

TOWN OF ISLIP 2008 BEACH RENOURISHMENT PROJECT DESCRIPTION

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INTRODUCTION AND LOCATION

Six communities from the Town of Islip are currently planning for beach renourishment in 2008-09. The communities of Fair Harbor, Dunewood and Lonelyville are due for their periodic renourishment in 2008-09. These 3 communities were last renourished between November 2003 and January 2004. The community of Seaview wants to join the 2008 Fire Island Beach Renourishment Project. Corneille Estates and Summer Club are making their decision about joining.

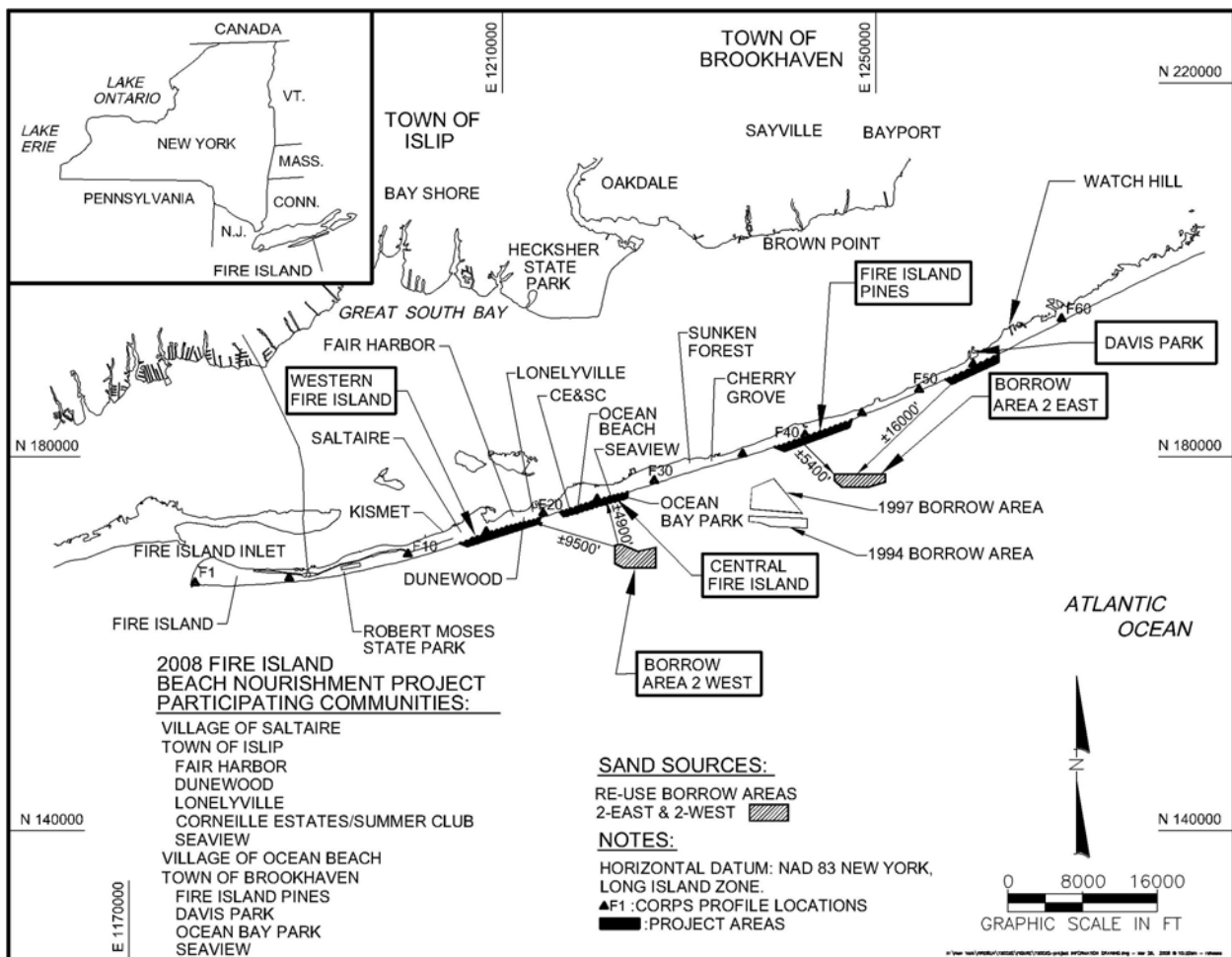


FIGURE 1: FIRE ISLAND LOCATION MAP

In April 2007, a large nor'easter eroded portions the protective dunes and lowered the beach elevation along Fire Island. The 2003-04 project communities were damaged, suffering

volumetric losses to their beaches and dunes. These losses qualified for FEMA Category G funding as engineered beaches since the storm was a declared disaster.

