9.0 MINIMIZATION AND MITIGATION OF IMPACTS

The MEPA Scope requires that the DEIR evaluate mitigation opportunities for identified impacts which cannot be avoided, identify the specific measures and strategies to be implemented and the parties responsible for funding and implementation. Resources subject to potential mitigation are characterized under the Wetlands Protection Regulations as Land Under the Ocean (LUO) and/or Land Containing Shellfish (310 CMR 10.25 and 10.34, respectively.

Use of the disposal site will not cause permanent or significant adverse impacts to resources identified under 310 CMR 10.25 and 10.34. (See Section 7 for a full discussion of impacts.) The unavoidable impacts of disposal site use will be temporary, limited to burial of non-mobile organisms and a temporary, localized increase in turbidity. Because site designation and use does not constitute a permanent loss of wetland functions defined under the Wetlands Protection Regulations, mitigation is not proposed. Section 9 includes the following subsections.

Section 9.1: Land Under the Ocean

Section 9.2: Land Containing Shellfish

9.1 Land Under the Ocean

Land Under the Ocean – 310 CMR 10.25(6) states that activities like dredged material disposal shall be designed to minimize adverse effects on marine fisheries habitat caused by alterations in water circulation, destruction of aquatic vegetation, alteration in sediment grain size, changes in water quality, and the alteration of shallow submerged lands. As described in foregoing sections, the impacts of dredged material disposal will be avoided and minimized through site selection and, following designation, site management measures. Specifically:

Water circulation – By selecting a site in a deeper area of Buzzards Bay, the impact of mounds of dredged material on the seafloor are minimized. The topographic relief of disposal mounds is relatively low: the placement of 147,000 cy of material from one project at the CCDS resulted in a disposal mound with a maximum elevation of 1.1 meter, which consolidated to a height of .8 meter over 16 months. (CR Environmental, 1997) Further, through site management, the placement of material will be managed to create smaller mounds over a greater area within the site. Although it is highly unlikely that material would accumulate to such a significant degree, the management plan establishes a maximum height from the bottom of 12 meters (40 feet) to preserve navigability at the site.

Destruction of aquatic vegetation (eel grass and widgeon grass) – These resources are not present at the disposal site.

Alteration in sediment grain size – While some heterogeneity of sediment grain size is expected in the material disposed of at the site, the primary type of material for which there is an identified need for an aquatic disposal option is clean, silty sediment, typically from inner harbor, low energy environments. This material is similar to the ambient sediments at the proposed disposal site, which are dominated by silt and clay (58% to
93%) with sand. The potential impact from the disposal of coarser material, including sands and gravels, is minimized by the state and federal policies that require applicants to evaluate beneficial uses for dredged material as an alternative to aquatic disposal. Because sands and gravels are most readily appropriate for beneficial use, these materials are not likely to be persistently disposed of at the site in significant quantities.

Changes in water quality - Modeling indicates that turbidity (as total suspended solids) will return within zero to three hours to within a range of normal variation for Buzzards Bay. Modeling for this project generally replicates the conclusions of modeling and field monitoring results for other disposal projects, finding that initial elevated levels of TSS return quickly (within hours) to background levels.

Alteration of shallow submerged lands with high densities of polychaetes, mollusks, or macrophytic algae – The boundaries of the disposal site has been located to minimize impacts to marine resources generally; these resources are not present in high densities at the disposal site.

### 9.2 Land Containing Shellfish

Land Containing Shellfish – 310 CMR 10.34(4) states that activities like dredged material disposal shall not adversely affect such land or marine fisheries by a change in productivity caused by alterations of water circulation, alterations in relief elevation, alteration in the distribution of sediment grain size, and changes in water quality. See the discussion of Land Under the Ocean, above, for a discussion of how these factors have been addressed, to be supplemented by 310 CMR 10.34(5), which states that “projects which temporarily have an impact on shellfish productivity but which do not permanently destroy the habitat may be permitted….if the area is returned to its former productivity within one year. Native populations of shellfish will be buried in the area of immediate disposal, but the new substrate will be suitable for and is expected to support recruitment of larval shellfish in the spawning season following disposal activity. Habitat supporting shellfish will therefore not be permanently destroyed.