impacts to areas of historic and archaeological significance.*

The Applicant has consulted the State of Rhode Island Historical Preservation and Heritage Commission list of listed historic properties. The only listed properties located on Prudence Island and known to the Applicant are Farnham Farm and Prudence Island Lighthouse. The Project does not propose work on either of these properties.

- j. *Demonstrate that the alteration or activity will not result in significant conflicts with water dependent uses and activities such as recreational boating, fishing, swimming, navigation, and commerce.*



Project work is limited to the Coastal Bluff and will occur landward of state and federally regulated high tide lines, such that it will not result in conflicts with water dependent uses and activities. The Project will not prevent access to the Coastal Beach east of the Project Area upon completion of the revetment, and the vessels that are currently tethered on the beach will experience the same opportunity under post-Project conditions.

- k. *Demonstrate that measures have been taken to minimize any adverse scenic impact (see § 1.3.5 of this Part).*

The proposed riprap revetment seeks to stabilize the eroded Coastal Bluff, eliminating unsightly unauthorized dumping and exposed soil escarpments caused by wave action due to storm events. Stone riprap to be used for the revetment will be native material and is expected to be visually compatible and blend with the shoreline. The crest of the proposed revetment will not exceed the height of the existing Bluff and rudimentary revetment, such that seaward views of the shoreline and tidal waters are expected to be unaffected by the Project.

### 5.3.2 CRMP § 1.3.1(B) Filling, Removing, or Grading of Shoreline Features

By nature of the proposed Project, the work for which the Applicant seeks authorization does propose alteration of a shoreline feature. Work will be limited to construction of the riprap revetment (structural shoreline protection) along the Coastal Bluff, with no encroachment into other shoreline features, as reflected on the Project drawings.

### 5.3.3 CRMP § 1.3.1(F) – Treatment of Sewage and Stormwater

The Project does not involve a conveyance of stormwater runoff, proposes no modification to any drainage systems that might be present, and will not result in new stormwater discharges. Although perhaps not applicable due to the Project type, the proposed work will comply with the RI Stormwater Rules. Prohibited activities under CRMP § 1.3.1(F) are not proposed for the Project, and all standards pertaining to stormwater management are expected to be met. On-site wastewater treatment systems are not proposed as part of the Project.

### 5.3.4 CRMP § 1.3.1(G) – Shoreline Protection

The Applicant acknowledges the Council's Policies and notes that the Council prefers nonstructural shoreline protection methods over hybrid and structural measures. Due to the eroded condition of the Coastal Bluff, the Applicant feels it prudent to propose structural shoreline protection in place of nonstructural or hybrid measures. The proposed revetment will bring the level of protection, where currently inadequate, to the standards of sound engineering practice.

The seaward limits of the proposed revetment/shoreline protection have been kept as far landward as feasible, to match existing conditions, in consistency with CRMP §§ 1.3.1(B)(3)(c) and (B)(5)(a). With respect to the additional Category B requirements listed for structural shoreline protection at CRMP § 1.3.1(G)(4)(b), the Applicant offers the information provided below. The seven items specified under CRMP § 1.3.1(G)(4)(b) are addressed individually below.

- (1) *An erosion hazard exists due to natural erosion processes and the proposed structural shoreline protection has a reasonable probability of controlling this erosion problem;*



The Coastal Bluff faces the waters of Narragansett Bay, where it is exposed to storm surges and wave action. This has resulted in the erosion of the Bluff face, which now features exposed soil escarpments and scattered stone. Stabilization of the Bluff is required to preserve the coastal feature and prevent Narragansett Avenue from being lost to further erosion. The proposed revetment will feature large stones interspersed with smaller riprap, which will have a high probability of controlling erosion where current conditions appear to be insufficient. The stone size proposed is in conformance with the stone size specified in the Maintenance Assent issued on April 15, 2024. It is the Applicant's intention, and presumably CRMC's, that the work will last a sufficient time and not require redesign and re-permitting in the near future.

