**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 15, 2021

Paul Chubirka
Mortenson
300 Park Blvd, Suite 100
Itasca, IL 60143

RE: Thorium Monitoring at CTA Navy Pier Bus Terminal – Private Property
May 25, 2021 – May 27, 2021

Dear Mr. Chubirka:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation and installation of irrigation lines and sprinklers at the new CTA Navy Pier Bus Terminal located at the area north of the intersection of Park Drive and E. Grand Avenue in Chicago, Illinois. This report covers monitoring performed by SAHCI from May 25, 2021 – May 27, 2021.

Thorium monitoring was conducted in accordance with the *Environmental Remediation Design Package* (Arcadis Work Plan), dated May 20, 2020.

## Instrumentation

Surface gamma scans were performed using Ludlum Model 2221 Scaler / Ratemeters (serial nos. 126496 and 126497) with attached Ludlum Model 44-10 2”x2” NaI detectors (w/ 6” lead collimator shields).

For instrument serial no. 126496, the U.S. Environmental Protection Agency (USEPA) action level of 7.1 picocuries per gram (pCi/g) total thorium count rate correlation was 6,754 counts per minute (cpm). The average background count rate was measured as 2,117 cpm. This instrument was last calibrated on April 21, 2021.

For instrument serial no. 126497, the USEPA action level of 7.1 pCi/g total thorium count rate correlation was 6,383 cpm. The average background count rate was 2,521 cpm. This instrument was last calibrated on May 5, 2021.

## Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by entering the excavations and recording the highest count rate for the floor and walls to a maximum excavation depth of 12 inches below ground surface for trenching and 18 inches for sprinkler locations. Horizontal boring was used to connect the sprinkler locations.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Forms. The count rates in the excavations ranged from 2,100 cpm to 3,600 cpm. No count rates were found at any time that exceeded the threshold limits of 6,754 cpm and 6,383 cpm.

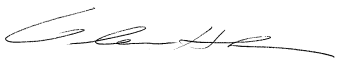
Additional Monitoring

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 Consultants, Inc.

# Radiation Survey Form

Location/ Project ID: NAVY PIER - IRRIGATION LINE INSTALLATION EXCAVATION - RADIOLOGICAL SOIL SURVEY

Date: 5/25/21 Technician: BRIAN SCHMIOT

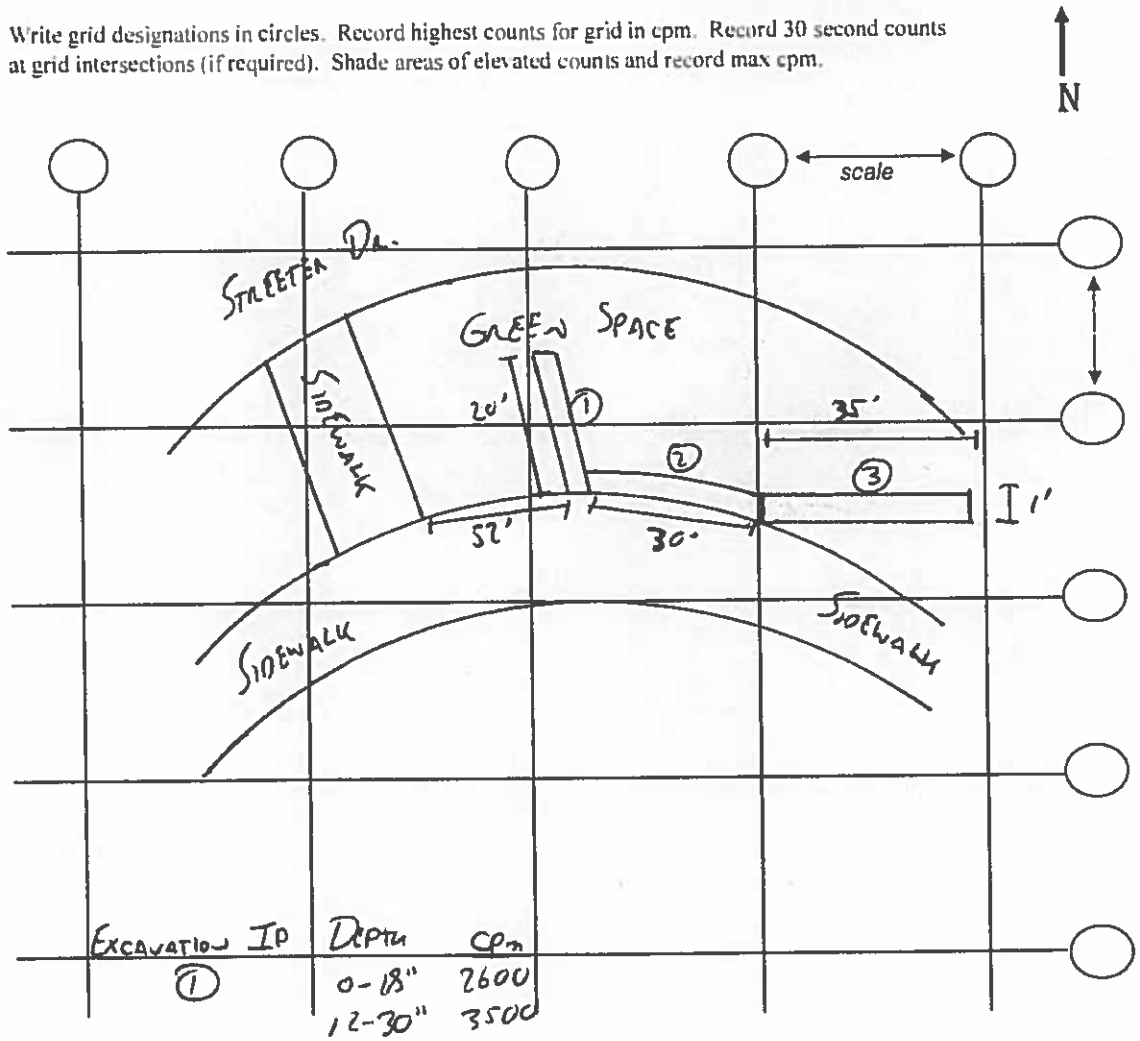
Inst Model: LUDLUM - 2221 Serial No. : 126496

