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

November 26, 2016

Mike Lanenga
SET Environmental
450 Sumac Road
Wheeling, Illinois 60090

RE: 112-248 and 370-400 E. Lower Wacker Dr. Thorium Monitoring – Chicago Riverwalk Landscaping. CDOT Permits # 728930 and # 728416

Dear Mr. Lanenga:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during the installation of landscaping along the Chicago Riverwalk at 112-248 and 370-400 E. Lower Wacker Drive in Chicago, Illinois. The monitoring was performed by Glenn Huber on November 12, 2016 and Brian Schmidt on November 23, 2016. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring.*

Instrumentation

Surface gamma scans were performed 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).

Additional surface gamma scans were performed using a Ludlum Model 2221 Scaled / Ratemeter (serial no. 126496) with attached 2"x2" NaI probe (w/ 6" lead collimator shield). The instrument was calibrated on October 14, 2016. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 7,029 counts per minute (cpm).

The average background count rate for this location was determined to be 4958 cpm (unshielded). The background count rate varied throughout the survey since it covered such a large area and included several types of surface material.

Soil Gamma Scans

Gamma surface scans were performed on November 12, 2016 using the Ludlum Model 2221 Scaler / Ratemeter (serial no. 134542). Unshielded survey data was collected by scanning all of the areas that were designated for excavation. See attached photographs. Only a small portion of the work involving tree removal and planting was

planned to have excavations greater than 18" below ground surface, so only surface monitoring was performed at this time.

Additional shielded surface gamma scans were performed on November 23, 2016 during the removal and planting of trees using the Ludlum Model 2221 Scaler / Ratemeter (serial no. 126496). Shielded survey data was collected by scanning the planting locations where excavation was greater than 18".

The maximum gamma count rates for each of the eight areas where shallow excavation was planned were recorded on the attached survey log with photographs. The unshielded count rates in these areas ranged from 3,800 cpm to 9,100 cpm. The shielded count rates for areas excavated below 18" ranged from 2,600 cpm – 3,600 cpm No count rates were found at any time that exceeded the threshold limit of 17,276 cpm unshielded or 7,029 cpm shielded.

Additional Monitoring

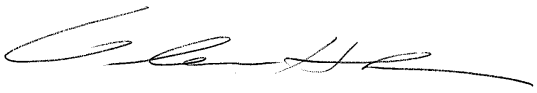
Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

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

SET Environmental – Chicago Riverwalk Thorium Survey

Area #1

20-30 foot of French drain in this area. 18" excavation

11/12/16 Glenn Huber

Surface survey = 4700 cpm – 6400 cpm

SET Environmental – Chicago Riverwalk Thorium Survey

Area #2

Along south side of path we are excavating under 6" and adding screenings and edging from Columbus bridge to lakeshore. Same as is on the north side

11/12/16 Glenn Huber

Surface survey = 3800 cpm – 8600 cpm. Note: elevated readings up to 8600 cpm noted adjacent to stone wall near Columbus Dr. Surface of this wall was found to be 15,900 cpm (NORM). Survey performed entire length from Columbus bridge to LSD.

SET Environmental – Chicago Riverwalk Thorium Survey

Area #3

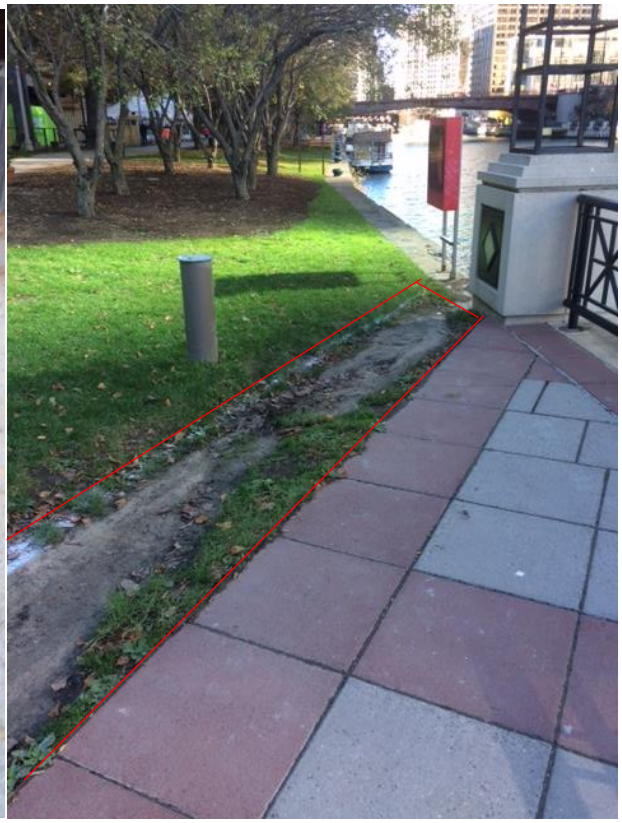
French drain near the flags. That will be deeper than 18". All other areas are painted and will be under 18" of excavation.

11/12/16 Glenn Huber

Surface survey = 4700 cpm – 5800 cpm. Note: French drain, not installed; cobbles only <18" from surface. Area surveyed extends to north beyond photo to the Riverwalk sidewalk.

SET Environmental – Chicago Riverwalk Thorium Survey

Area #4 and #5



Same near this side of fountain path

11/12/16 Glenn Huber

Surface survey = 5900 cpm – 7900 cpm. Note: French drain, not installed; cobbles only <18" from surface. First picture is north side of survey area – second picture is south side of survey areas by river.

SET Environmental – Chicago Riverwalk Thorium Survey

Area #6

2 trees

11/12/16 Glenn Huber

Surface survey = 8300 cpm – 8600 cpm. Note: Trees not yet removed. Surface survey of stump area only.

11/23/16 Brian Schmidt

6” shielded survey = 3200-3600 cpm. This survey performed during tree planting

SET Environmental – Chicago Riverwalk Thorium Survey

Area #7

Third tree

11/12/16 Glenn Huber

Surface survey = 8100 cpm. Note: Trees not yet removed. Surface survey of stump area only.

11/23/16 Brian Schmidt

6” shielded survey = 2900 cpm. This survey performed during tree planting

SET Environmental – Chicago Riverwalk Thorium Survey

Area #8

Stump going just below grade

11/12/16 Glenn Huber

Surface survey = 9100 cpm. Note: Trees not yet removed. Surface survey of stump area only.

11/23/16 Brian Schmidt

6" shielded survey = 2600 cpm. This survey performed during tree removal.