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TITLE 650 – COASTAL RESOURCES MANAGEMENT COUNCIL

CHAPTER 20 – COASTAL MANAGEMENT PROGRAM

SUBCHAPTER 00 – N/A

PART 4 – Narrow River Special Area Management Plan

4.1 Authority

Pursuant to the federal Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451 through 1466) and R.I. Gen. Laws Chapter 46-23 the Coastal Resources Management Council is authorized to develop and implement special area management plans.

4.2 Purpose

- A. The purpose of these rules is to establish the Narrow River Special Area Management Plan (SAMP) within the municipalities of Narragansett, North Kingstown, and South Kingstown to provide for the integration and coordination of the protection of natural resources, the promotion of reasonable coastal-dependent economic growth, and the improved protection of life and property.
- B. The regulations herein constitute the RICR regulatory component of the Narrow River Special Area Management Plan (SAMP). For additional context and full understanding of this Part, please reference the additional chapters of the federally-approved Narrow River SAMP available on the CRMC web site (www.crmc.ri.gov) for further information, including all other federally-approved RICRMP plans. The additional chapters of the Narrow River SAMP provide the CRMC's findings and policies that form the basis and purpose of this Part. The other chapters of the Narrow River SAMP should be employed in interpreting R.I. Gen. Laws § 46-23-1, *et seq.*

4.3 Definitions

- A. Definitions for this Part are as follows:
 - 1. "Cumulative effects" means the physical, biological, or chemical outcome of a series of actions or activities on the environment.
 - 2. "Cumulative impacts" means the total effect on the environment of development activities and/or natural events taking place within a geographic area over a particular period of time. They are not restricted to on-site impacts, but may include off-site impacts which exist or are going

to exist based on current land use planning. Cumulative impacts can result from traditionally unregulated changes in land and water uses. For example, actions such as incremental changes in the intensity of use of a site, post-development failure to maintain septic systems, or excessive use of fertilizers may have greater impact than the original regulated activity.

3. "Erosion and sediment control" means the prevention, control, and management of soil loss due to wind and water, caused by alterations to vegetation and soil surfaces within the Narrow River watershed.
4. "Lands of critical concern" means lands that are presently undeveloped or developed at densities of one residential unit per 120,000 square feet. These lands may be adjacent to or include one or more of the following:
 - a. sensitive areas of the salt ponds that are particularly susceptible to eutrophication and bacterial contamination;
 - b. overlie wellhead protection zones or aquifer recharge areas for existing or potential water supply wells;
 - c. areas designated as historic/archaeologic sites;
 - d. open space;
 - e. areas where there is high erosion and runoff potential;
 - f. habitat for flora and fauna as identified through the RI Natural Heritage Program, large emergent wetland complexes, and U.S. Fish & Wildlife lands; and
 - g. fisheries habitat.
5. "Lands developed beyond carrying capacity" means lands that are developed at densities of one residential or commercial unit on parcels of less than 80,000 square feet, and frequently at higher densities of 10,000 square feet or 20,000 square feet. Intense development associated with Lands Developed Beyond Carrying Capacity is the result of poor land use planning and predates the formation of the Council. High nutrient loadings and contaminated runoff waters from dense development have resulted in a high incidence of polluted wells and increased evidence of eutrophic conditions and bacterial contamination in the salt ponds. Most of the OWTS in these areas predate RIDEM regulations pertaining to design and siting standards, and have exceeded their expected life span.
6. "Land suitable for development" means the net total acreage of the parcel, lot or tract remaining after exclusion of the areas containing, or on which occur the following protected resources: coastal features as defined within

R.I. Gen. Laws Chapter 46-23 and in § 1.2.2 of this Subchapter; freshwater wetlands, as defined in § 1.1.2 of this Subchapter (see CRMC Rules and Regulations Governing the Protection and Management of Freshwater wetlands in the Vicinity of the Coast); and lands to be developed as streets and roads shall also be excluded from the calculated acreage of developable land.

7. “Nitrogen reducing technologies” means alternative wastewater treatment systems which reduce total nitrogen concentrations by at least 50%. Total nitrogen reduction is the annual mean difference by percentage between total nitrogen concentrations in the effluent of the septic or primary settling tank and the concentrations taken at the end of the treatment zone as defined by the specific technology.
8. “Narrow River watershed” means the environment within the surface watershed boundaries encompassing portions of the coastal communities of Narragansett, North Kingstown and South Kingstown, and as delineated on the land use classification maps in § 4.44 of this Part.
9. “Self-sustaining lands” means lands that are undeveloped or developed at a density of not more than one residential unit per 80,000 square feet. Within these areas, the nutrients discharged to groundwater by septic systems, fertilizers and other sources associated with residential activities may be sufficiently diluted to maintain on-site potable groundwater. However, the one residential unit per two acre standard is not considered sufficient to reduce groundwater nitrogen concentrations to levels which will prevent eutrophication, or mitigate for dense development in other portions of the watershed.
10. “Tributary” means any flowing body of water or watercourse which provides intermittent or perennial flow to tidal waters, coastal ponds, coastal wetlands or other down-gradient watercourses which eventually discharge to tidal waters, coastal ponds or coastal wetlands.
11. “Tributary wetlands” means freshwater wetlands within the watershed that are connected via a watercourse to a coastal wetland and/or tidal waters.
12. “Underground storage tank” or “UST” means any one or more underground tanks and their associated components, including piping, used to contain an accumulation of petroleum product or hazardous material.

4.4 Procedures

- A. The Rhode Island Coastal Resources Management Program

1. The Rhode Island Coastal Resources Management Program Red Book; Part 1 of this Subchapter) should be referred to for specific regulatory requirements on buffers, setbacks, subdivisions, recreational docks, barrier beach development, beach replenishment and any other activities which occur within the Narrow River SAMP.

B. Application Process

1. The RICRMP has three categories of applications: Category A, B and A*:
 - a. Category A activities are routine matters and activities of construction and maintenance work that do not require review of the full Council if four criteria are met: buffer zone compliance, abutter agreement, and proper state and local certifications.
 - b. Category A* applications are put out to public notice for the benefit of the abutters to the affected property and local and state officials.
 - c. Category B applications are reviewed by the full Council and the applicant must prepare in writing an environmental assessment of the proposal that addresses all of the items listed in § 1.3.1(A) of this Subchapter and any additional requirements for Category B applications listed for the activity in question.
2. A Category A review may be permitted for A* activities provided that the Executive Director of CRMC determines that all criteria within § 1.1.6(E) of this Subchapter and the relevant SAMP requirements and prerequisites are met. The proposed activity shall not significantly conflict with the existing uses and activities and must be considered to be a minor alteration with respect to potential impacts to the waterway, coastal feature, and areas within RICRMP jurisdiction.
3. The following activities which occur within the Narrow River SAMP require a CRMC assent (application approval).
 - a. Activities within 200 feet of a coastal feature. (Category A, A*, B)
 - b. Watershed Activities (specific activities taking place within the SAMP watershed).
 - (1) New subdivisions of 6 units or more, or re-subdivision for a sum total of 6 units or more on the property proposed after March 11, 1990 irrespective of ownership of the property or the length of time between when units are proposed. (Category B)
 - (2) Development requiring or creating more than 40,000 square feet of total impervious surface. (Category A*/B)

