AECOM
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November 28, 2014

Mr. Phil Schwarz
General Superintendent Construction - Lend Lease
455 N. Park Drive
Chicago, IL 60611

RE: Radiological Survey of Right-of-Way Excavation at 402-450 N. New Street
Permit Address: 455 N. Park Dr.
AECOM Project No. 60241812

Dear Mr. Schwarz:

Pursuant to conditions specified in a permit (see attached) issued by the City of Chicago, radiation monitoring was required to be performed at the above referenced site. AECOM Technical Services, Inc. (AECOM) provided the required radiation monitoring between the days of September 12-17 for sidewalk removal and replacement.

Surveying was conducted in 18-inch lifts, where necessary, for soils removed from a 12-foot wide by 331-foot long excavation to a depth of 6-inches underneath the original sidewalk north of Lower E. North Water St. on the western side of N. New St. (see sketch), required for the removal/replacement of the adjacent concrete sidewalk/curb at the 455 N. Park Dr. site.

A 10-foot wide by 16-foot long section of the sidewalk and curb was also removed near the southwest corner of the intersection of Lower E. North Water St. and N. New St. for the installation of a sloped sidewalk ramp (see sketch). This work was completed within the sidewalk adjacent to the Sheraton Hotel. AECOM believes that this ramp is the same project that the USEPA was contacted regarding earlier in the year (May 2014), but was apparently postponed at that time.

The existing concrete sidewalks needed to be hammered out and numerous rebar reinforcements needed to be cut along the way, during the project. The soils underneath the existing sidewalks were graded after the concrete removal, but no soil was taken off site during the process. The field gamma counts ranged from a minimum of 6,800 cpm to a maximum of 11,000 cpm unshielded.

The first week of October the installation of the electrical service for street lights along N. New Street was initiated. The portion of the electrical service drawing for N. New Street has been included in the attachments. This excavation work within the sidewalk included excavation of a manhole, electrical trench and street light foundations (see Photo 1). Gamma readings in the electrical trench ranged from 5,300 to 9,000 cpm, while spoils from the manhole and streetlight foundations ranged from 5,200 to 6,800 cpm.

Planting of the planter boxes were initiated the week of October 10, 2014. Additional thorium screening for the tree planting was not necessary because the height/size of the tree root balls (~24-inches). The depth the trees were being planted in the slightly raised planters did not result in the excavation of previously unscreened fill soil (i.e., the top of the root ball is even with or slightly above the top of the planter and the base of the root ball is still within the 18-inches of previously screened fill soil beneath the old sidewalk). The three northern most planters are located within the area above the former, now filled, section of Ogden Slip. A concrete slab (that is about 12-inches thick) is present approximately 12-inches beneath the original sidewalk. The trees in these planters were able to be planted by chipping out a small section at the surface of the slab (refer to Photo 2 in the attachments). As a result, the fill soil within the former slip was not exposed and no radiological monitoring was required.

The field gamma background for the area was measured as approximately 6,050 cpm unshielded. Field gamma measurements greater than twice the background count are considered anomalous results that may indicate that contaminated fill soil is in close proximity to the excavation. When observed, these anomalous results require more cautious and frequent field screening, but are not necessarily indications of the presence of thorium contaminated fill soil. Specifically, there are natural materials such as granite, clay and brick that may be above twice background. The field gamma measurements for the excavation activities and for the spoil materials generated during these excavation processes did not exceed twice background.

As such, the gamma monitoring revealed no results that would be interpreted as an indication of thorium contamination above the clean-up value established by the U.S. Environmental Protection Agency (USEPA) for the Streeterville area of Chicago. The USEPA cleanup value for Chicago's Streeterville area is 7.1 picocuries per gram (pCi/g total radium (Ra-226 + Ra-228). Gamma radiation count measurements for the project were made using a Ludlum Model 2221 survey meter and an unshielded 2 x 2 inch sodium iodide (NaI) probe (Model 44-10). For the instrument used, the gamma count threshold equivalent to the 7.1 pCi/g cleanup value was 17,390 counts per minute (cpm) unshielded. Thus, there was no indication of the presence of radiologically-contaminated fill soil and/or an exceedance of the USEPA cleanup threshold of 7.1 pCi/g total radium.

As part of the permit conditions this letter has been forwarded to:

Chicago Department of Public Health
Attention: Ms. Rahmat Begum
333 South State Street, Room 200
Chicago, Illinois 60604

Please contact us with any questions you have regarding this letter or the reported results.

