SYOSSET CENTRAL SCHOOL DISTRICT

South Grove Elementary School & Annex

Subsurface Investigation
Vapor Intrusion, Soil, and Groundwater
Summer, 2018

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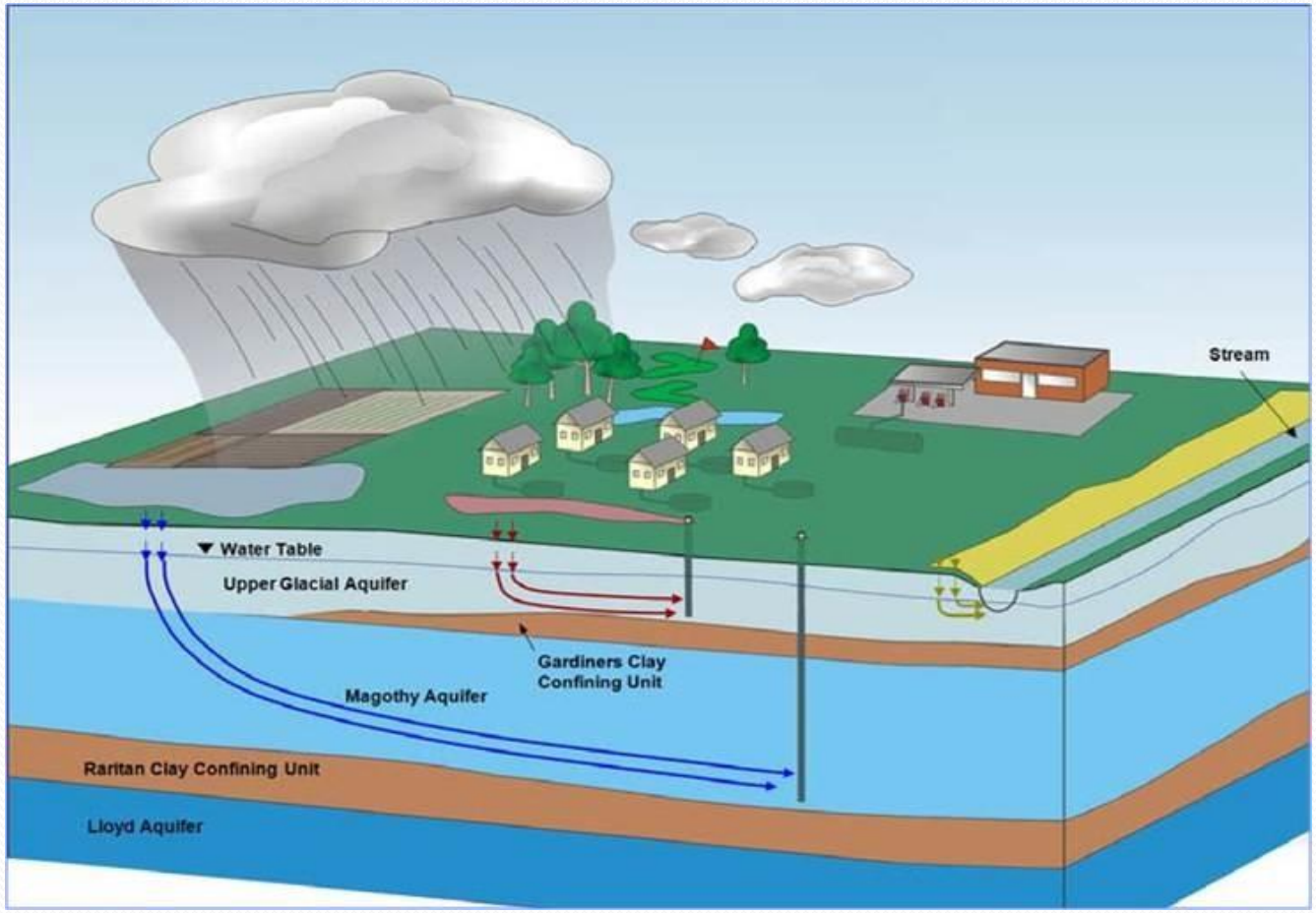
Board of Education Meeting: August 28, 2018