- (3) Construction or extension of municipal, private residential hook-ups to existing lines, or industrial sewage facilities, conduits, or interceptors (excluding onsite wastewater treatment systems outside the 200' zone). Any activity or facility which generates or is designed, installed, or operated as a single unit to treat more than 2,000 gallons per day, or any combination of systems owned or controlled by a common owner and having a total design capacity of 2,000 gallons per day. (Category A*/B)
 - (4) Water distribution systems and supply line extensions (excluding private residential hook-ups to existing lines). (Category A*/B)
 - (5) All roadway construction and upgrading projects. (Category A*/B)
 - (6) Development affecting freshwater wetlands in the vicinity of the coast. (Category A/B)
4. For projects involving the following, refer to § 1.3.3 of this Subchapter for the appropriate category.
 - a. Construction or extension of public or privately owned sanitary landfills.
 - b. New mineral or aggregate (sand/gravel) mining.
 - c. Processing, transfer, or storage of chemical and hazardous materials.
 - d. Electrical generating facilities of more than 40 megawatts capacity.
 - e. All commercial in-ground petroleum storage tanks of more than 2,400 barrels capacity, all petroleum processing and transfer facilities [residential prohibited].
 - f. Proposed new or enlarged discharges (velocity and/or volume) to tributaries, tidal waters, or 200' shoreline feature contiguous area.
 - g. Solid waste disposal.
 - h. Desalination plants.
5. In addition to the activities listed above, if the Council determines that there is a reasonable probability that the project may impact coastal resources or a conflict with the SAMP or RICRMP, a Council Assent will be required in accordance with all applicable sections of this program.

6. All applicants shall follow applicable requirements as contained in the RICRMP, including any specific requirements listed under water types in § 1.2.1 of this Subchapter, additional Category B requirements in § 1.3.1 of this Subchapter, the requirements and prerequisites in § 1.3.3 of this Subchapter for Inland Activities, and any regulations in this SAMP chapter.
 7. Applicants proposing the above listed activities are required to submit the following with their applications:
 - a. A stormwater management plan prepared in accordance with § 1.3.1(F) of this Subchapter and as described in the most recent version of the Department of Environmental Management “Stormwater Design and Installation Manual”;
 - b. An erosion and sediment control plan (ESCP) prepared in accordance with the standards contained in § 1.3.1(B) of this Subchapter; and
 - c. An existing conditions site map and a proposed final site map as required in § 1.3.3 of this Subchapter and as specified in the section for site plan requirements in the Department of Environmental Management “Stormwater Design and Installation Manual”.
 8. Preliminary determinations (PD) may be filed for any project by the municipality or the applicant. Preliminary determinations provide advice as to the required steps in the approval process, and the pertinent ordinances, regulations, rules, procedures and standards which may be applied to the proposed development project. Any findings and recommendations resulting from this preliminary review shall be utilized if the applicant returns to file a full assent request for the project, and will be forwarded to the Council as part of the staff reports for major development plans. Applicants for Category B activities within the SAMP watershed are required to utilize the Council's Preliminary Determination process in accordance with applicable requirements of the Land Development and Subdivision Review Enabling Act (R.I. Gen. Laws § 45-23-25 *et seq.*). Where the Council finds there is a potential to damage the coastal environment, the Council will require that suitable modification to the proposal be made.
- C. Variances and special exceptions are granted by the Council under §§ 1.1.7 and 1.1.8 of this Subchapter, respectively.
1. Applicants desiring a variance from a standard must make the request in writing and address the six criteria as specified in § 1.1.7 of this Subchapter. The application is only granted an assent if the Council finds that the six criteria are met.

2. Special exceptions may be granted to prohibited activities to permit alterations and activities that do not conform to a Council goal for the areas affected or which would otherwise be prohibited by the requirements of the RICRMP only when the applicant has met the burdens of proof in § 1.1.8 of this Subchapter.

D. Coordinated Review with Municipalities

1. Under the Subdivision Review Act, one or more pre-application meetings shall be held for all major land developments or subdivision applications (Land Development and Subdivision Review Enabling Act, R.I. Gen. Laws § 45-23-25 et seq.). Pre-application meetings may be held when a preliminary determination is filed with the CRMC, or informally when the municipality requests information from CRMC. All major land development projects as defined under the act and residential subdivisions of 6 units or more shall be considered major land development plans and should file a preliminary determination request with CRMC. The purpose of these meetings is to:
 - a. Identify and discuss major conflicts and possible design alterations or modifications to obviate conflicts.
 - b. Discuss the likely onsite impacts of alternatives or modifications and on the ecosystem as a whole.
 - c. Ensure that there is consensus among the regulatory agencies on any changes, and that conflicts with permit requirements do not arise.

E. Federal Consistency

1. Activities involving a direct or indirect federal activity (includes activities that require a federal permit, such as an Army Corps of Engineers Permit) also require Council review in accordance with the federal consistency process contained in 16 U.S.C. § 1456 (Coastal Zone Management Act). The Council has developed a handbook to assist those subject to federal consistency review. Persons proposing an activity involving a direct or indirect federal activity are referred to the most recent version of this handbook. See: http://www.crmc.ri.gov/regulations/Fed_Consistency.pdf.

F. Coastal Nonpoint Pollution Control Program

1. Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (16 U.S.C. § 1455(b)) requires each coastal state with a federally approved coastal management program to develop and submit a Coastal Nonpoint Pollution Control Program (CNPCP) to the EPA and the National Oceanic and Atmospheric Administration (NOAA) by July 1995. Rhode Island's CNPCP, developed by the RIDEM, the Department of

Administration and the CRMC, applies to four general land use activities: agriculture, urban (new development, septic systems, roads, bridges, highways, etc.), marinas, and hydro-modifications. There are also management measures to protect wetlands and riparian areas, and to promote the use of vegetative treatment systems.

4.4.1 Municipal Responsibility

- A. The town officials and administration involved in construction, approval of construction and/or regulations regarding the zoning, density, and build-out of development are the municipal arm of this SAMP.
 - 1. Local authorities are responsible for applying the regulations and land use policies to ensure proper application of this plan. Towns should exercise particular consideration of subdivisions because of the potential impacts from stormwater, sewage disposal, infrastructure demands, and decreased open space.
 - 2. The CRMC evaluates projects that fall under this plan as referenced earlier, even if development is not completed all at once. A developer still falls under the CRMC major subdivision review conditions upon additional construction. Stormwater concerns, sewage disposal concerns, buffers, etc. may be difficult to accommodate with the addition of new lots. Therefore it is important for municipalities to apply SAMP regulations to initial development of a subdivision.

4.4.2 Water Quality Policies

- A. The evidence presented in Chapter 3 Water Quality indicates that water quality continues to be degraded in the Narrow River due to existing residential sources of nitrogen and bacteria. Although research conducted at the University of Rhode Island suggests a correlation between housing density and the symptoms of eutrophication in the salt ponds (Part 3 of this Subchapter), there is no clear nitrogen loading threshold which CRMC can apply to each individual activity and development. Accordingly, CRMC addresses nitrogen loading through conservative land use regulations and nitrogen reducing technologies.
- B. The installation and operation of nitrogen removal systems is permissible under Department of Environmental Management “Rules and Regulations Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems”. CRMC requires nitrogen removal systems as noted in Table 1 in §§ 4.4.2(E) and in 4.4.3 of this Part.
- C. In addition to the impacts of nitrogen, other nonpoint sources of pollution like sediment from erosion and road runoff, petroleum hydrocarbons from vessel engines and road salts are also a concern. As impervious areas increase within the Narrow River these pollutants have a greater potential to reach coastal waters.

- D. Table 1 in § 4.4.2(E) of this Part summarizes the land use classification system with the requirements for nitrogen reducing technologies, buffer zone and setbacks. The CRMC land use classification system which regulates land use densities and other activities in the SAMP region follow in § 4.4.4 of this Part.

- E. Table 1: CRMC land-use classification requirements for density, setbacks, buffer zones and nitrogen reducing technologies for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and 4.4(B)(4) of this Part.

