

UNISTORM THIRD PARTY SEDIMENT MONITORING TEST RESULTS TRIBUTARY AREA: LAKE FOREST NORTH SUBDIVISION , AMHERST, NY

ITEM	SAMPLE SOURCE			ANALYTICAL STANDARD
	SITE SOILS	UNISTORM FIRST STAGE	UNISTORM SECOND STAGE	
BULK DENSITY WET, #/CF	81.2	83.5	83.6	
BULK DENSITY DRY, #/CF	75.4	34.5	35.1	
ORGANIC CONTENT, WT%	1.7	6.1	5.2	ASTM D-2974
PHOSPHORUS IN TOTAL SEDIMENT, ppm	275	305	398	EPA 365.2
PHOSPHORUS IN MINERAL SEDIMENT, ppm	295	413	383	EPA 365.2
GRADATION OF TOTAL SEDIMENT, WT%				ASTM D-422
GRAVEL	11.2	0.0	0.0	
SAND	58.4	8.2	4.7	
SILT	19.8	14.1	17	
CLAY	10.6	77.7	78.3	
SEDIMENT DEPTH (BELOW CENTRALLY LOCATED 24" DIAMETER ACCESS OPENINGS)	NA	11"-12"	11"-12"	

SEDIMENT SAMPLING AND ANALYSIS (1) SEDIMENT SAMPLING AND DEPTH MEASUREMENT BY SJB SERVICES, HAMBURG, NY
 (2) DENSITY, ORGANICS, AND GRADATION ANALYSIS BY SJB SERVICES
 (3) PHOSPHORUS ANALYSIS BY PARADIGM ENVIRONMENTAL SERVICES, ROCHESTER, NY

ENVIRONMENT 21 COMMENTS ON TEST RESULTS

SITE SOILS AREA ADJACENT TO THE PAVEMENT AREA WAS STRIPPED OF TOPSOIL. GRADATION ANALYSIS INDICATES UNDERLYING SOILS SIMILAR TO LAMSON VERY FINE SANDY LOAM.

BULK DENSITY SEDIMENT DRY DENSITY IN THE CHAMBERS IS APPROXIMATELY 40% OF THAT FOR THE NATIVE SOILS. THIS IS INDICATIVE OF EXTREMELY SLOW SETTLING OF FINELY DIVIDED SUBMERGED CLAY SOLIDS.

ORGANICS LOW ORGANIC CONTENT IS CONSISTENT WITH UNVEGETATED AREAS ADJACENT TO PAVEMENT

PHOSPHORUS CONTENT (1) HIGHER PPM IN UNISTORM SEDIMENT SUGGESTS INFLUENT PHOSPHORUS IS NOT SOLUBLE
 (2) PHOSPHORUS SOURCE IS EXPECTED TO BE FROM PREVIOUS FARMING ACTIVITIES AND/OR ATMOSPHERIC DEPOSITION

GRADATION CLAY FRACTION IN THE UNISTORM IS SEVEN TIMES HIGHER THAN THAT IN THE SITE SOILS. THIS INDICATES THAT RAINFALL EVENTS WERE NOT ADEQUATE TO TRANSPORT COARSER SEDIMENT TO THE STORM SEWER SYSTEM. THIS ALSO SUGGESTS THAT THE TOP LAYERS OF UNVEGETATED SOIL MAY HAVE BEEN REDUCED IN CLAY CONTENT AND WILL BE LESS SUBJECT TO FURTHER EROSION.

UNISTORM OPERATING HISTORY NOVEMBER 2003-- SYSTEM INSTALLED
 NOVEMBER 2004 -- FIRST INSPECTION BY TOWN OF AMHERST HIGHWAY DEPARTMENT
 MARCH 2005 -- SEDIMENT SAMPLES REMOVED FOR ANALYSIS
 JULY 2005 -- EXPECTED FIRST PUMPOUT BY TOWN OF AMHERST HIGHWAY DEPARTMENT

UNISTORM DIMENSIONS (1) FIRST AND SECOND STAGES EACH 2.5' W X 10'L (5'X10' PRECAST CONCRETE VAULT)
 (2) RIM MINUS FLOOR = 9.6' , SUMP DEPTH = 5' , 24" OUTLET PIPE
 (3) TOTAL SUMP VOLUME = 240 CF+/- = 1800 GAL+/-