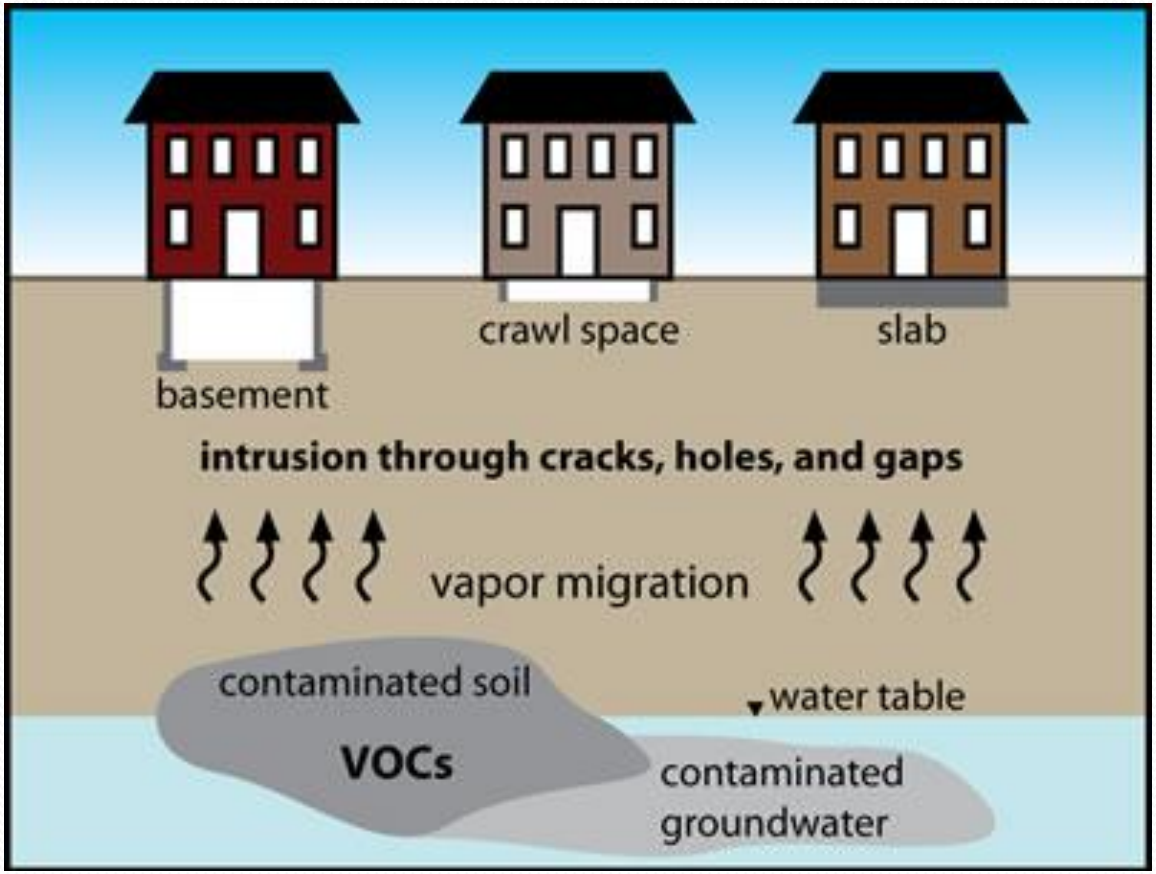
Subsurface Investigation

- Volatile Vapor Intrusion Sampling
- Soil Sampling
- Groundwater Sampling

Long Island Groundwater



Volatile Vapor Intrusion (VVI)