Land-use classification	Description	Coastal buffer zone requirement ¹	Construction setback requirement ¹	OWTS setback requirement ¹	Nitrogen reducing technology requirement ^{1,2}
Developed beyond carrying capacity	Lands developed or undeveloped at < 80,000 square feet [SE or Var]	Coastal buffer based on § 1.1.11 of this Part [Var]	Coastal buffer plus 25 feet	Nitrogen reducing technology required [SE, Var]	New OWTS installations or alteration ⁴ [SE, Var]
Critical concern	Lands developed or undeveloped at 120,000 square feet and have sensitive salt pond or watershed resources [SE or Var]	200 feet [SE or Var]	Coastal buffer plus 25 feet	225 feet [SE, Var]	Lands subdivided after adoption of SAMP that do not meet the CRMC density requirement and substandard lots of record [SE, Var].
Self-sustaining	Lands developed, undeveloped at 80,000 square feet [SE or Var]	150feet [SE or Var]	Coastal buffer plus 25 feet	200 feet [SE, Var]	Lands subdivided after adoption of SAMP that do not meet the CRMC density requirement and substandard lots of record [SE, Var].

[SE or Var] indicates if relief from the requirement or regulations requires a special exception, variance or both.

1 - CRMC land use classification requirements for density, setbacks, buffer zones and nitrogen reducing technologies are for activities within CRMC jurisdiction (See §§ 4.4(B)(3) and 4.4(B)(4) of this Part)

2 - A special exception is required for relief from the density requirement, coastal buffer, construction setback, OWTS setback or nitrogen reducing technology requirement unless the lot is pre-platted and cannot accommodate the requirement.

3 - Nitrogen reducing technologies are defined in § 4.3 of this Part.

4 - As defined by Department of Environmental Management "Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems"

4.4.3 Land Use Classification for Watershed Protection (formerly § 920.1)

A. Self-Sustaining Lands

1. Policies and Regulations

- a. Subdivisions as defined in § 1.1.2 of this Subchapter shall not exceed an average density of one residential unit per 80,000 square feet for Self-Sustaining Lands. The allowable number of units in conformance with this standard shall be calculated on the basis of available land suitable for development as defined in § 4.3 of this Part. The division of a tract, lot or parcel not subject to municipal regulation under the provisions of Chapter 45-23 *et seq.*, for the reasons set forth therein, shall remain subject to the jurisdiction of the requirements of R.I. Gen. Laws § 46-23 *et seq.*, and Parts 1 and 4 of this Chapter.
- b. The number of allowable units in a cluster shall be calculated on the basis of lands suitable for development as defined in § 4.3 of this Part within the subdivision and in accordance with all local ordinances.
- c. Any major land development project or any major subdivision of land as defined in R.I. Gen. Laws § 45-23 *et seq.* within Self-Sustaining Lands, occurring after December 8, 1986, must meet the minimum density requirement of one residential unit per 80,000 square feet. Relief from this regulation requires a special exception

as defined in § 1.1.8 of this Subchapter. Lands which were subdivided prior to December 8, 1986, and do not meet the CRMC density requirement as defined in § 4.4.3(A)(1)(a) require a variance as defined in § 1.1.7 of this Subchapter.

- d. Nitrogen reducing technologies as defined in § 4.3 of this Part are required for any lands subdivided after April 12, 1999 that do not meet the CRMC density requirement (80,000 square feet) for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and 4.4(B)(4) of this Part. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter unless the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement. A nitrogen reducing technology cannot be used as mitigation to increase dwelling densities on parcels which can support the density requirement.
- e. A minimum 200-foot setback from the Narrow River, its tributaries, and coastal wetlands, including tributary wetlands, is required for OWTS in Self Sustaining Lands for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and 4.4(B)(4) of this Part. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter unless the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement.
- f. A 150-foot buffer zone from the Narrow River, its tributaries, and coastal wetlands, including tributary wetlands, is required for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and (4) of this Part in Self Sustaining Lands. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter unless the lands were subdivided prior to December 8, 1986 and cannot accommodate the requirement.
- g. The installation of sewers is prohibited, unless all of the following conditions are met:
 - (1) the property meets the RIDEM regulatory requirements for the installation of a conventional OWTS,
 - (2) the proposal is agreeable to both the town and the CRMC,
 - (3) a deed restriction is attached to the property ensuring no further subdivision, and

(4) the properties to be sewered are within 500 feet of an existing sewer line or are within a subdivision which abuts the sewer easement.

h. The Council recognizes that in areas abutting the Narrow River, its tributaries and other critical resource areas, existing nitrogen reducing technologies may not be sufficient to reduce groundwater nitrogen concentrations to levels which will prevent further eutrophication in the Narrow River. If new technology improves the nitrogen removal capability of these systems and new research indicates the need for further nitrogen removal, CRMC will reevaluate the need for increased nitrogen removal.

2. Municipal policies

- a. Some lands, as presently zoned by the towns, may not meet the density requirements for Self-Sustaining Lands (80,000 square feet) or Lands of Critical Concern (120,000 square feet). In such cases the CRMC will require the towns to be consistent with CRMC density requirements, where possible, during CRMC review of town zoning changes to the Comprehensive Plan.
- b. The Council recommends the use of cluster development as a means to preserve open space, agricultural lands and aesthetic qualities, reduce impervious surfaces and the costs of development, and minimize the environmental impacts of development.
- c. For activities outside CRMC jurisdiction but within the SAMP boundaries, CRMC strongly recommends that the towns adopt CRMC regulations for OWTS setbacks and nitrogen reducing technologies as identified in Table 1 of § 4.4.2(E) of this Part.
- d. The Council recommends the use of wastewater management districts and the protocols established in the Rhode Island Septic System Inspection Handbook (see: <http://www.dem.ri.gov/pubs/regs/regs/water/isdsbook.pdf>) for septic system inspection and pump-out to limit the occurrence of failed on-site sewage disposal systems.

B. Lands of Critical Concern

1. Policies and Regulations

- a. Subdivisions as defined in § 1.1.2 of this Subchapter shall not exceed an average density of one residential unit per 120,000 square feet for Lands of Critical Concern. The allowable number of units in conformance with this standard shall be calculated on the

basis of available land suitable for development as defined in § 4.3 of this Part. The division of a tract, lot or parcel not subject to municipal regulation under the provisions of R.I. Gen. Laws Chapter 45-23 *et seq.*, for the reasons set forth therein, shall remain subject to the jurisdiction of the requirements of R.I. Gen. Laws § 46-23 *et seq.* and Parts 1 and 4 of this Subchapter.

- b. The number of allowable units in a cluster shall be calculated on the basis of lands suitable for development as defined in § 4.3 of this Part within the subdivision and in accordance with all local ordinances.
- c. Any major land development project or any major subdivision of land as defined in R.I. Gen. Laws § 45-23-25 *et seq.* within Lands of Critical Concern, occurring after April 12, 1999, must meet the minimum density requirement of one residential unit per 120,000 square feet. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter. Lands which were subdivided prior to April 12, 1999, and do not meet the CRMC density requirement as defined in § 4.4.3(B)(1)(a) require a variance as defined in § 1.1.7 of this Subchapter.
- d. Nitrogen reducing technologies as defined in § 4.3 of this Part are required for any lands subdivided after April 12, 1999 that do not meet the CRMC density requirement for Lands of Critical Concern (120,000 square feet) for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and 4.4(B)(4) of this Part. Relief from this regulation requires a special exception as defined in § 1.1.6 of this Subchapter unless the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement. A nitrogen reducing technology cannot be used as mitigation to increase dwelling densities on parcels which can support the density requirement.
- e. Lands of Critical Concern which are also zoned for 80,000 square feet by municipal zoning regulations may be developed at densities of one residential unit per 80,000 square feet only if a nitrogen reducing technology is used as the method of sewage removal. [In the event that a property has frontage on a sewer line then hooking up to the sewer will be mandatory].
- f. A minimum 225-foot setback from the Narrow River, its tributaries, and coastal wetlands, including tributary wetlands, is required for OWTS in Lands of Critical Concern for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and (4) of this Part. Relief from this regulation requires a special exception as defined in § 1.1.6 of this Subchapter, unless

the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement.

