Stan A. Huber Consultants, Inc.
Health Physics and Radiation Safety Services

200 North Cedar Road – New Lenox, Illinois 60451-1751 – (800) 383-0468 or (815) 485-6161 – FAX (815) 485-4433 – Email sahci@sahci.com – Home Page www.sahci.com

June 27, 2020

958918

Steven Griffin
Electric Conduit Construction
816 Hicks Dr.
Elburn, IL 60119

RE: Thorium Monitoring 500-505 N. St. Clair St. and 162-200 E. Illinois St.
CDOT Permit #1251523

Dear Mr. Griffin:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during excavation for the installation of a fiber optic conduit and a utility pole replacement at the corner of N. St. Clair Street and E. Illinois Street in Chicago, Illinois. The monitoring for the conduit trench excavation was performed by Mark Dewald, SAHCI Health Physicist, on June 18 and 22, 2020. The monitoring for the utility pole replacement was performed by Aaron Morris, RSSI Health Physicist, on June 23, 2020.

Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters with attached Ludlum Model 44-10 2”x2” NaI Detectors (w/ 6” collimated lead shields).

Instrument serial number 126496 was used by Mark Dewald. This instrument was last calibrated on October 18, 2019. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,102 counts per minute (cpm). The background count rate for this instrument was measured as 1,902 cpm.

Instrument serial number 126497 was used by Aaron Morris. This instrument was last calibrated on October 18, 2019. The US Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 6,179 counts per minute (cpm). The background count rate for this instrument was measured as 1,478 cpm.

Soil Gamma Scans – Utility Trench

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter (serial no. 126496) described above. Survey data was collected by entering the excavation and recording the highest count rate for the floor and walls to an excavation depth of 3 feet below ground surface. All asphalt, concrete, and soil were loaded directly into a truck for disposal.

The maximum gamma count rate for each 18-inch lift was recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 1,200 cpm to 2,400 cpm. No count rates were found at any time that exceeded the threshold limit of 7,102 cpm.

Soil Gamma Scans – Utility Pole Replacement

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter (serial no. 126497) described above. Survey data was collected by scanning the area below the removed sidewalk slab and the hole from the removed pole down to 3 feet below ground surface. The majority of the excavation work was performed with a vacuum truck. Material below 3 feet was inaccessible and not surveyed, but it was noted to be all coarse sand from the original pole installation backfill. The sand was loaded directly into the vacuum truck for offsite disposal.

The maximum gamma for the utility pole excavation ranged from 1,400 cpm to 2,000 cpm. No count rates were found at any time that exceeded the threshold limit of 6,179 cpm.

Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

I will be providing a copy of this report to both the City of Chicago Department of Public Health and US Environmental Protection Agency, as required.

Thank you for your assistance with this project. If you have any questions or need additional information, please call me at (815) 485-6161.

Sincerely,
Stan A. Huber Consultants, Inc.

Glenn Huber, CHP
President

sahci
Stan A. Huber Counsultants, Inc.

Radiation Survey Form

Location/ Project ID: Electric Conduit - Illinois St, St. Clair St.