- (2) *Nonstructural and hybrid shoreline protection has not worked in the past or will not work in the future because these methods are not suitable for the present site conditions;*

The applicant is not aware that nonstructural or hybrid solutions have been attempted in the past, but field observation of current site conditions strongly indicate that structural shoreline protection measures are required. The exposure is open, and the fetch is long. The Applicant considers any solution other than structural means (i.e., properly sized stone riprap) to be inconsistent with sound engineering practice and the intent of the Council's goals, given present site conditions.

- (3) *There are no practical or reasonable alternatives to the proposed activity such as the relocation of existing structures that mitigate the need for structural shoreline protection;*

Relocation of the existing municipal transportation infrastructure is not feasible. Narragansett Avenue is located immediately landward of the Coastal Bluff and is bordered to the west by residences. Structural shoreline protection is necessary to adequately protect the roadway and vehicle access to the homes, and perhaps the homes proper.

- (4) *The proposed structure is not likely to increase erosion or disrupt shoreline sediment dynamics that sustain adjacent natural shoreline features, or adversely affect the stability of the shoreline on either side of the project;*

The proposed structural shoreline protection is designed to prevent erosion and protect the stability of the shoreline, with no appreciable change in shoreline configuration. Consequently, the Applicant expects that future erosion events will be prevented and does not anticipate that any shoreline sediment dynamics will be appreciably disrupted.

- (5) *Describe the long-term maintenance program for the structure including storm damage, the ability to rebuild the structure following storm damage and financial commitments to pay for said maintenance;*

The angular stone that will comprise the proposed structural shoreline protection has been sized to withstand flooding and wave action, such that maintenance and the need to reset or replace the stone is not anticipated. However, should damage occur, the Town of Portsmouth will repair the damage in concert with the proper emergency provisions or Maintenance Assent to be issued by CRMC.

- (6) *New structural shoreline protection shall be designed and certified by a registered professional engineer; and*



The riprap revetment/shoreline protection have been designed, calculated, and certified by a registered professional engineer. The Project drawings accompanying this application have been stamped by a RI-registered Professional Engineer.



- (7) *Describe all likely impacts that the structural shoreline protection may have on the continued public lateral beach access. If lateral public access will be impacted at any time, a lateral public access plan shall be provided, except where preempted by federal law (e.g., U.S. Coast Guard Maritime Security (MARSEC)).*

The structural shoreline protection proposed will have no adverse effect on lateral shoreline access, or shoreline access in general. Although dedicated access points have not been established in the Project design, the completed revetment is expected to better enable foot access, as compared to the existing Bluff, which features eroding soil escarpments and unevenly distributed stone. Removal of the existing timber staircases is proposed at the request of CRMC permitting staff and is not expected to adversely impact shoreline access.

The applicable standards listed at 1.3.1(G)(5) are expected to be met. Riprap will comprise angular stone with a minimum unit weight of 165 pounds/cubic foot, and stone sizing has been calculated in believed consistency with the USACE Coastal Engineering Manual and in accordance with Earthwork Stipulation J of the CRMC Maintenance Assent issued on April 15, 2024.

### 5.3.5 CRMP § 1.3.1(J) – Filling in Tidal Waters

The Project does not propose filling in Tidal Waters. All proposed work will occur landward of the Mean High Water line.

### 5.3.6 CRMP § 1.3.5 – Policies for the Protection and Enhancement of the Scenic Value of the Coastal Region

Please see narrative Section 5.3.1(k) above. The Project's proposed elements have been designed consistent with the Council's General Policies listed under CRMP § 1.3.5.

### 5.3.7 CRMP § 1.3.6 – Protection and Enhancement of Public Access to the Shore

Please see narrative Section 5.3.1(f). The Project is not expected to adversely impact public shoreline access. Lateral shoreline access will remain unaffected by the Project, and the proposed revetment will create a uniform slope that could facilitate perpendicular access, as compared to the unstable, irregular Bluff condition currently present. Similarly, visual access to the shoreline, as viewed from Narragansett Avenue and the adjoining neighborhood, will not be impeded by the proposed revetment.