- g. A 200-foot buffer zone from the Narrow River, its tributaries, and coastal wetlands, including tributary wetlands, is required for all development activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and 4.4(B)(4) of this Part in Lands of Critical Concern. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter, unless the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement.
- h. New individual or community docks are prohibited.
- i. The installation of sewers is prohibited, unless all of the following conditions are met:
 - (1) the property meets the RIDEM regulatory requirements for the installation of a conventional OWTS,
 - (2) the proposal is agreeable to both the town and the CRMC,
 - (3) a deed restriction is attached to the property ensuring no further subdivision; and
 - (4) the properties to be sewered are within 500 feet of an existing sewer line or are within a subdivision which abuts the sewer easement.
- j. The Council recognizes that in areas abutting the Narrow River, its tributaries and other critical resource areas, existing nitrogen reducing technologies may not be sufficient to reduce groundwater nitrogen concentrations to levels which will prevent further eutrophication in the Narrow River. If new technology improves the nitrogen removal capability of these systems and new research indicates the need for further nitrogen removal, CRMC will reevaluate the need for increased nitrogen removal.

2. Municipal policies

- a. Some lands, as presently zoned by the towns, may not meet the density requirements for Lands of Critical Concern (120,000 square feet). In such cases the CRMC strongly encourages the towns to amend zoning in these areas to meet the density requirements.
- b. The Council recommends the use of cluster development as a means to preserve open space, agricultural lands and aesthetic qualities, reduce impervious surfaces and the costs of

development, and minimize the environmental impacts of development.

- c. Lands of Critical Concern should be priority areas for additional measures to minimize pollution loadings from development through municipal, state or federal acquisition for open space and conservation easements and/or tax relief and aquifer protection ordinances.
- d. For activities outside CRMC jurisdiction but within the SAMP boundaries, CRMC strongly recommends that the towns adopt CRMC regulations for OWTS setbacks and nitrogen reducing technologies as identified in Table 1 of § 4.4.2(E) of this Part.

C. Lands Developed Beyond Carrying Capacity

1. Policies and Regulations

- a. Nitrogen reducing technologies as defined in § 4.3 of this Part are required for all new installations or replacement of existing OWTS for activities within 200 feet of a coastal feature and all watershed activities as defined in §§ 4.4(B)(3) and (4) of this Part in Lands Developed Beyond Carrying Capacity. Relief from this regulation requires a special exception as defined in § 1.1.8 of this Subchapter, unless the lands were subdivided prior to April 12, 1999 and cannot accommodate the requirement.
- b. Regular maintenance and, when necessary, the upgrading of OWTS are of the highest priority in unsewered densely developed areas.
- c. For existing development, buffer zones along the perimeter of Narrow River, tributaries and tributary wetlands, and other shoreline features shall be required in accordance with § 1.1.11 of this Subchapter, as amended. For new development, buffers shall be an absolute minimum of 25 feet in width. Variances to the buffer standard shall be consistent with CRMC density requirements, where possible, during CRMC review of town zoning changes to the comprehensive plan.
- d. The Council recognizes that in areas abutting the Narrow River, its tributaries and other critical resource areas, existing nitrogen reducing technologies may not be sufficient to reduce groundwater nitrogen concentrations to levels which will prevent further eutrophication in the Narrow River. If new technology improves the nitrogen removal capability of these systems and new research indicates the need for further nitrogen removal, CRMC will reevaluate the need for increased nitrogen removal.

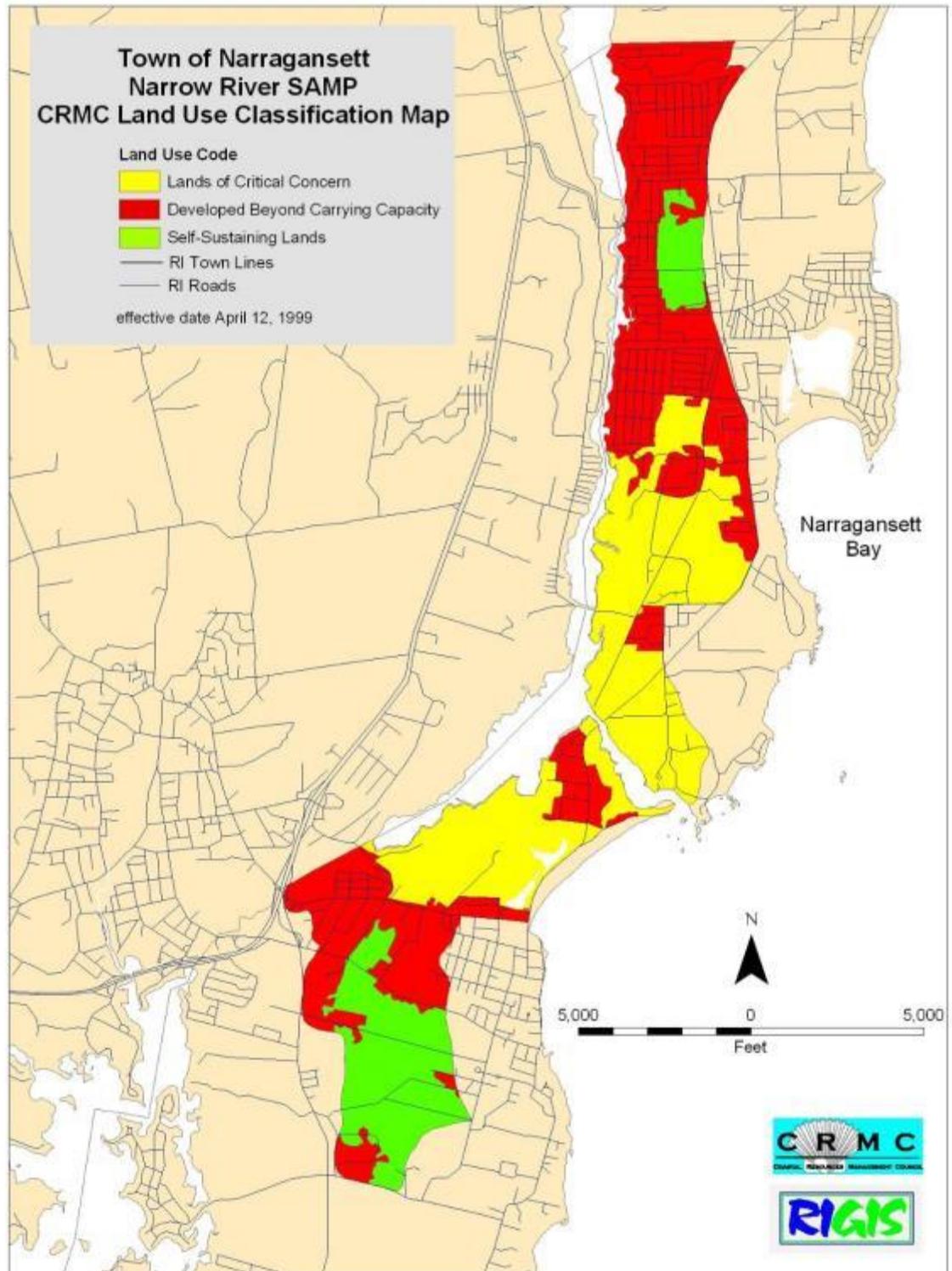
2. Municipal policies

- a. Undeveloped property within this land use designation should be developed at densities consistent with current town zoning requirements for the area in which the property is located.
- b. For activities outside CRMC jurisdiction but within the SAMP boundaries, CRMC strongly recommends that the towns adopt CRMC regulations for nitrogen reducing technologies as identified in Table 1 in § 4.4.2(E) of this Part.