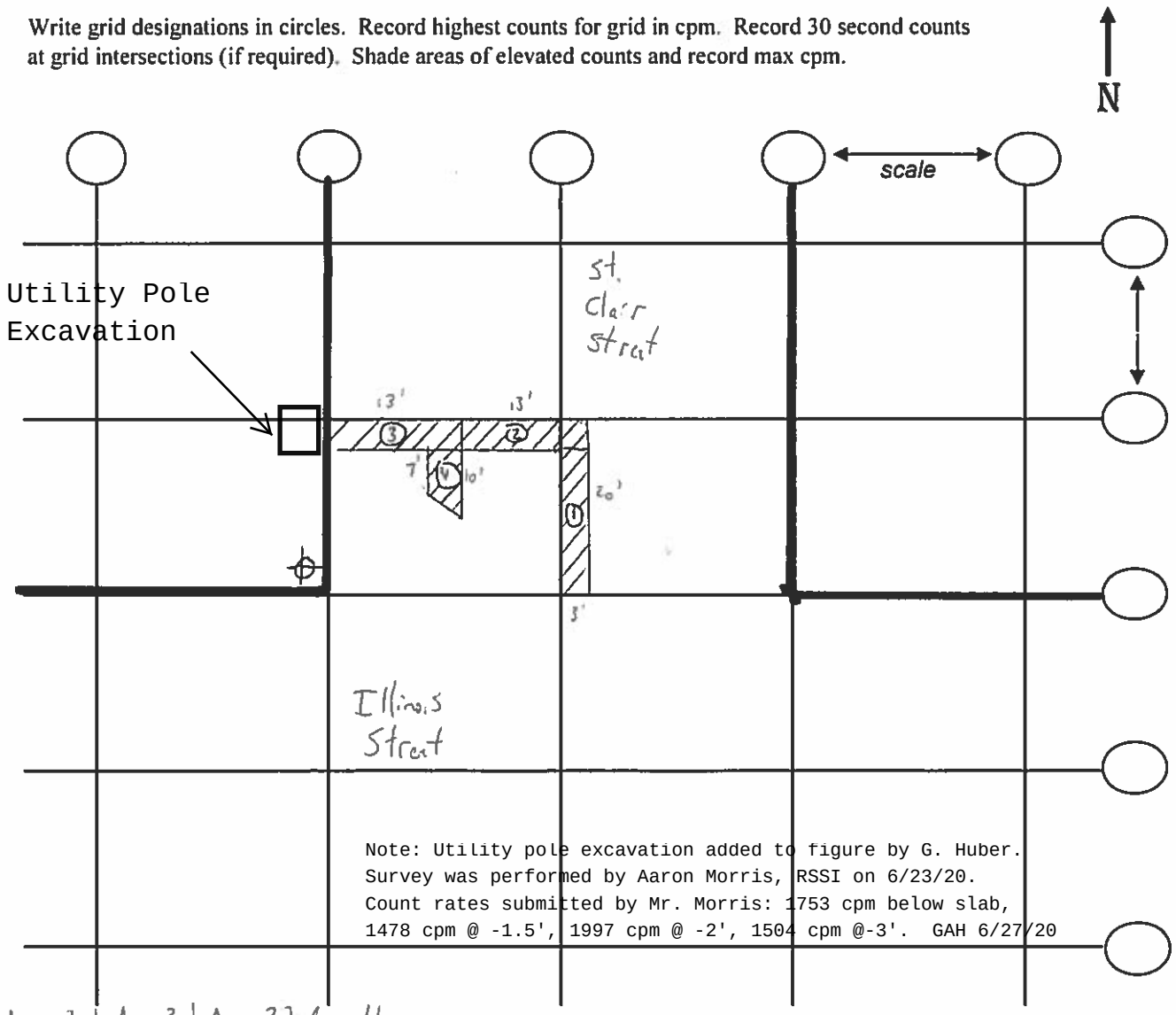
Date: 6/18/20, 6/22/20 **Technician:** Mark Dewald

Inst Model: Ludlum 2221 **Serial No. :** 126496

Probe Type: 1"x1" NaI (2"x2" NaI) **Lift Elevation:** 0-3'
(Shielded) Not Shielded