Regards,

Brian R. Schmidt
Project Scientist II

Steven C. Kornder, Ph.D.
Senior Project Geoscientist

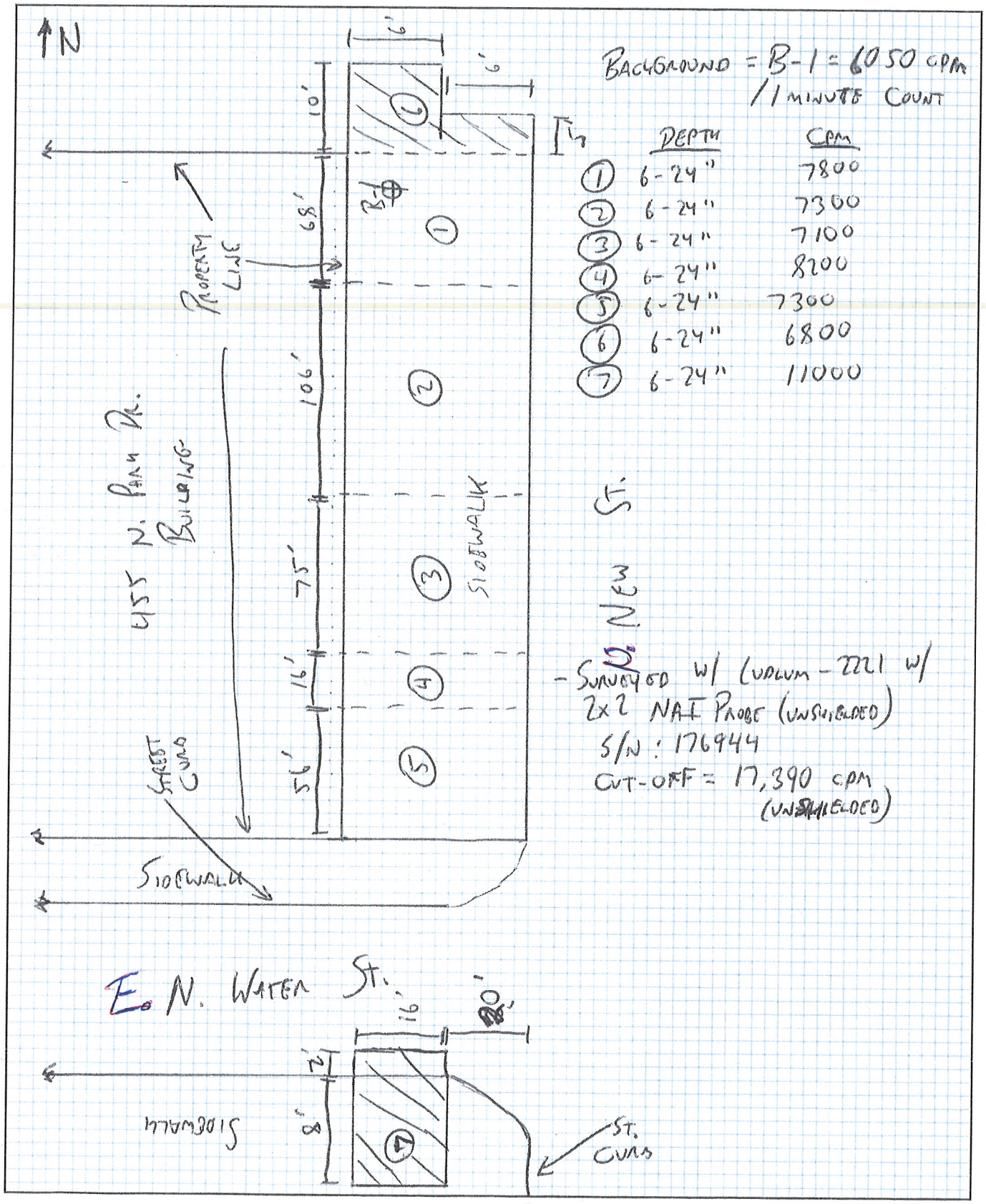
cc: Rahmat Begum, Chicago Department of Environment
Verneta Simon, USEPA

Attachments: Permit
Sketch
Drawing

SKETCH

AECOM

JOB TITLE 455. N. PARK DR. - ROW RAD INVESTIGATION - SIDEWALK REMOVAL
JOB NO. 60241812 T. 300
CALCULATION NO. N/A
ORIGINATOR BRIAN SCHMIDT
DATE 9/12-17/2014
REVIEWER STEVE KORNDER
DATE 9/29/2014
SCALE N/A
SHEET NO. 1 OF 1



BACKGROUND = B-1 = 6050 CPM
/1 MINUTE COUNT

	DEPTH	CPM
1	6-24"	7800
2	6-24"	7300
3	6-24"	7100
4	6-24"	8200
5	6-24"	7300
6	6-24"	6800
7	6-24"	11000

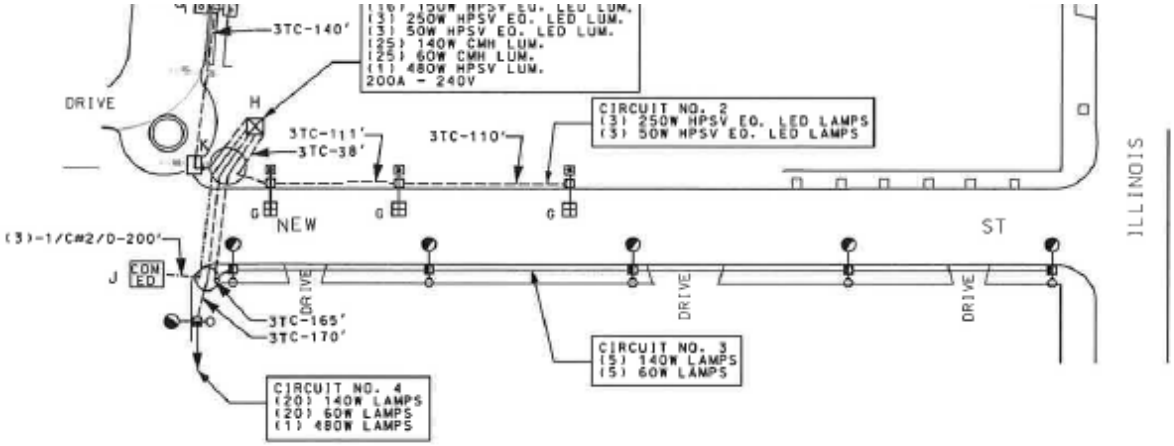
- SURVEYED W/ LUDLUM - 2221 W/ 2x2 NAI PROBE (UNSHIELDED) S/N: 176944
CUT-OFF = 17,390 CPM (UNSHIELDED)

Grid: 10x10 = 1"

PHOTOS

Photo 1 – Looking south along western sidewalk on N. New Street at planters and electrical trench in sidewalk.

Photo 2 – Tree root-ball excavation for planters located above the concrete slab covering the former slip.

DRAWING

NEW STREET LIGHTING ELECTRICAL