Probe Type: 1"x1" NaI / (2"x2" NaI) Lift Elevation: 0-12"

(Shielded) / Not Shielded

Background 2117 cpm Action Level: 6754 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.




| Excavation ID | Depth | cpm |
|---|---|---|
| ① | 0-18" | 2600 |
| | 12-30" | 3500 |
| ② | 0-18" | 2400 |
| | 12-30" | 3200 |
| ③ | 0-18" | 3100 |
| | 12-30" | 3600 |

sahci
Stan A. Huber Consultants, Inc.

# Radiation Survey Form

**Location/ Project ID:** CTA Navy Pier Project - Mortensen

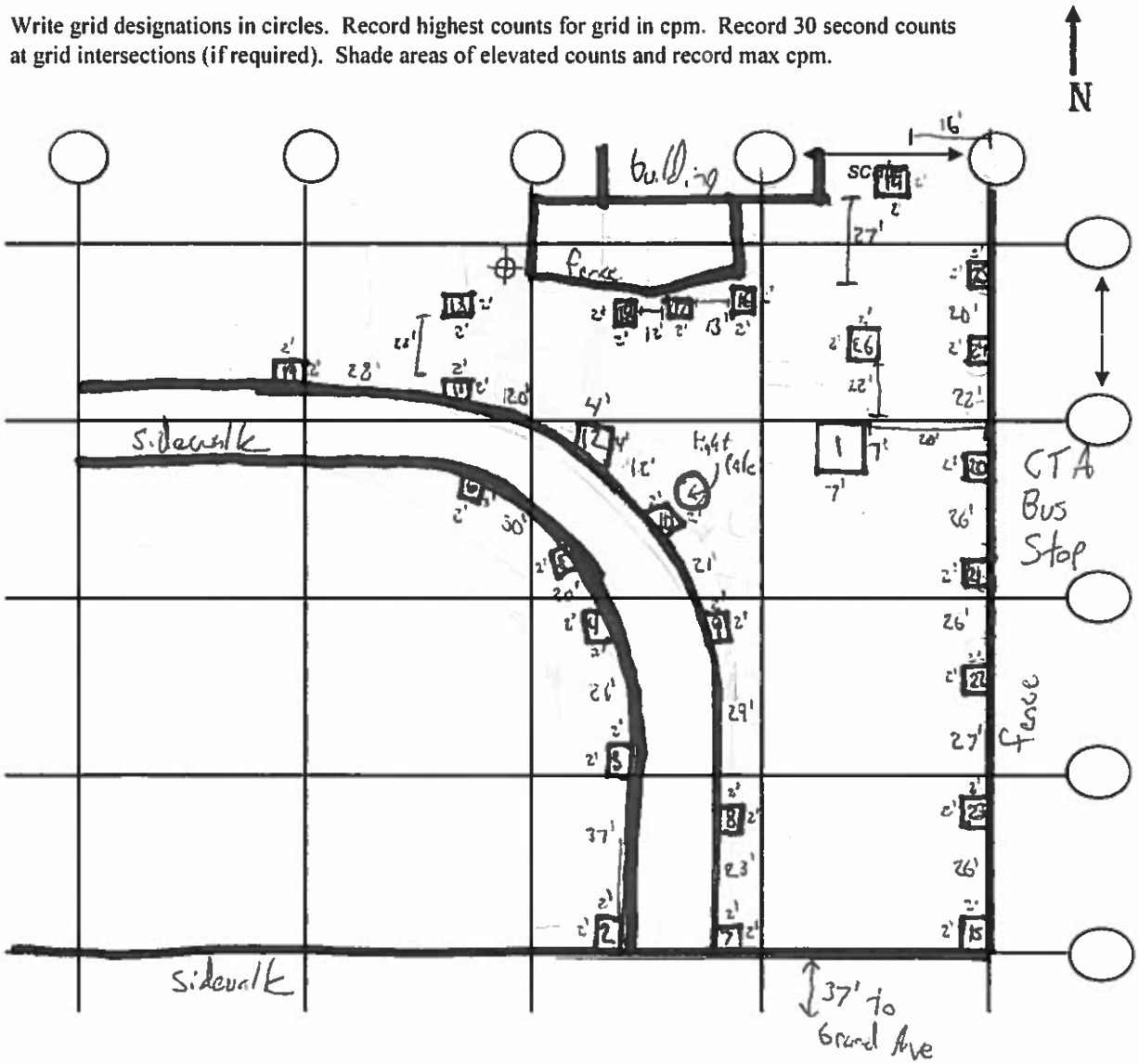
**Date:** 5/26-27/21 **Technician:** Mark Dewald

**Inst Model:** Ludlum 2221 **Serial No. :** 129497

**Probe Type:** 1"x1" NaI **2"x2" NaI** (Shielded / Not Shielded) **Lift Elevation:** Surface to -18" BGS

**Background** 2,521 **cpm** **Action Level:** 6,383 **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.




⊕ = background location

□ = excavated area

# Radiation Survey Form

*Stan A. Huber Consultants, Inc.*

