REPORT OF THE
SUPPLEMENTAL INVESTIGATION

SAN CARLOS FLUME
TAMPA, FLORIDA

Driggers Engineering Services Incorporated

DRIGGERS ENGINEERING SERVICES INCORPORATED
Geotechnical Engineering & Construction Materials Testing

February 26, 2013

City of Tampa - Stormwater Department
306 E. Jackson Street, 6N
Tampa, Florida 33602

Attention: Ms. Barbara Graves
Utility Coordinator

RE: Report of the Supplemental Investigation
San Carlos Flume
Manhattan to Hesperides
Tampa, Florida
Work Order No. 9
Our File: DES 137123

Dear Barbara:

Pursuant to your request and authorization, **DRIGGERS ENGINEERING SERVICES, INC.** has completed the requested supplemental investigation for the subject project. Presented herein are the results of our current studies. Results of our previous investigation are presented in our report dated February 8, 2013.

INVESTIGATION PROGRAM

Our current studies were directed toward an investigation to check for the presence of reinforcing steel in the bottom slab and any dowels or reinforcing bars connecting the bottom slab to the side wall panels. Scans of the bottom slab and slab to wall connection were made at selected intervals along the flume utilizing a James Instruments R-meter (pachometer). The slab to wall joint was also visually examined with photographs taken to document conditions. Results of the pachometer scans and photographs are attached.

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GENERALIZED CONDITIONS

CONCRETE DITCH BOTTOM - Basically, our studies indicate the presence of reinforcing steel in the bottom slab, running north-south, at approximate 6 inch intervals. The reinforcement likely consists of #4 bars since core #7 of our previous studies encountered a piece of #4 reinforcing steel at the bottom of the core. Where a mortar bed was present above the concrete slab toward the west end of the flume, the pachometer readings were faint and often inconclusive due to the increased depth to the reinforcement.

SLAB TO WALL PANEL CONNECTION - The bottom of the wall panels rest on top of the bottom slab. Scans indicate reinforcing steel connecting the slab to the bottom of the wall panels at approximate 6 inch intervals. At several locations, deterioration of the concrete has exposed the steel. While the exposed steel was very rusted, the reinforcement appears to be #4 bars. Photographs of selected locations are attached. Also included are photographs in the vicinity of Stations 14+30 to 14+75 where tree root growth behind the wall panels has displaced the wall panels.

DRIGGERS ENGINEERING SERVICES, INC. appreciates the opportunity to assist you on this project. If you have any questions concerning our findings, please contact the undersigned at your convenience.

Respectfully submitted,
DRIGGERS ENGINEERING SERVICES, INC.

Nicholas T. Korecki

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Copies submitted: (3)

PHOTOGRAPHS

SAN CARLOS FLUME
TAMPA. FLORIDA

APPROXIMATE STATION	CONDITION	PHOTOGRAPH
10+50	Pachometer reading of slab inconclusive.	
11+00	Pachometer reading of slab inconclusive.	
11+50	Pachometer reading of slab inconclusive. Mortar patch over bottom slab between about Sta. 10+00 to Sta. 12+50	Photo # 1.
13+50	Weak pachometer readings at 6" on center, north-south	
14+00	Weak pachometer readings at 6" on center, north-south	
14+10	Rebar-dowels connecting side wall panels to bottom slab at 6-inch centers. Reinforcing bars colored blue for contrast.	Photo #2.
14+30 (North Side)	Wall panels displaced by tree root growth	Photo #3.
14+75 (North Side)	Wall panels displaced by tree root growth	Photos #4 & #5.
15+00	Rebar-dowels connecting side wall panels to bottom slab at 6-inch centers. Reinforcing bars colored blue for contrast.	Photo #6.
16+00	Rebar-dowels connecting side wall panels to bottom slab at 6-inch centers. Reinforcing bars colored blue for contrast.	Photos #7 & #8.

