

PROJECT DESCRIPTION

Lydia C. Wright School Addition



Location:
Buffalo, New York

Client:
Buffalo Board of
Education

MMCE Checking Pile Advancement

The Buffalo Board of Education planned an addition to the Lydia C. Wright School, Public School 89, that would extend into a former rock quarry that had since been filled. MMCE developed and executed a subsurface exploration program that included test borings to measure the density of the fill, the depth to top of rock in the former quarry and the rock formation at the base of the quarry. We also collected old maps that identified the limits of the former quarry and literature that described the quarry's history.

The test borings showed that the fill placed in the quarry was very loose and not suitable for supporting a building. MMCE recommended H-piles bearing on top of hard limestone rock at the base of the quarry and spread footings bearing on the native overburden outside the limits of the former quarry.

During construction, MMCE monitored the pile installation. First, we used the Wave Equation Analysis of Piles (WEAP) program to estimate the stresses in the piles from the pile hammer proposed by the contractor. We also used a pile driving analyzer to check the WEAP results so that the piles were not overstressed as they encountered the hard rock surface. We checked each pile as they were driven so that they reached the top of rock, but were not overdriven, damaging the pile tips.