Corneille Estates, Summer Club and Seaview all suffered from the nor'easter which has aggravated their long term erosion trend. Corneille Estates and Summer Club have severe damage to their dunes. Timely renourishment is needed to avoid a state of critical erosion that has occurred in the past. The communities, renourishment segments and sand sources are identified in Figure 1. The Fire Island total project area encompasses 4 segments, along 26,000 linear feet of shoreline with a renourishment volume of 1.9 million cubic yards in 2008-09. The Town of Islip community volumes are listed below for renourishment in 2008-09.

Town of Islip Volumetric Summary

Fair Harbor	125,000 cy
Dunewood	85,000 cy
Lonelyville	73,000 cy
Eastern Islip Taper	10,000 cy
Corneille Estate/Summer Club	62,300 cy
Ocean Beach	121,800 cy
<u>Seaview (TOI)</u>	<u>133,000 cy</u>
<u>TOTAL SUM</u>	<u>610,100 cy</u>

HISTORIC PROJECTS

Fire Island is a 31-mile long barrier island located on the south shore of Long Island, in Suffolk County, New York (Figure 1). The island is bounded by the Atlantic Ocean to the south, Fire Island Inlet to the west, Moriches Inlet to the east, and the Great South Bay to the north. Fire Island consists of a mixture of National, State, and County Parks, municipal recreation areas, and a number of residential communities. The communities, located between Robert Moses State Park and the Otis G. Pike Wilderness Area (Watch Hill), are predominately comprised of single family vacation homes and a smaller number of full-time residences.

Several Fire Island developed communities have nourished their beaches periodically since the aftermath of severe storms in the early 1990's. A number of communities were nourished using the 1994 borrow area (Figure 1). Western Fire Island, including Fair Harbor and Dunewood, was nourished with 465,000 cubic yards, Seaview received 42,000 cubic yards and Fire Island Pines received approximately 133,000 cubic yards during the 1994 nourishment project. In 1997, Fire Island Pines completed their project by placing 650,000 cubic yards from the 1997 borrow area.

Five communities were renourished with sand from two new offshore sources between November 2003 and January 2004. The communities were grouped into three contractual entities comprising the Incorporated Village of Saltaire, Town of Islip (Fair Harbor, Dunewood, Lonelyville), and Town of Brookhaven (Fire Island Pines). The projects were constructed by Great Lakes Dredge and Dock Company (GLDD) using their hydraulic cutterhead dredge *Alaska*

and trailing-suction hopper dredge *Liberty Island*. The as-built construction volumes for Western Fire Island and Fire Island Pines was 717,728 and 560,840 cubic yards, respectively, measured within the project limits in 2004.

Since 1994, a total of 2.59 million cubic yards have been placed within the developed communities of Fire Island (Kismet to Davis Park). Earlier projects date back to the 1960's.

PURPOSE AND NEED

Since 2004 accelerated shoreline recession along with the April 2007 nor'easter has hastened the need to secure permits before the communities become critically eroded. Select reaches within the community's of Central Fire Island and Davis Park are critically eroded today and need immediate assistance.

Western Fire Island Segment

The 2008 Fire Island Renourishment Project will consist of excavating approximately 1.8 million cubic yards of fill from two offshore borrow areas (Borrow Area 2-West and Borrow Area 2-East) and placing it as beach and dune fill between four separate segments: Western Fire Island, Central Fire Island, Fire Island Pines, and Davis Park. Approximately 500,000 cubic yards will be placed in the beach fill template in the Western Fire Island segment. The Western Fire Island segment includes the entire shorefront of the Village of Saltaire, Fair Harbor, Dunewood, Lonelyville, and terminates in the Town of Islip. All beach sediment for the Western Fire Island segment will be obtained from Borrow Area 2-West which is 1.6 miles southeast of the fill template. The total length of the Western Fire Island segment is approximately 1.5 miles (7,800 ft).

Sand fill in Western Fire Island will cover approximately 25.0 acres of beach area landward of the mean high water line. Submerged lands adjacent to shore will be covered to approximately 39.3 acres at construction.

