



FACT SHEET

JUNE 2009

Former Island Trees High School Rifle Range
59 Straight Lane
Levittown, NY 11756

Remedy Proposed for the Island Trees High School Pipe Tunnel Area

Informational Sessions, Comment Period Announced

The New York State Department of Environmental Conservation (“NYSDEC”), working cooperatively with the New York State Department of Health (“NYSDOH”) and the Nassau County Department of Health (“NCDH”), is soliciting public comments on a proposed remedy designed to address residual lead contamination in the pipe tunnel area of the Island Trees High School. A final remedy will not be selected until after careful consideration of all public comments on the proposed remedy that are received during a 45 day public comment period that starts on June 22, 2009 and ends on August 6, 2009.

Measures are in place to prevent students, staff and other members of the community from contacting lead contaminated soils in the High School. Access to these areas is restricted by two locked doors, with the keys held by two different individuals. Additionally, the pipe tunnel and branch tunnel soils are covered with double-layered polyethylene sheeting and the soils in the access rooms are restricted by plywood barriers over the entryways. The two locked doors, plastic sheeting and plywood barriers prevent exposures by minimizing the generation and migration of dusts, and preventing direct contact with lead-contaminated soils. See the attached Figure 1 for the configuration of the restricted access basement area.

The Proposed Remedy: The proposed remedy focuses on encapsulation of the entire pipe and branch tunnels and portions of the access spaces with concrete to cover areas of residual lead contamination. A geotextile fabric will be placed over all of the access spaces as a dust mitigation measure for any possible future entry to these areas. A deed restriction and annual inspection of the encapsulated areas will be required. If, at some point in the future, the property is no longer used as a school, the lead-impacted soils would have to be addressed at that time. This remedial proposal is described in the Remedial Alternatives Report (“RAR”), dated May 20, 2009, that was prepared by consultants to the School District (“District”). The RAR evaluates different remedial alternatives, of which encapsulation is the alternative recommended by the District’s consultants. The NYSDEC, NYSDOH and NCDH have reviewed the RAR and concur with the consultants’ recommendation over the other alternatives presented in the report. Copies of the RAR are available for your review at the document repositories identified on page 5 of this Fact Sheet.

Your Opportunities to Comment on the Proposed Remedy: Your comments and input on the proposed remedy are important and encouraged. Your comments will be considered before a final remedy is selected. Your comments on the RAR are welcome at the **two public availability sessions** and during a **45 day public comment period** (see sidebar). Written comments may also be mailed and received by August 6, 2009 to:

Ms. Katy Murphy
NYSDEC, Division of Solid and Hazardous Materials
50 Circle Road, Stony Brook, NY 11790-3409

Public Availability Sessions

**Thursday,
July 9, 2009**

2:00 p.m. to 5:00 p.m.

and

7:00 p.m. to 10:00 p.m.

**Gymnasium of the
Michael F. Stokes
Elementary School
101 Owl Place
Levittown, NY
(516) 520-2103**

The NYSDEC, NYSDOH and NCDH will be available to discuss the proposed remedy for the Island High School Pipe Tunnel Area at two public availability sessions. Agency staff will be able to:

- explain the proposed remedy;
- answer your questions about the remedy; and
- receive your written comments about the proposal.

PUBLIC COMMENT PERIOD

From: June 22, 2009

To: August 6, 2009

Site History

An indoor rifle range was operated at the Island Trees High School from 1957 until at least the 1980's. A decision was made to close the range in June of 1994. In the summer of 1999, the top five-inches of sand was removed from the former rifle range, and placed on the floor of an adjacent pipe tunnel. In June of 2000, renovation of the rifle range began to convert it to the existing Art Complex.

Environmental Investigations

Sand sampling was performed on July 14, 2004 in the pipe tunnel and branch tunnel. Figure 1 shows the configuration of the pipe tunnel area. The concentrations of lead in the samples ranged from 210 to 175,478 milligrams per kilogram (mg/kg). The lead cleanup objective that has been used at this site is 400 mg/kg.

