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

October 7, 2016

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: 445 N. State St. Thorium Monitoring – City of Chicago Department of Water Management

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the excavation and repair of a storm sewer catch basin at 445 N. State Street in Chicago, Illinois. The monitoring was performed on October 4, 2016. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring.*

Instrumentation

Surface gamma scans were performed by Glenn Huber using a Ludlum Model 2221 Scaled / Ratemeter (serial no. 134542) with attached 2”x2” NaI probe (unshielded). The instrument was calibrated on August 8, 2016. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 17,276 counts per minute (cpm).

The average background count rate for this location was found to average 5,364 cpm.

Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Survey data was collected by entering the excavation after each 18 inch lift and recording the highest count rate for the floors and walls to an excavation depth of 1.5 feet. All soil was loaded directly into a truck for disposal.

The maximum gamma count rate for each lift was recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 6,300 cpm to 6,800 cpm. No count rates were found at any time that exceeded the threshold limit of 17,276 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.

Regulatory Notification of Survey Completion

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: SET Environmental 445 N. State St. Chicago Dept of Water Mgmt

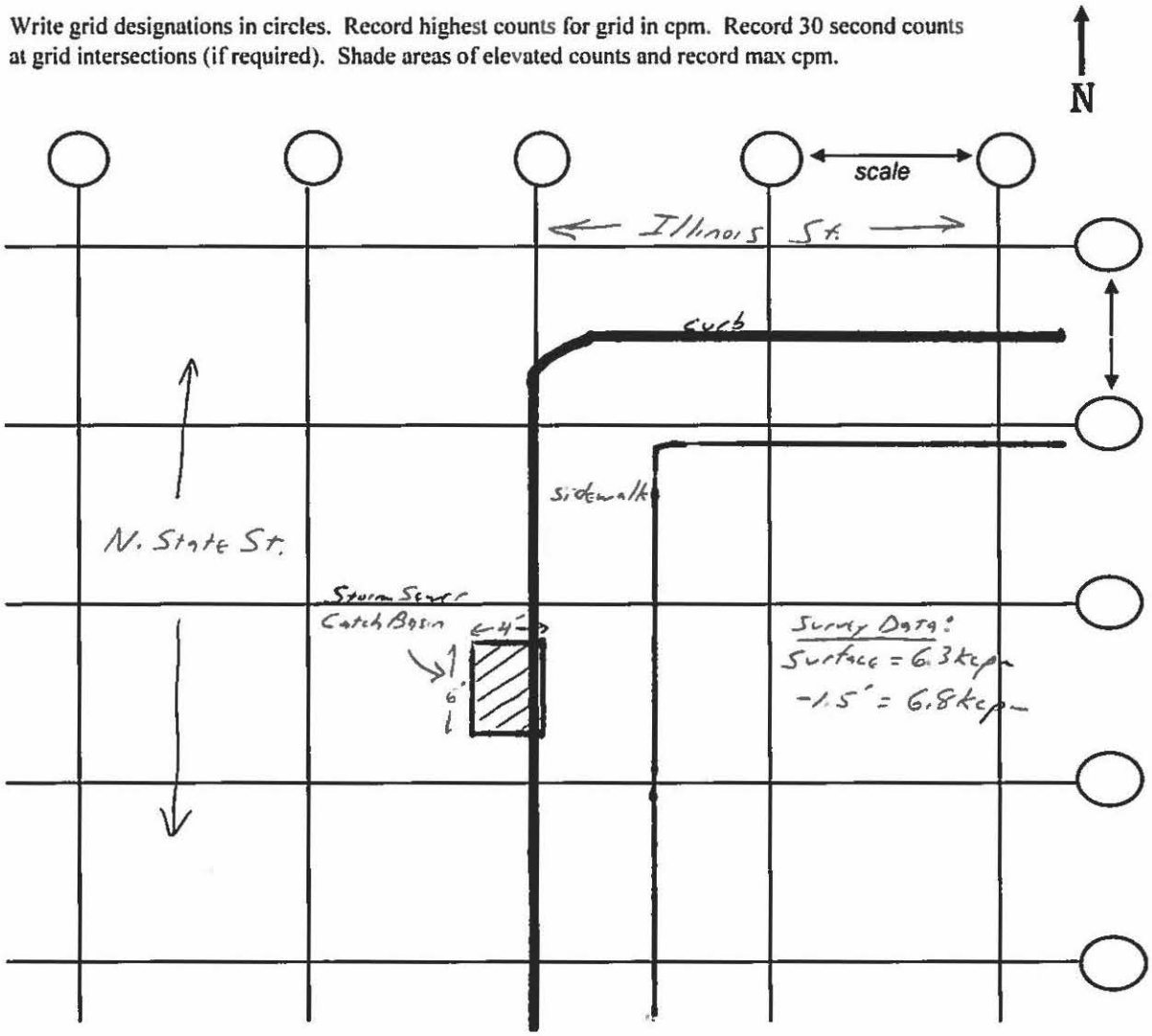
Date: 10/4/16 **Technician:** Glenn Huber

Inst Model: Ludlum 2221 **Serial No. :** 134542

Probe Type: 1"x1" NaI / 2"x2" NaI (circled: 2"x2" NaI) Shielded / Not Shielded (circled: Not Shielded) **Lift Elevation:** Surface → -1.5'

Background 5,364 **cpm** **Action Level:** 17,276 **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.



= Excavated area