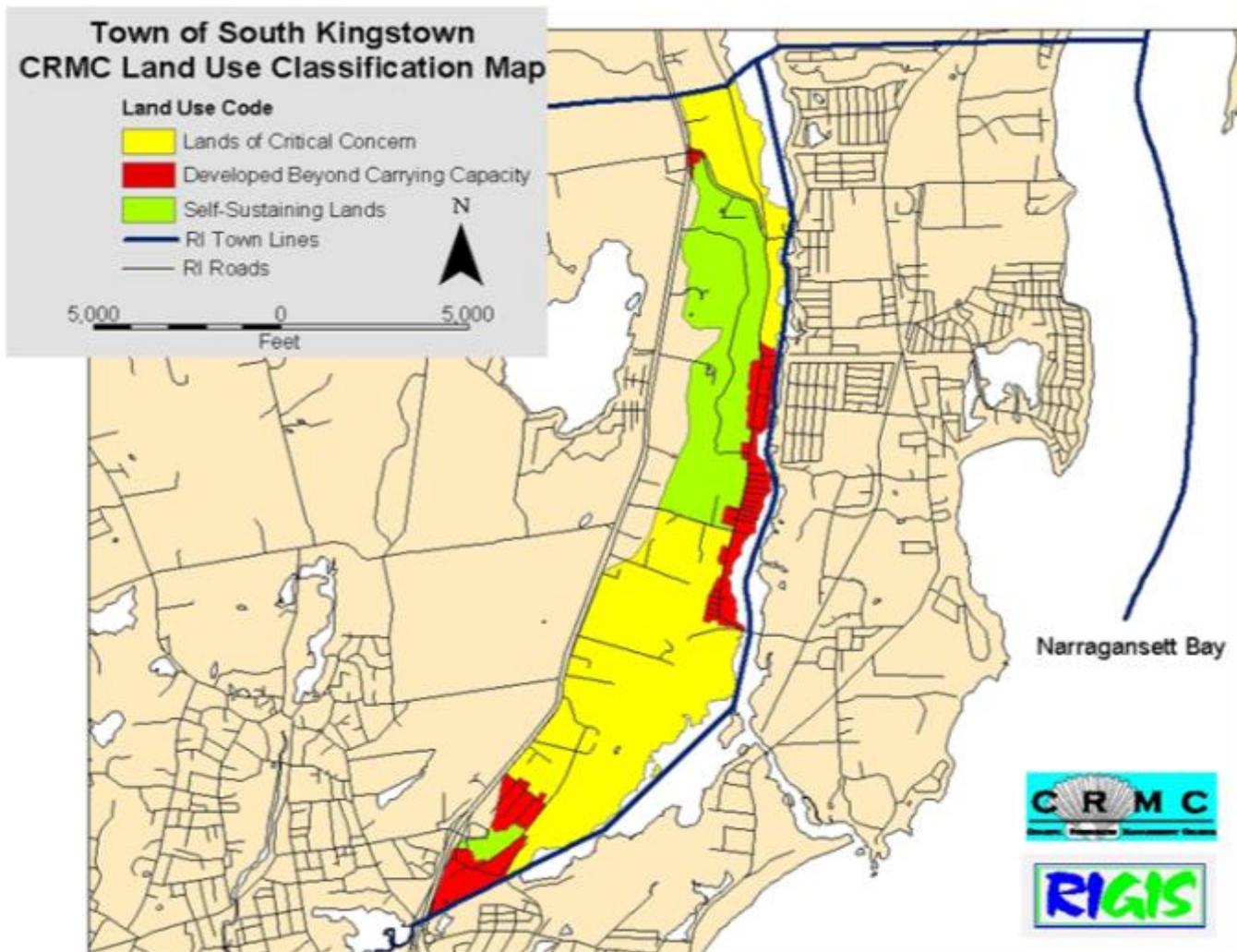
4.4.4 Land Use Classification System Maps

- A. User-friendly, high resolution CRMC land use classification maps for the Narrow River SAMP communities of Narragansett, North Kingstown and South Kingstown (Figures 1 through 3 below) are available on the CRMC web site. See: http://www.crmc.ri.gov/samp_nr.html.

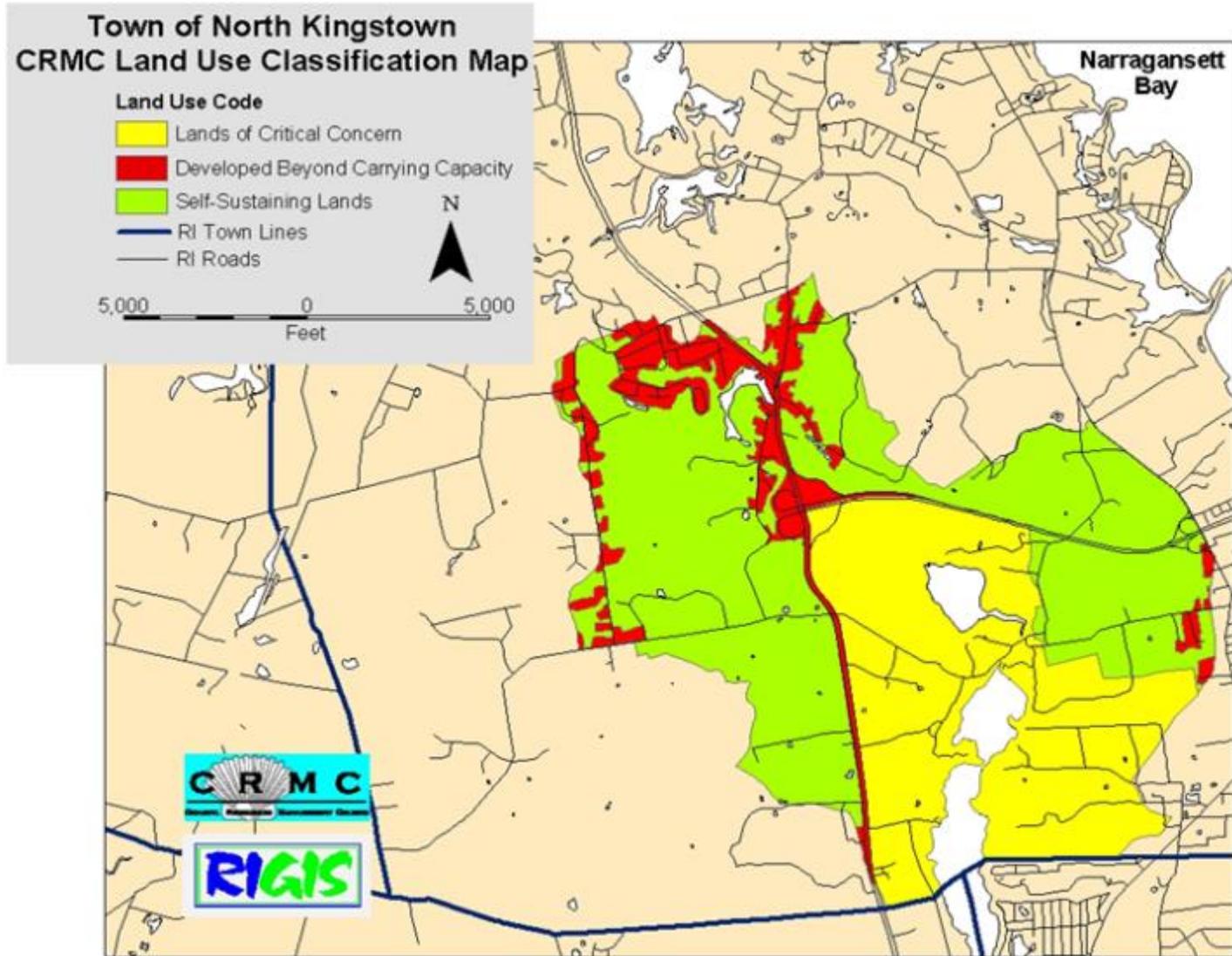
B. Figure 1: Land Use Classification System for the Town of Narragansett.