In February 2006, 95 additional soil samples were collected to define the extent of the soil contamination in the entire pipe tunnel area (Figure 1). In April 2006, the District entered into a Order on Consent with the NYSDEC, requiring the development and implementation of a soil removal work plan.

In August 2006, approximately 76 tons of lead contaminated soils were removed from the tunnel area. Remediated areas are shown in light grey on Figure 1. A vacuum truck was employed to remove the contaminated soils into special vactainers. The air effluent from the vacuum truck was filtered with a filter capable of removing very small sized particles from the air stream to prevent fugitive dust emissions. Samples of soil collected in the tunnel areas after these removal activities showed concentrations below the 400 mg/kg soil cleanup objective for total lead.

During the soil removal, indoor and outdoor dust monitoring was conducted under a Community Air Monitoring Plan (CAMP) and other measures were implemented to ensure that no dust migrated to adjacent areas. Wipe sampling was conducted after the soil removal to confirm that adjacent areas had not been impacted. Roof ducts over this area of the building were cleaned after the soil removal as a precaution.

In March 2008, the United States Environmental Protection Agency (EPA) with input from NYSDEC, NCDH, and NYSDOH conducted additional sampling of dust on surfaces throughout the High School. Most of the samples were focused on surfaces elsewhere in the school which contained large accumulations of dusts indicating they had not been cleaned for extended periods of time. Elevated lead levels were detected at various locations throughout the school where historic dusts had accumulated. It is not atypical to find elevated levels of lead in any area with years of dust accumulation, because lead is present throughout the environment. A thorough cleaning of the school was performed in the summer of 2008, as recommended by the EPA.

As a further precaution, the District had the High School's air ventilation system completely cleaned. The cleaning of the HVAC system was completed in early October 2008. Test results of the ventilation system taken after the cleaning was completed were within acceptable levels.

In the summer of 2008, the District's consultants collected composite soil samples throughout the basement. Several of these samples were collected in the pipe tunnel area that had been previously remediated. All of the soil samples collected outside of the pipe tunnel area contained concentrations below the 400 mg/kg cleanup objective for lead. Two composite samples from the main pipe tunnel and Access Rooms 1 and 3, which are within a restricted access basement area, contained elevated levels of lead. The composite sample from the first 85 feet of the main pipe tunnel and Access Space 1 detected 1,412 mg/kg of lead. Six additional composite samples were collected by the District's consultants to

further evaluate this result. Of these six samples, one from the first 45 feet of the main pipe tunnel detected 21,207 mg/kg lead and another from 45 feet to 85 feet of the main pipe tunnel detected 1,529 mg/kg of lead. Four composite samples from Access Space 1 were within the cleanup objective.

To further evaluate the residual lead levels in the first 85 feet of the main pipe tunnel, 12 additional discrete or grab soil samples were collected by the NYSDEC, NCDH and consultants for the District on August 20, 2008. Visual observations indicated the presence of some brass bullet casings. Three metal shards were observed that may have been fragments of lead slugs. The consultants for the District and the NCDH collected split samples from each of the 12 sampling locations. Five of the 12 NCDH samples detected lead above the 400 mg/kg cleanup objective: 3,330 mg/kg, 874 mg/kg, 673 mg/kg, 541 mg/kg, and 422 mg/kg of lead. The results from the samples collected by the District's consultants also showed elevated levels of lead in some of the samples. There were considerable differences in the sampling results from both sets of samples.

The NYSDEC has concluded that the residual lead that is present in the first 85 feet of the main pipe tunnel is not uniformly distributed in the sand. Although most of the lead contamination in the main pipe area was remediated by the 2006 soil removal, there are pockets of lead contamination in this portion of the pipe tunnel that will require supplemental remedial measures.