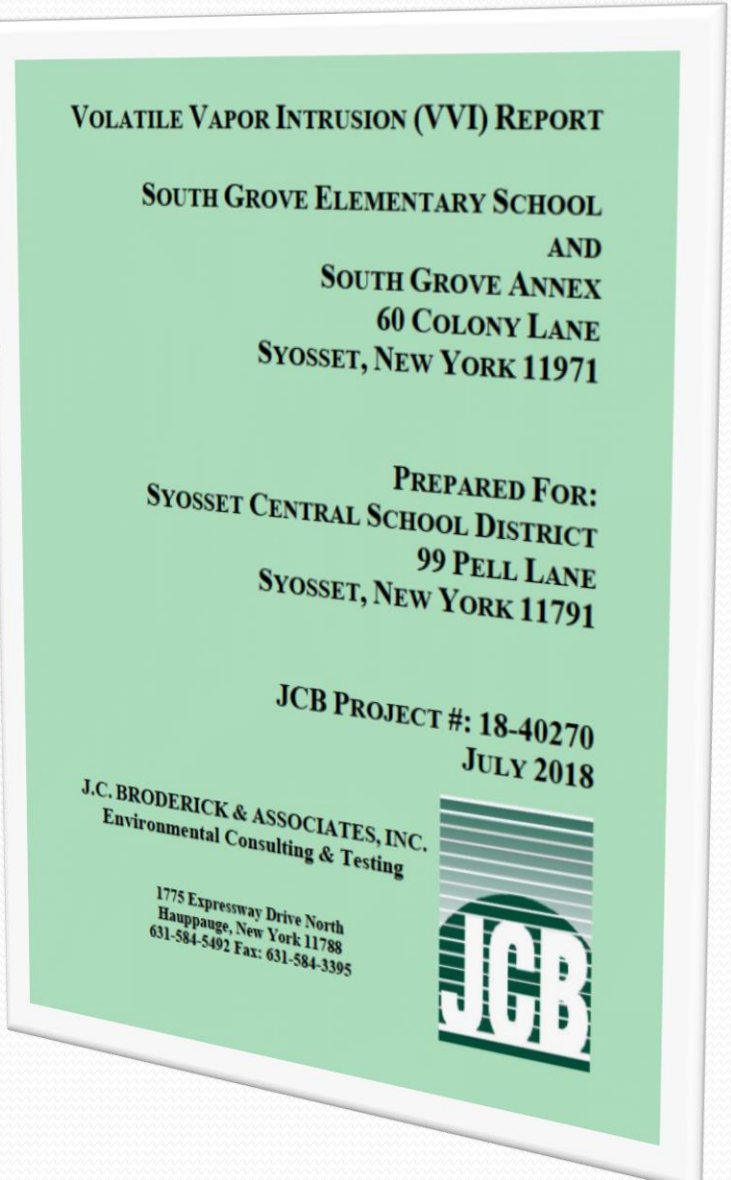


The NYSDOH defines VVI as the process by which volatile chemicals migrate from a subsurface source into the indoor air of buildings. Soil vapor, also referred to as soil gas, is the air found in the pore spaces between soil particles.

Vapor Intrusion Investigation

In June, 2018 JCB conducted a VVI Investigation of the South Grove Elementary School and Annex.

The investigation consisted of collecting 4 sub-slab, 2 crawlspace, 4 hallway and 2 outdoor samples.