C. Figure 2: Land Use Classification System for the Town of South Kingstown.



D. Figure 3: Land Use Classification System for the Town of North Kingstown.



4.4.5 Watershed Controls for Septic System Management (formerly § 920.2)

- A. The concurrent pressures from existing OWTS failure concentrations and increasing residential development have reached a critical point within the Narrow River watershed. There exists a need within the watershed, particularly in South Kingstown and Narragansett, to formulate a comprehensive wastewater management plan which will schedule and outline the actions necessary to address the wastewater treatment and disposal problems within the watershed.
- B. Policies
 - 1. On an indefinite basis, it shall be the policy of the CRMC that the extension of sewer lines to those areas classified as Lands Developed Beyond Carrying Capacity will take priority over the construction or extension of private, municipal, or industrial sewage facilities or systems, conduits or interceptors to other areas of the watershed.
 - 2. The extension of sewer lines shall follow the priorities outlined in §§ 4.4.3(A)(1)(g) and 4.4.3(B)(1)(i) of this Part.

4.4.6 Watershed Controls for Erosion and Sedimentation (formerly § 920.3)

- A. Management Policies and Regulations
 - 1. It shall be the policy of the CRMC to prevent adverse environmental impacts to the Narrow River watershed due to erosion, soil loss, and sedimentation, including secondary and cumulative as well as direct impacts. CRMC will require that applicants strictly adhere to the regulations under § 1.3.1(B) of this Subchapter for filling, removing, or grading of shoreline features, § 1.3.1(F) of this Subchapter for treatment of sewage and stormwater and the most recent version of the RI Soil Erosion and Sediment Control Handbook (See: <http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/soil-erosion.php>).

4.4.7 Control of Pollution from Storage Tanks (formerly § 920.4)

- A. Policies and Regulations
 - 1. Except for propane and compressed natural gas, burial of domestic USTs is prohibited in the Narrow River watershed.
 - 2. Commercial USTs must meet all current state standards and applicants must apply for a CRMC permit. Applicants must demonstrate an adequate construction design and means for monitoring for leakage, and shall replace all leaking tanks according to RIDEM regulations.

4.4.8 Oil Spill Contingency (formerly § 920.5)

- A. Policies

1. Oil spills shall be treated as outlined in the RIDEM Emergency Response Plan. See: http://www.dem.ri.gov/programs/emergencyresponse/erp.php#sec6_2. It is further recommended, in the event of a nearshore spill that poses a threat to the Narrow River that efforts should be focused on impeding oil flow into the Narrows and subsequently into the lower reaches of the estuary. An oil boom should be placed as close to the seaward mouth of the estuary as permitted by currents. If oil should enter the lower reaches, attempts should be made to deflect the oil away from the sensitive salt marshes surrounding the cove through the use of strategic boom deployment. Diversion should be upstream, where fringing marshes are not as expansive, and where the close confines of the Narrow River may facilitate cleanup activities.

4.4.9 Geologic Processes (formerly § 930)

A Dredging navigation channels and basins

1. Policies
 - a. All applications for dredging in the Narrow River watershed shall be consistent with the policies and standards contained in § 1.3.1(l) of this Subchapter and all other applicable sections of the RICRMP.
 - b. Dredging to support existing recreational use is permitted under the CRMP but dredging for new recreational uses is prohibited.
 - c. The Council shall only support dredging projects that maintain the existing level of recreational use within the Narrow River.
 - d. Dredging by town or state agencies is permitted for the following:
 - (1) Dredging of the flood-tidal delta at the entrance to the Narrows; sand to be placed on Narragansett Town Beach;
 - (2) Dredging of the flood-tidal delta associated with Middle Bridge for navigational reasons to maintain current recreational watercraft uses, and for safety in those multiple uses; sand to be placed on Narragansett Town Beach.
 - (3) Dredging of a navigational channel from the inlet to Middle Bridge may be considered if it can be demonstrated that the habitat of the winter flounder south of Middle Bridge, and the waterfowl habitat of northern Pettaquamscutt Cove, is not degraded.
 - e. Dredging of the major flood-tidal delta system between Sprague and Middle Bridges may be considered if it can be demonstrated that flushing north of Middle Bridge is enhanced, and the habitat of northern Pettaquamscutt Cove is not degraded.

- f. A dredging/maintenance plan is required for all proposed dredging operations (see § 4.4.9(A)(3) of this Part).
- g. Due to the multiple and conflicting uses of the Narrow River and the current riverbank and salt marsh erosion from boat wakes, personal watercraft and waterskiing, and the likelihood that dredging may well increase these problems, a boating safety plan including speed limits and wake restrictions shall be presented in conjunction with any dredging project.
- h. The CRMC favors the use of qualified dredge material for beach replenishment projects. Dredge applications for the Narrow River should consider the use of the material as beach replenishment for the Narragansett Town Beach.
- i. The Council shall determine if a proposed dredging project constitutes maintenance of an existing level of use, or if it is improvement dredging.

2. Prohibitions

- a. Dredging and disposal activities by private citizens or groups for docking areas, launching ramps, mooring areas, or similar uses and activities, are prohibited in the Narrow River and its watershed.
- b. Dredging which will likely intensify recreational watercraft usage is prohibited.
- c. Dredging is prohibited without an appropriate maintenance plan in place (see § 4.4.9(A)(3) of this Part for maintenance plan requirements).
- d. Disposal of foreign dredged material is prohibited on the shoreline, wetlands and buffer zones of the watershed, unless a Council-approved program of wetland building or beach replenishment has been established. Subaqueous dumping of dredged material is also prohibited in the Narrow River.

3. Standards

- a. All dredging activities shall be conducted in accordance with the standards contained in § 1.3.1(l) of this Subchapter and all other applicable sections of the RICRMP.
- b. A dredge/maintenance plan put forth by a federal, state or municipal agency must clearly describe:
 - (1) location of project (limited to identified tidal deltas or a navigational channel);

- (2) dredging specifics, such as amount of material, construction acres and methods, dewatering requirements, transportation requirements, disposal site;
 - (3) habitat and circulation impacts on the species that utilize the Narrow River, and on the Narrow River itself;
 - (4) maintenance of dredge area;
 - (5) measures to reduce impacts and, where appropriate restore or improve habitat and water quality; and
 - (6) any created, permanent well marked channel, wake restrictions and speed limits if a channel is to be identified (as close as possible to existing use area) and dredged (refer to the requirements of § 1.3.1(l) of this Subchapter).
- c. Dredging will only be allowed to minimal dimensions necessary to support the demonstrated previous level of use.