Remedial Alternatives Report

In May 2009, consultants selected by the District prepared a Remedial Alternative Report (RAR). Soil samples were collected at 176 locations from six earthen floor access rooms off the main and branch pipe tunnels to further delineate the areas that require remediation. Eleven of those sampling locations exceeded the 400 mg/kg cleanup objective for lead. This new data plus the existing data were used to define the areas requiring remediation (Figure 2).

After a preliminary evaluation of alternatives in the RAR, the following options were selected for detailed evaluation: Alternative 1 - No further action; Alternative 2 - Capping and Alternative 3 - Excavation. The no further action alternative was evaluated for comparison purposes only. The RAR evaluated each alternative according to seven evaluation criteria. Remedial Alternative #2 - Capping was recommended as the preferred remedial alternative.

Preferred Remedy

If selected, the Capping Alternative will entail the installation of a concrete cap that will cover the soil in the entire main pipe tunnel, the branch tunnels, and portions of the access rooms. All areas of concern that are illustrated in Figure 2 and depicted with hatched lines will be capped with concrete. All existing polyethylene sheeting that is currently covering both the main and branch tunnels will be carefully removed in order to allow the placement of pea gravel and/or concrete aggregate into existing depressions to level these areas before installation of the concrete cap. For this portion of the cap, the concrete will be poured into forms that include a welded-wire frame for improved structural capacity.

For the hatched areas in the access rooms (Figure 2) that are proposed for capping with concrete, a spray-applied concrete coating (e.g., shotcrete/gunite) would be used due to significant slopes in portions of the areas proposed for capping. This process entails pneumatically pumping a high-strength, durable concrete mix that will be applied over a steel wire mesh.

Following the concrete capping of portions of the dirt floor in the access rooms, all of the access rooms would be then covered with a geotextile fabric to eliminate the generation of silica related dusts during the infrequent use of these areas by maintenance staff. The remedial work would be done under appropriate dust preventative measures and air monitoring. The District would continue to restrict access to the

remediated pipe tunnel area. A deed restriction with annual inspections and certifications would be required.

The primary advantages of this alternative over the excavation alternative are:

- The potential for dust migration to nearby areas would be much lower than under the excavation alternative.
- The remedy offers a cost-effective method, which has lower capital cost than the excavation alternative.
- There are greater possibilities of budget and schedule overruns with the excavation alternative.
- It would take significantly less time to implement this alternative, thereby minimizing disruption to school activities.

The primary disadvantage of the preferred remedy is that the residual lead contamination under the cap will have to be addressed in the future after the useful life of the school is over.

The remedy is protective of public health and offers a durable remedy that will protect the public from potential exposures to the residual soil contamination during the remaining useful life of the school.

Health Issues

As stated earlier, measures are in place to prevent student, staff and community members from contacting lead contaminated soils in the High School. Access to these areas is restricted by two locked doors. In addition, the pipe tunnel and branch tunnel soils are covered with double-layered polyethylene sheeting and the soils in the access rooms are restricted by plywood barriers over the entryways. The plastic sheeting and plywood barriers prevent exposures by minimizing the generation and migration of dusts, and prevent direct contact with lead-contaminated soils. Therefore, based on the data collected and the measures already in place to prevent contact, normal activities can be conducted in the student accessible areas of the basement without concern for contact with the lead contaminated soils.

The preferred remedy of encapsulation will create a permanent barrier that eliminates contact with contaminated soils. In the access rooms, the additional cover of a geotextile membrane will provide a barrier to dust generation from soils that are not contaminated. This remedy also minimizes the amount of dust generation in the short-term during the remedial work. A Community Air Monitoring Plan will be employed for any remedial work that could result in dust generation.

Citizen Participation

This Fact Sheet is intended to provide a brief summary of the available information on the pipe tunnel area, to solicit public comments on the proposed remedy, to notify the public of two public availability sessions, and to identify the locations of the public document repositories where the public will find the RAR. The appendices of the RAR contain a copy of the prior reports and work plans that are discussed earlier in this Fact Sheet. You can send your written comments on the proposed remedy by mail to Ms. Murphy to the address listed on the bottom of page 1.