VOLATILE VAPOR INTRUSION (VVI) REPORT

SOUTH GROVE ELEMENTARY SCHOOL
AND
SOUTH GROVE ANNEX
60 COLONY LANE
SYOSSET, NEW YORK 11971

PREPARED FOR:
SYOSSET CENTRAL SCHOOL DISTRICT
99 PELL LANE
SYOSSET, NEW YORK 11791

JCB PROJECT #: 18-40270
JULY 2018

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Environmental Consulting & Testing

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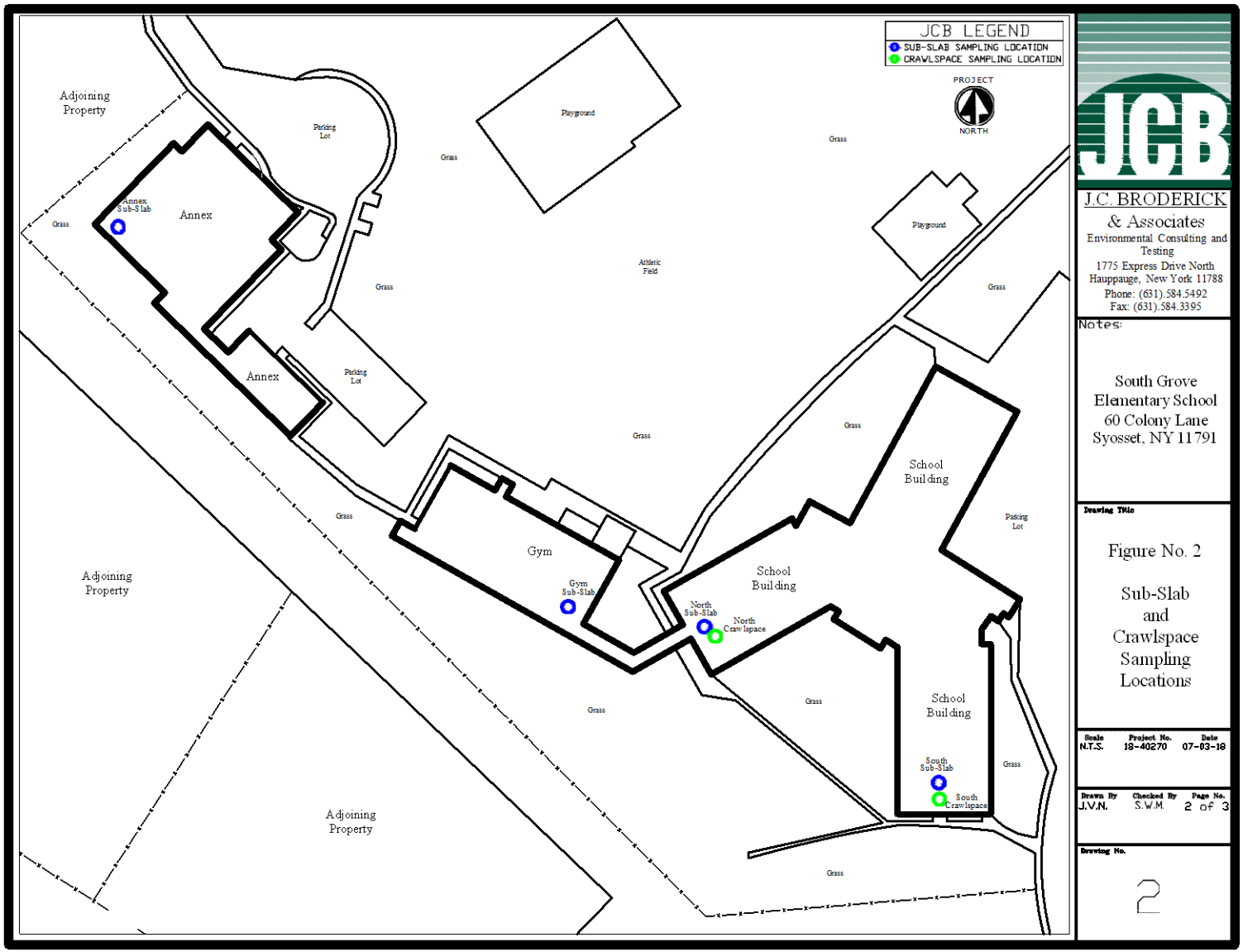
Hauppauge, New York 11788
631-584-5492 Fax: 631-584-3395