Photo 1

Photo 2

Photo 3

Photo 4

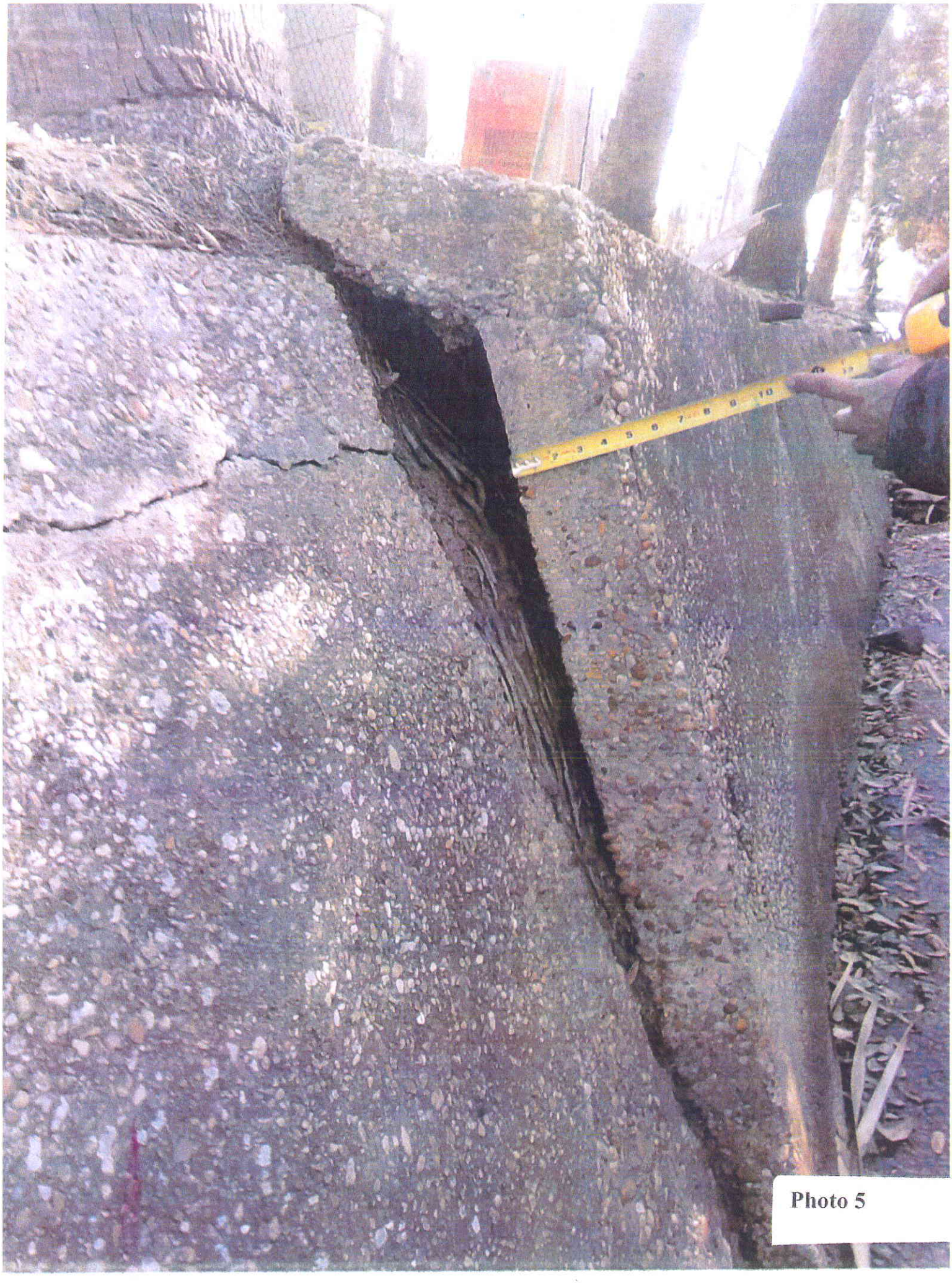

Photo 5

Photo 6

Photo 7

Photo 8