Two public availability sessions have been scheduled for the public to speak directly with members of the project review team from NYSDEC, NYSDOH, and NCDH and representatives from the District. Public availability sessions are intended to provide an opportunity for community members to speak one-on-one with program personnel to discuss concerns regarding the site. See the sidebar on page 1 for details. Various displays and hand-outs will be available.

Next Steps

After consideration of public comments, a final remedy will be selected. At that juncture, a Remedial Work Plan (RWP), which will include a Health and Safety Plan (HASP) for site workers and a Community Air Monitoring Plan (CAMP) to monitor for potential dust migration to nearby areas, will be prepared. A remedial contractor will then be selected to implement the RWP. The actual remediation is planned during the summer recess in 2010. Unfortunately, there is not enough time to complete the above process during the summer of 2009. The remediation and associated work plan development will be done under the oversight of NYSDEC, NYSDOH, and NCDH. The existing restrictions and safety measures for the pipe tunnel area will continue during the 2009/2010 school year to prevent potential exposures to the residual lead contamination.

Document Repositories: To review the complete RAR see the District's website:
<http://www.islandtrees.org/pdfs/rar.pdf> or review the RAR in person at:

Island Trees High School
Main Office
59 Straight Lane
Levittown, NY
Phone: (516) 520-2136
Hours: Mon. - Fri. 8:00 a.m. to 3 p.m.

Island Trees Public Library
38 Farnedge Road
Levittown, NY 11756
Phone: (516) 731-2211
Hours: Mon. - Fri. 9:30 a.m. to 9:00 p.m.
Sat. 9:30 a.m. to 5:00 p.m.

NYSDEC Region One
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Phone: (631) 444-0235
Hours: Mon. - Fri. 8:30 a.m. to 4:45 p.m.

For More Information: Call or write the following agency staff for more information about:

Technical Information:

Ms. Katy Murphy
NYSDEC Region One
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Phone: (631) 444-0235
E-mail: khmurphy@gw.dec.state.ny.us

or

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SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Phone: (631) 444-0244
E-mail: rrstewar@gw.dec.state.ny.us

Health Related Information:

Ms. Sharon McLelland
NYSDOH
Flanigan Square
547 River Street
Troy, NY 12180-2216
Phone: (800) 458-1158 ext. 27880
E-mail: spm03@health.state.ny.us