Background 1423 **cpm** **Action Level:** 7102 **cpm**

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

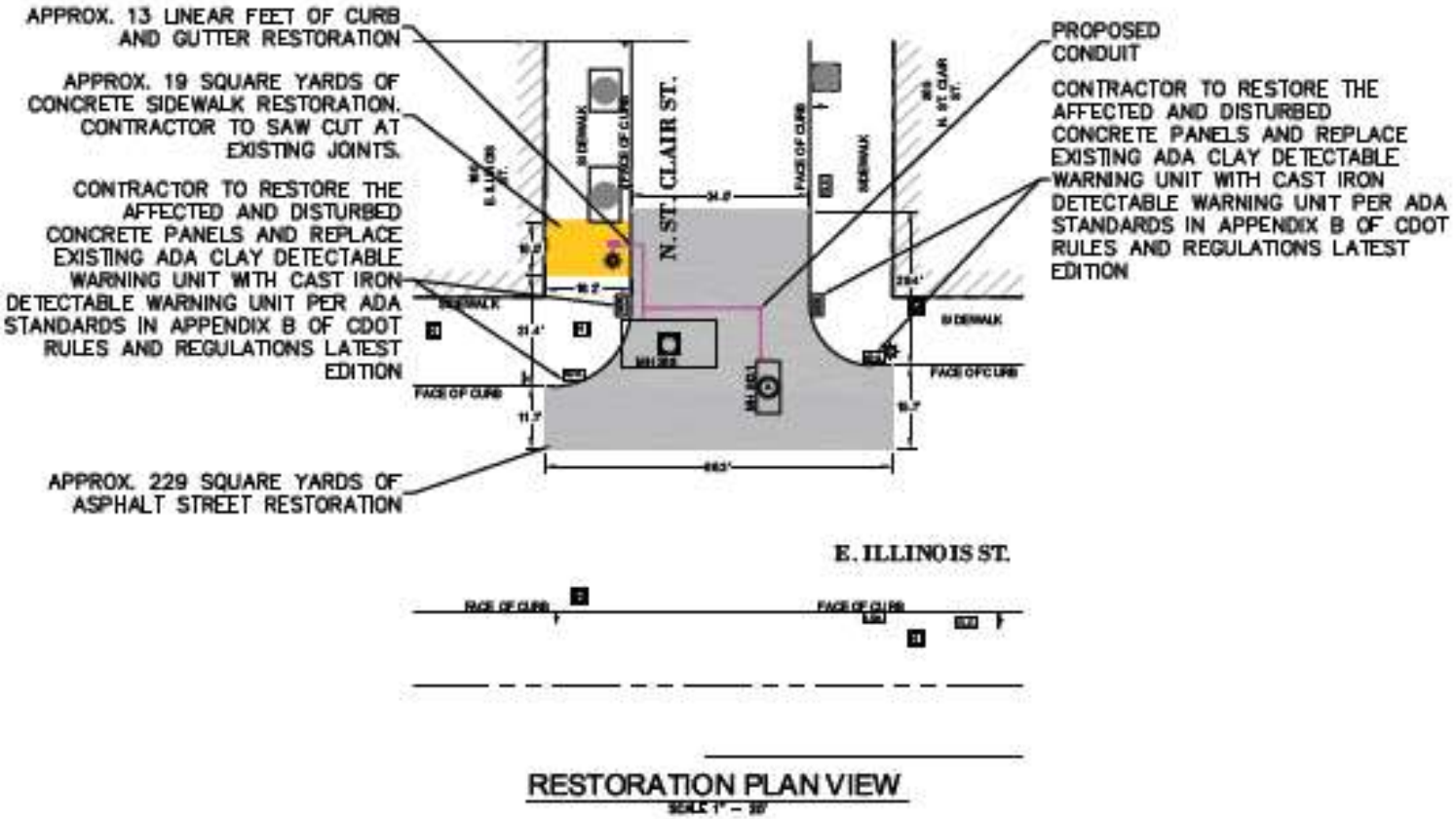


Note: Utility pole excavation added to figure by G. Huber.
Survey was performed by Aaron Morris, RSSI on 6/23/20.
Count rates submitted by Mr. Morris: 1753 cpm below slab, 1478 cpm @ -1.5', 1997 cpm @ -2', 1504 cpm @-3'. GAH 6/27/20

	Area 1	Area 2	Area 3	Area 4
urface	1200	1600	1300	1700
.5'	1700	1500	1600	1500
3'	1600	2000	2400	1900

▨ → Excavated Area

⊕ → Background Location



RESTORATION PLAN VIEW

SCALE 1" = 30'