4.4.10 Roads, Bridges and Highways (formerly § 930.2)

A. Policies

1. All road, highway and bridge construction, reconstruction and relocation projects within the Narrow River watershed require a permit from the CRMC.
2. The CRMC supports limited widening of the opening of Middle Bridge to ease boating safety concerns and to retard sedimentation north of the bridge, if it can be demonstrated that fish and wildlife habitat (especially winter flounder habitat south of the bridge on the western side) would not be adversely affected.
3. Best management practices in accordance with the most recent version of Department of Environmental Management "Stormwater Design and Installations Standards Manual" must be followed for drainage improvements so that direct runoff of pollutants and contaminants into the upper tributaries of the watershed and into Narrow River are mitigated (see § 1.3.1(F) of this Subchapter for information and requirements).
4. All structural and mechanical alterations proposed within the watershed shall include in their environmental considerations the aesthetic value of the region and the project's likely impact to it.
5. The regulatory process shall include the input of organizations other than state agencies for identify resource areas of significance.
6. All road, highway and bridge construction, reconstruction and relocation projects shall, to the maximum extent possible:

- a. protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss;
 - b. limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss; and
 - c. limit disturbance of natural drainage features and vegetation.
7. All applications for road, highway and bridge construction, reconstruction and relocation projects within the Narrow River watershed shall include an erosion and sediment control plan in accordance with the most recent version of the Rhode Island Soil Erosion and Sediment Control Manual (see: <http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/soil-erosion.php>).
8. In cases where chemicals are present on site for road, highway or bridge projects, applicants shall:
- a. limit the application, generation, and migration of toxic substances;
 - b. ensure the proper storage and disposal of toxic materials; and
 - c. apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

4.4.11 Living Resources and Critical Habitats (formerly § 940)

A. Regulations and policies

1. It is CRMC policy to consider the trends and status of fish and wildlife species including their habitat within the watershed when making decisions about development and recreational uses.
2. Winter flounder spawning grounds shall not be disturbed during the December-May spawning season.
3. All shellfish areas within the Narrow River are shellfish management areas and as such, are a high priority for protection.
4. The Rhode Island Natural Heritage Program must be consulted by the applicant if the project falls within a critical habitat. If a species is listed on the RIDEM rare and endangered list, the federal list, or both, RIHPC will be contacted to provide stipulations, recommendations and/or comments to the CRMC before the Council issues a decision.
5. Wetland restoration projects within the watershed are strongly recommended to maintain and improve the health and viability of the wildlife and finfish populations of the ponds.

6. It is the Council's policy to manage and protect submerged aquatic vegetation (SAV) from loss and degradation in accordance with § 1.3.1(R) of this Subchapter.
7. The black duck is targeted through the North American waterfowl plan and RIDEM Fish and Wildlife species as a high priority species for conservation. This species and its vegetated habitat therefore have a high priority for protection by the Council.
8. The Council shall consider project impacts on waterfowl species including their habitat and nutritional resources such as vegetation, shellfish, and fish.
9. Limited *Phragmites australis* control programs may be approved by the Council in areas that have degraded due to invasion.
10. Buffer zones will be the maximum width under § 1.1.11 of this Subchapter in areas that abut Gilbert Stuart Stream to protect anadromous fish runs.
11. CRMC encourages conservation easements to be held by towns, and such organizations/agencies as land trusts, the Nature Conservancy, and the Audubon Society. Additionally, conservation easements may be granted to the CRMC directly.
12. The CRMC encourages the appropriation of such monies by the individual towns, local communities, private land trusts, conservation groups, and the Nature Conservancy for the preservation of lands in the Narrow River watershed. Priorities for acquisition and preservation should include those lands which support rare, uncommon or endangered species, in addition to wetlands, banks and slopes, and significant cultural resources located along the Narrow River's edge.

B. Prohibitions

1. Filling, removing, or grading (reference § 1.3.1(B) of this Subchapter) is prohibited on any wetland in the Narrow River watershed. For the purposes of this section, wetlands shall include coastal wetlands and all other wetlands subject to the jurisdiction of the CRMC that are located in the Narrow River watershed. However, the following exceptions may be permitted by the Council:
 - a. The fifty (50) foot wetland perimeter and river bank wetland areas outside the wetland "edge" (R.I. Gen Laws § 2-1-20 (d) and (g)) shall not be considered part of the wetland under this section.
 - b. Filling, removing, or grading of freshwater wetlands within the Narrow River watershed, excluding areas regulated as coastal wetlands (defined in § 1.1.2 of this Subchapter) may receive relief from this prohibition in instances where filling is required to gain access to otherwise buildable land and when no other reasonable alternatives to gain access exist and when the applicant has satisfied the

variance burdens of proof set forth in § 1.1.7 of this Subchapter. Buildable land shall be defined as a land area which satisfies all federal, state, and municipal requirements for the intended development, including the pertinent requirements in the Narrow River SAMP, and meet all of the RIDEM regulations and requirements for OWTS in “Critical Resource Areas” unless a sewer line is available to provide service to the parcel. Unless otherwise located within Lands Developed Beyond Carrying Capacity any proposed sewer lines must comply with the requirements of §§ 4.4.3(A)(1)(g) or 4.4.3(B)(1)(i) of this Part as applicable herein. In cases where the Council approves filling of a freshwater wetland in the Narrow River Watershed in order to access otherwise buildable land, the applicant shall be subject to the following requirements:

- (1) The applicant shall be required to mitigate the area of wetland lost on a 1 to 1.5 area basis;
 - (2) the wetland that is replaced shall be consistent with that which is filled;
 - (3) the mitigation shall take place on-site and in an area which is hydrologically connected to the impacted wetland;
 - (4) setback and buffer requirements shall be required for the wetland replacement area;
 - (5) enhancement of existing wetland shall not be an acceptable form of mitigation under this section;
 - (6) all wetland replacement projects will require the approval of the RIDEM Freshwater Wetlands program or the CRMC pursuant to “Coastal Resources Management Program – Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast”; and (7) the applicant shall concurrently submit applications to the RIDEM and to the CRMC, when applicable, so that a concurrent review of the proposed activities can occur.
2. All alterations within the setback and buffer zone requirements established in accordance with §§ 4.4.3(A)(1)(e), 4.4.3(A)(1)(f), 4.4.3(B)(1)(f) and 4.4.3(B)(1)(g) of this Part are prohibited with the exception of:
- a. Minor filling, removing and grading activities within setback areas (but not buffer zones) typically involving 10 cubic yards or less of material.
 - b. Minor alterations of buffer zones associated with CRMC approved buffer zone management activities.

- c. The construction of driveways and/or roadways to provide access to buildable land as specified in § 4.4.11(B)(1)(b) of this Part where no other environmentally suitable alternative is available.
 - d. The Council shall encourage replacement of buffer zone areas lost to provide access as set forth in § 4.4.11(B)(2)(c) of this Part in other suitable areas of the project.
3. Dredging is prohibited in winter flounder areas during spawning season and if anadromous fish restoration projects are ongoing.

C. Standards

1. Excavation of any mudflats or other inter- or sub-tidal sediments requires consultation with RIDEM Division of Marine Fisheries Management.
2. Prior to any dredging project the applicant may be required to remove any shellfish present in the sediments and transplant them to a RIDEM/CRMC approved site. Appropriate sites include RIDEM spawner sanctuaries or sites deemed appropriate by Marine Fisheries Council or RIDEM Division of Marine Fisheries Management and CRMC.
3. Buffer zones shall be established according to the policies and standards of § 1.1.11 of this Subchapter. The SAMP buffer widths supersede those contained in Table 4 in § 1.1.11 of this Subchapter. Buffer zones shall be contiguous to the most inland edge of the coastal habitat of concern. The width of the buffer shall be not less than 200 feet in those lands classified as Lands of Critical Concern and not less than 150 feet for those lands which abut tributaries or tributary wetlands in Self Sustaining Lands. When the feature is a tributary wetland, the buffer width shall be measured from the inland edge of the tributary wetland.