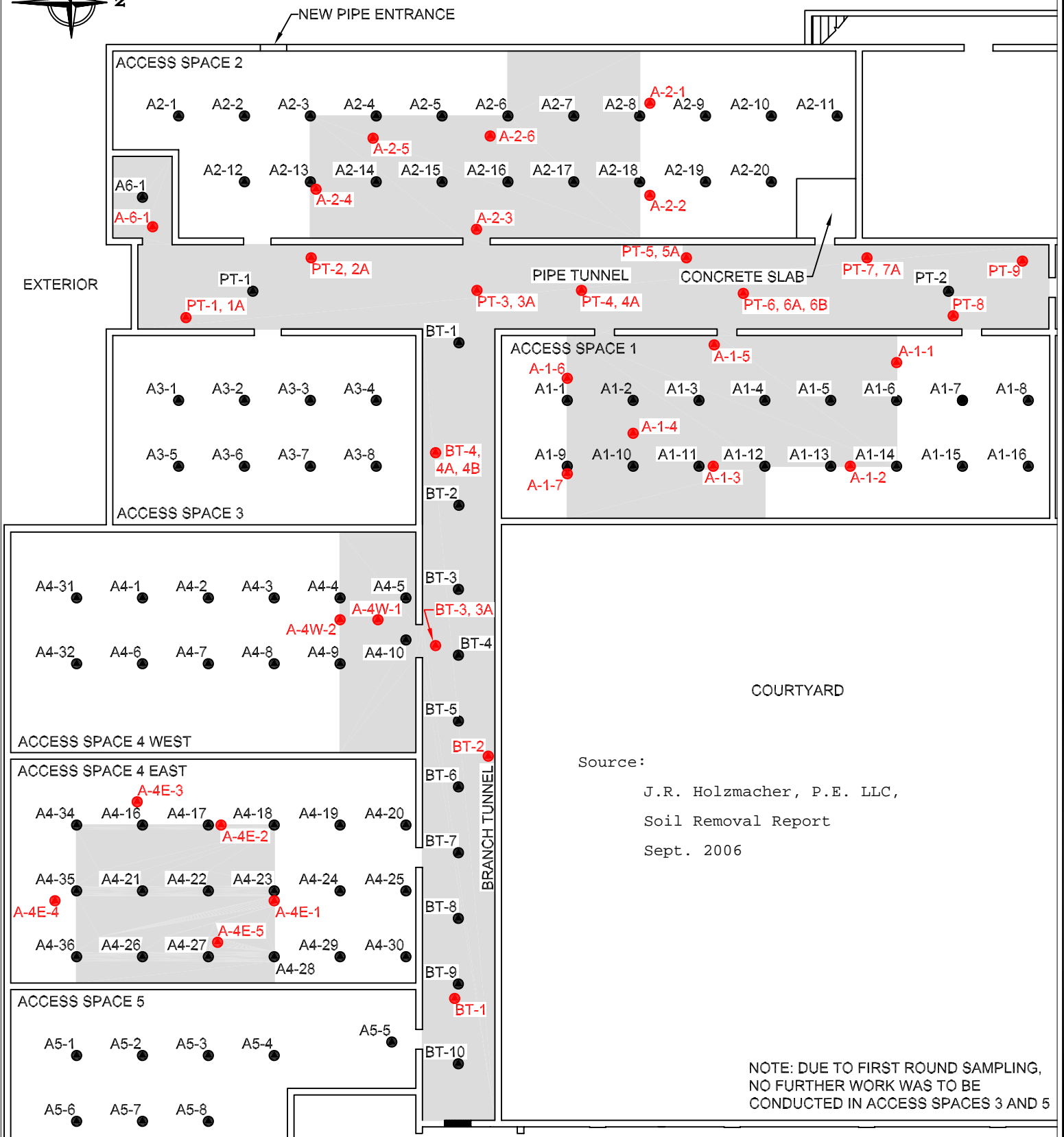
Citizen Participation:

Mr. Bill Fonda
NYSDEC Region One
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Phone: (631) 444-0350



