area. The dashed line indicates the 'constructed' profile which is not available from either the beach/nearshore profile survey or the offshore profile survey. It is constructed in a sense that if no bar formation is present in the adjacent profiles a simple interpolation is then inserted for the gap. Otherwise, a smoothed bar segment similar to the neighbouring profiles is established in the gap. The comparson of profiles T-104 between July 88 and Jan 89 surveys reveals large deviation of the two for offshore distances greater than 2,600 feet. It is noted here that offshore portion of T-104 was not measured in July, and it was linearly interpolated between the two adjacent profiles: R-103A and T-104A. Thus, the interpolated T-104 profile of July 88 is less accurate than the measured one of Jan 89.

CALCULATION OF VOLUME CHANGES AFTER NOURISHMENT

The volume changes of sand for the nourished beach are computed by adding the volume changes of sand in every two adjacent profiles between the July 88 and Jan 89 surveys. In computing the volume change between any two adjacent profiles, the volume change per beach length at each profile is first calculated. This is equivalent to computing the area change of sand in a profile between the July 88 and Jan 89 surveys. The individual profile area is obtained by using a trapezoidal rule to numerically integrate the area from the monument to a reference offshore distance, which is normally chosen at the place where the water depth is equal to 12 feet. The volume change in any two adjacent profile lines is computed, based on the spacings between the two profiles, and using the trapezoidal rule. A positive change of volume corresponds to the increase of volume and indicates a convergence zone of sand, while a negative change of volume corresponds to the decrease of sand and a divergence zone. Table 2 presents the results for the computation of volume changes from profiles R-96 to R-111G between the July 88 and Jan 89 surveys. The integration of sand area in a profile is referred to N.G.V.D, 1929, and is carried out from the monument location to a 12 feet depth offshore distance.

Figure 2 shows the computed volume changes and cumulative changes in the survey region between July 88 and Jan 89 surveyed data. It is seen in Figure 2 that the greatest volume losses occur in two areas: one is between R-99G and T-100A, and another is between T-104A and R-107. As with the July 88 to Jan 89 volume changes, these losses appear to be due to a combination of three effects: (1) the expected "spreading" losses associated with the nourishment project, (2) trapping of the northerly transport by the Redington Shores breakwater, and (3) the background erosion. Also shown in Figure 2 are the volume changes between July 88 and Nov 88 surveys. It is seen that more erosion occurred in the two