4.4.12 Storm Hazards (formerly § 950)

A. Policies

1. Reconstruction after storms
 - a. When catastrophic storms, flooding, and/or erosion has occurred at a site under Council jurisdiction, and there is an immediate threat to public health and safety or immediate and significant adverse environmental impacts, the Executive Director may grant an Emergency Assent under § 1.1.14 of this Subchapter.
 - b. A CRMC Assent is required of all persons proposing to rebuild shoreline structures which have been damaged by storms, waves, or other natural coastal processes in the Narrow River watershed. When damage to an individual structure is greater than 50% of the total square footage of that structure, post-storm reconstruction shall

follow all standards and policies for new development in the area in which it is located.

- c. Setback requirements from § 1.1.9 of this Subchapter shall be applied.
 - d. All construction within Federal Emergency Management Agency (FEMA) flood zones must follow the required construction standards for the flood zone in which the structure is located. Municipal officials need to certify that these standards are correct and present on any application for activity submitted before the CRMC.
 - (1) Construction in coastal high hazard flood zones (V zones) as defined by federal flood insurance rate maps, shall follow the regulations as listed in § 1.3.1(C) of this Subchapter, as amended.
 - (2) Construction in areas of coastal stillwater flood hazards (A zones), as defined by flood insurance rate maps, shall follow the regulations listed in § 1.3.1 of this Subchapter, as amended.
 - e. A CRMC maintenance assent is required for all persons proposing to repair structures which have been destroyed less than 50% of the total square footage of the structure, by storms, waves, or natural processes.
 - f. The Council encourages post-storm reconstruction applicants to increase setbacks further from the coastal feature than the previous development without expanding the footprint.
2. Wetlands which are significant in shielding flood-prone areas from storm damage, particularly those salt marshes surrounding Pettaquamscutt Cove and the lower reaches, are priorities for preservation.

B. Prohibitions

- 1. Filling, removing or grading is prohibited on beaches, dunes, undeveloped barrier beaches, coastal wetlands, cliffs and banks, and rocky shores adjacent to Type 1 and Type 2 waters, and in the Narrow River watershed unless the primary purpose of the alteration is to preserve or enhance the area as a natural habitat for native plants and wildlife.
- 2. When damage to an individual structure is greater than 50% of the total square footage of that structure, post storm reconstruction is prohibited from occurring within setback zones.
- 3. Structural shoreline protection facilities are prohibited in the Narrow River.

C. Standards

1. Construction standards in flood zones
 - a. A significant amount of construction within Rhode Island's coastal zone has the potential to fall within a Federal Emergency Management Agency (FEMA) designated flood zone. The approximate limits of the flood zones and the associated base flood elevations are shown on FEMA's Flood Insurance Rate Maps, which are commonly available at municipal building official's offices. It is extremely important (and required) to know if your project falls within a flood zone and the associated building standards that must be adhered to in that zone to minimize the inevitable damage that occurs when building in a flood hazard area. The CRMC requires all applicants proposing construction within flood hazard zones to demonstrate that applicable portions of the Rhode Island State Building Code (RISBC), specifically requirements for flood zone construction are addressed. The building official for your community can inform you of the requirements and restrictions that apply to your specific building site. A letter from the building official conferring that all the necessary building requirements for your flood zone have been met must accompany any application for construction work within the CRMP management area, and this SAMP.

4.4.13 Historical and Cultural Resources (formerly § 960)

- A. The historical and cultural resources of the Narrow River watershed are a valuable asset to the communities in North Kingstown, South Kingstown and Narragansett. CRMC considers preservation of these resources as a high priority for the SAMP and utilizes the CRMC application process to ensure that the Rhode Island Historic Preservation and Heritage Commission (RIHPHC) has the opportunity to research various locations in the Narrow River watershed.
- B. Policies
 1. Applications for major activities within the Narrow River watershed shall be forwarded to RIHPHC for review and comment as part of the standard CRMC regulatory process.
 2. Areas that are likely archeological sites are identified by RIHPHC. Though other areas may exist and RIHPHC reserves the right to require additional information and potential digs. Activity proposed within these areas will likely be required by RIHPHC to perform a phase I archeological investigation.
 3. The CRMC will await the response of RIHPHC prior to completion of its own staff review and subsequent Council decision. Unless a special exception occurs, the Council will incorporate the RIHPHC guidance into its regulatory decision-making and permit stipulations. If a proposed project is located within a demarcated RIHPHC area of interest, it may be helpful to contact RIHPHC prior to filing an application with CRMC, in order to be aware of their potential concerns.

4. Where possible, those sites identified by RIHPHC as having potential historical or archeological significance will be incorporated into the buffer zone by extending the boundary of the buffer where appropriate.

4.4.14 Cumulative Impacts (formerly § 970)

- A. Managing for cumulative impacts is one of the major issues of concern for CRMC. CRMC will be focusing on the cumulative impacts of OWTS, impervious areas, stormwater runoff, vegetation removal and soil erosion, dredging the stabilized breachways and tidal deltas, barrier beach and flood zone development, residential activities, marinas, docks, and recreational boating, public water and sewer facilities, wetland alteration and noise and lighting impacts on habitat. All of these activities have the potential to cause effects in the ecosystem which increase the probability of shellfish closures, fish habitat degradation and loss, eutrophication, sedimentation of shellfish beds and much more.
- B. Policies
 1. It is the Council's policy to minimize cumulative impacts by anticipating and appropriately siting land and water uses and development activities to avoid cumulative effects to the Narrow River.
 2. It is the Council's policy to consider the cumulative impacts of OWTS, impervious areas, stormwater runoff, vegetation removal and soil erosion, dredging the stabilized breachways and tidal deltas, barrier beach and flood zone development, residential activities, marinas, docks, and recreational boating, public water and sewer facilities, wetland alteration and noise and lighting impacts on habitat. These cumulative impacts are explained in Chapter 8 of the Narrow River SAMP.
- C. Standards
 1. In those areas which are designated as Lands Developed Beyond Carrying Capacity, innovative technologies and development techniques that will reduce pollutants are required for new development and improvements to existing development. These include, according to the type of development, alternative on-site sewage disposal systems (as required by §4.4.3(C)(1)(a) of this Part), narrower road widths; clustering of development to reduce road lengths with remaining open space maintained adjacent to surface waters; restrictions on layouts of subdivision cul-de-sacs and roadways to reduce impervious surface and encourage infiltration of stormwater; use of pervious materials for driveways; restrictions on the number of parking spaces per square foot of commercial development to match average daily use - not potential maximum; requirements that all overflow parking be constructed using pervious materials; and more accessible alternative transportation such as pedestrian, bicycle and mass transit.
 2. In those areas which are designated as Self-Sustaining Lands or Lands of Critical Concern, residential and commercial development on substandard lots, and on all lots abutting the Narrow River requires innovative

technologies and development techniques that will reduce nitrogen. These include according to the type of development, alternative on-site sewage disposal; narrower road widths; clustering of development to reduce road lengths with remaining open space maintained adjacent to surface waters; restrictions on layouts of subdivision cul-de-sacs and roadways to reduce impervious surface and encourage infiltration of stormwater; use of pervious materials for driveways; restrictions on the number of parking spaces per square foot of commercial development to match average daily use - not potential maximum; requirements that all overflow parking be constructed using pervious materials; encourage more accessible alternative transportation such as pedestrian, bicycle and mass transit.

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TITLE 650 - COASTAL RESOURCES MANAGEMENT COUNCIL

CHAPTER 20 - COASTAL MANAGEMENT PROGRAM

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PART 4 - NARROW RIVER SPECIAL AREA MANAGEMENT PLAN (650-RICR-20-00-4)

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