Central Fire Island Segment

The Central Fire Island segment includes the eastern portion of the Town of Islip communities of Corneille Estates, Summer Club, Seaview along with the Village of Ocean Beach, and the Town of Brookhaven communities Seaview and Ocean Bay Park. Approximately 565,600 cubic yards will be placed in the beach fill template in the Central Fire Island segment. The western taper of the Central Fire Island segment terminates in Point O'Woods. All sediment for the Central Fire Island segment will be obtained from Borrow Area 2-West which is 1.0 miles south of the fill template. The total length of the Central Fire Island segment is approximately 1.5 miles (7,930 ft.).

Sand fill for Central Fire Island will cover approximately 32.3 acres of beach area landward of the mean high water line. Submerged lands adjacent to shore will be covered to approximately 43.8 acres at the time of construction.

Photograph 1 illustrates the condition of Corneille Estates, Summer Club and Lonelyville. The dunes in these areas are small and in need of nourishment. Photo's 1 and 2 were al taken on July 13, 2008 at low tide.



Photo 1: Ocean Beach groin looking west toward Corneille Estates and Summer Club.



Photo 2: Dunewood July 13, 2008 looking east toward Lonelyville.

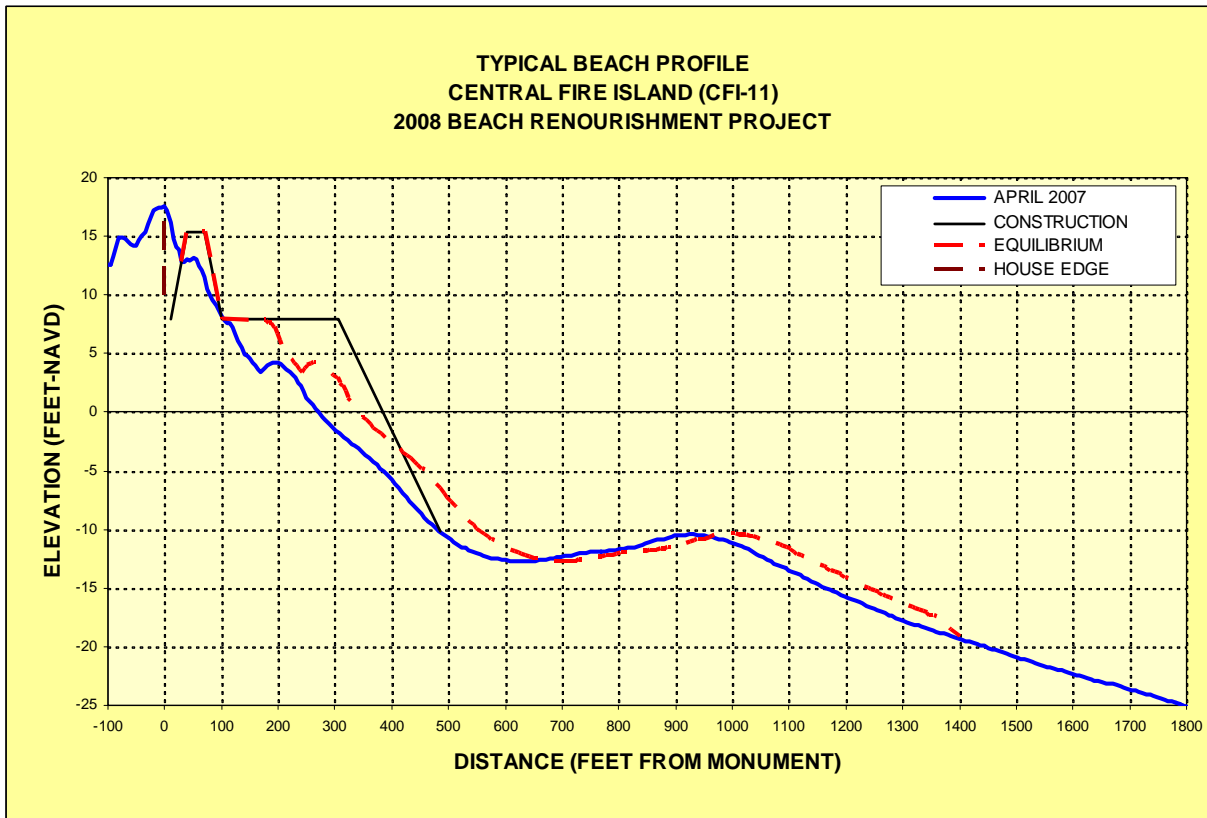


FIGURE 2: Typical Construction and Equilibrium Beach Profile

Figure 2 represents the typical construction and equilibrium beach profiles for the project areas. The constructed beach will equilibrate over time to a more natural profile shape, as illustrated in Figure 2, which will provide an approximate fill density of 70 cubic yards per linear foot.