EXTERIOR

Figure 1



LEGEND

- ENDPOINT SAMPLING LOCATION
- PREVIOUS SOIL SAMPLING LOCATION
- REMEDIATED AREA/SOIL REMOVAL AREA

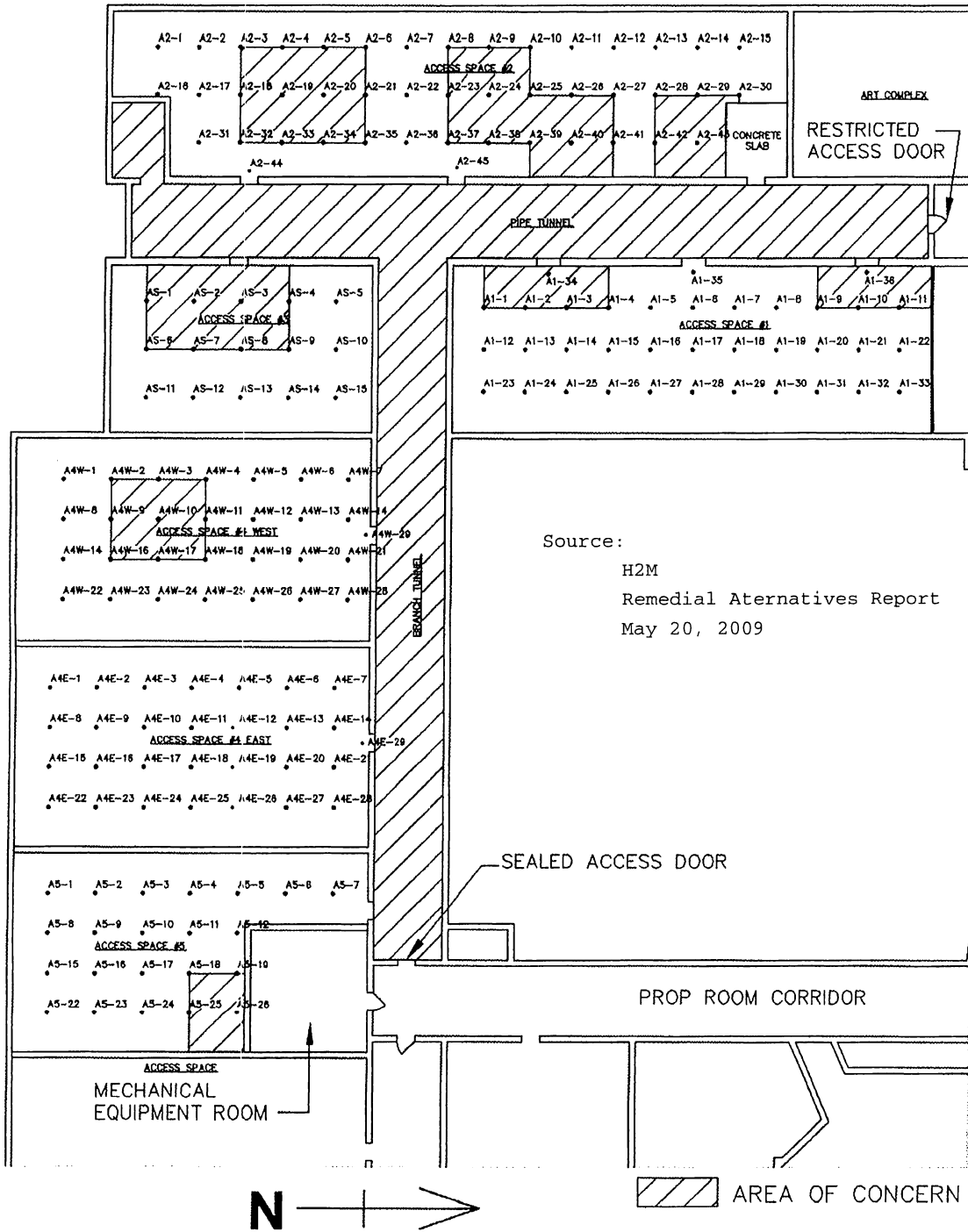
SOURCE: BASEMENT PLAN AREA "A" (SHEET E-2), FOSTER & CAFARELLI CONSULTING ENGINEERS, JUNE 14, 1957.

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TITLE:
LOCATIONS OF ENDPOINT SOIL SAMPLING
ISLAND TREES UFSD
ISLAND TREES, NEW YORK

DWN: APK	SCALE: 1" = 20'	DATE: 08/22/06	PROJECT NO.: ISLAN 05-01
CHKD: JMD	APPD: JRH	REV.: -	NOTES: -
FIGURE NO.:			4

Figure 2



AREA OF CONCERN FOR REMEDIAL ALTERNATIVE EVALUATION

ISLAND TREES HIGH SCHOOL
PARTIAL BASEMENT PLAN
LEVITTOWN, NY



ENGINEERS · ARCHITECTS · PLANNERS · SCIENTISTS · SURVEYORS
MELVILLE, N.Y. PARSIPPANY, N.J.