Location: Navy Pier CTA Irrigation
Name: Mark Dewald
Date: 5/26/21 - 5/27/21

Instrument ID: Ludlum Model 2221 Scaler/Ratemeter w/ Model 44-10 NaI Detector (w/ 6" Lead Shield)
7.1 pCi/g CPM: 6,383 CPM (serial no. 126497)

| Depth | 0"-18" (bgs) | 18"-36" (bgs) |
|---|---|---|
| Location ID | Survey Results (counts per minute) | |
| 1 | 2900 | 3600 |
| 2 | 2600 | 3200 |
| 3 | 2600 | 3100 |
| 4 | 2900 | 3300 |
| 5 | 2100 | 2500 |
| 6 | 2400 | 3100 |
| 7 | 2300 | 2600 |
| 8 | 2400 | 2700 |
| 9 | 2500 | 2600 |
| 10 | 2700 | 2800 |
| 11 | 2200 | 2400 |
| 12 | 2800 | 2900 |
| 13 | 2900 | 3600 |
| 14 | 2500 | 3600 |
| 15 | 2400 | 3100 |
| 16 | 2400 | 3000 |
| 17 | 2200 | 2900 |
| 18 | 2300 | 2300 |
| 19 | 2400 | 3300 |
| 20 | 2100 | 2400 |
| 21 | 2600 | 2900 |
| 22 | 2400 | 2800 |
| 23 | 2600 | 2600 |
| 24 | 2100 | 2900 |

| Depth | 0"-18" (bgs) | 18"-36" (bgs) |
|---|---|---|
| Location ID | Survey Results (counts per minute) | |
| 25 | 2400 | 2800 |
| 26 | 2800 | 2700 |