Federal Aviation Administration – William J. Hughes Technical Center

National Airport Pavement Test Facility (NAPTF)

Contract No: 692M15-20-D-00004

ARA TO 005 Structural Airport Pavement NDT and Evaluation

5.1.1.2 CC9 NDT Data Collection (Task 4.1.1.2)

CC9 NDT Survey Notes

Device: GPR – Cart

Survey: Trafficking 20210816

Date: 09/02/2021

Operators: Christopher Mazzotta, Douglas Evans, John Mazzagatti

Folder Name: 20210902 GPR Cart CC9 Raw Data

File Format: DZT

**General Notes**

* Data collected along the ten (10) Standard Transverse Test Lines at Stations.
* Cart is aligned with white transverse line and direction of travel is from Offset -26.66 ft. to +26.66 ft. (North to South).
* Survey starts and stops with the antenna centered on the yellow longitudinal edge of test area lines.
* Data collected with 900 MHz and 2.6 GHz ground-coupled antennas.
* Calibration of DMI performed before data collection with each antenna and value recorded.

**Settings**

Parameter 900 MHz Antenna 2.6 GHz Antenna

Transmit Rate 100 KHz 100 KHz

Samples/Scan 512 512

Bits/Sample 16 16

Range 15 ns 8 ns

Dielectric 4.00 (default) 4.00 (default)

Rate (Scans/Second) 100 (default) 100 (default)

Scans/Unit 30 scans/ft. 90 scans/ft.

Gain Points 3 2

Vertical Low Pass – LPIIR 2500 MHz 0

Vertical High Pass – HPIIR 225 MHz 10 MHz

Vertical Low Pass – LPFIR 0 5000 MHz

Vertical High Pass – HPFIR 0 400 MHz

Stacking Filter 5 5

**DMI Calibration**

Distance 900 MHz Antenna 2.6 GHz Antenna

10.00 ft. -490.30 -494.90

**Data Collection File Numbers**

Location 900 MHz Antenna 2.6 GHz Antenna

Station 0+15 090 080

Station 0+30 091 081

Station 0+75 092 082

Station 0+90 093 083

Station 1+35 094 084

Station 1+50 095 085

Station 1+95 096 086

Station 2+10 097 087

Station 2+55 098 088

Station 2+70 099 089

**Survey Notes**

* Dataset 20210816 includes 9 days of trafficking over 3 weeks (08/17 – 09/01).
* First time adjusting the horizontal Stacking filter from 64 (default recommended by GSSI) to 5.
  + Omar Elbagalati (ARA) discussed resolution issues with GSSI and recommended setting the value to between 4 and 6.
  + Setting it to 5 resulted in extremely clear, high resolution imagery on the SIR-3000 display during data collection.