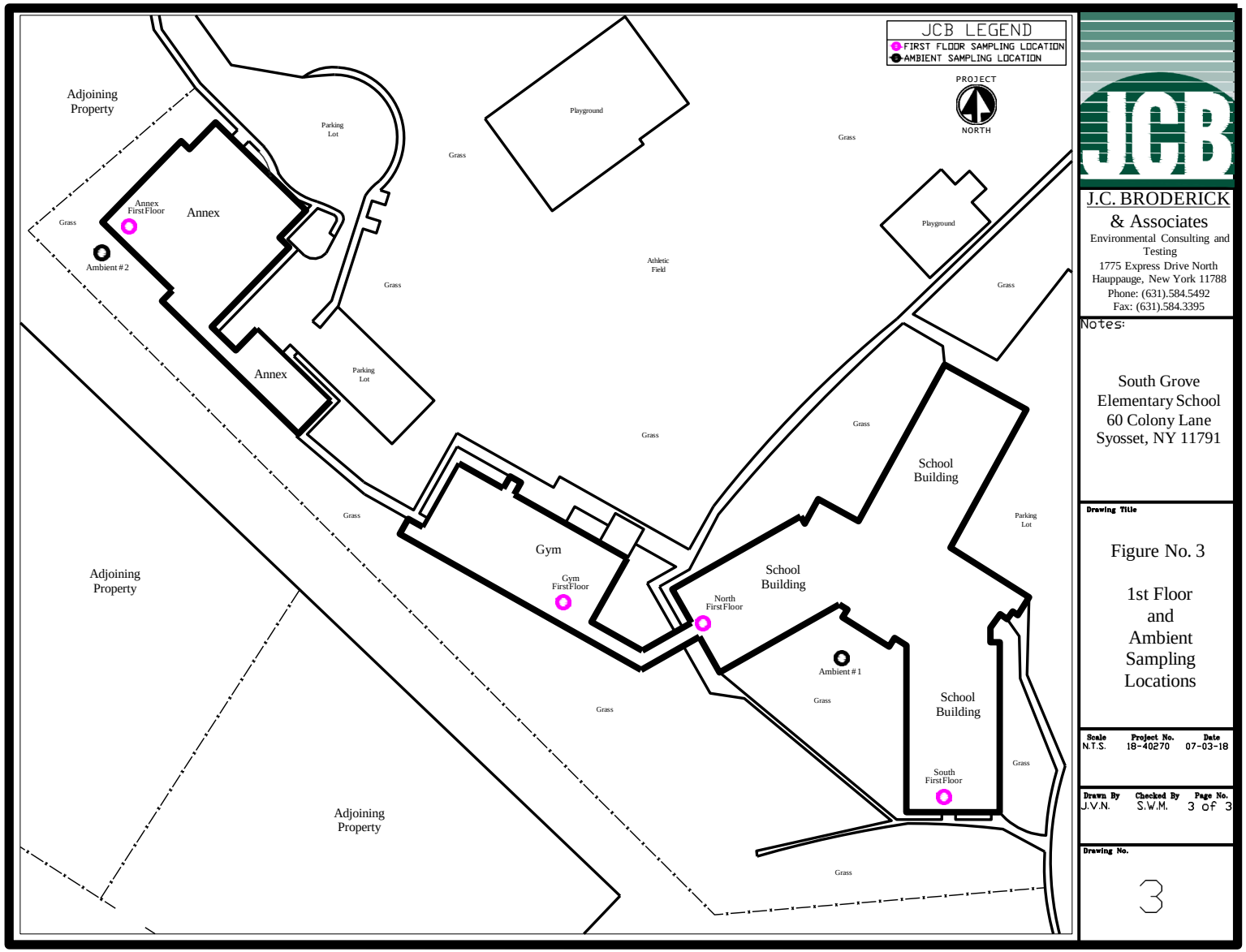
JCB

VVI Investigation

VVI Investigation



VVI Investigation



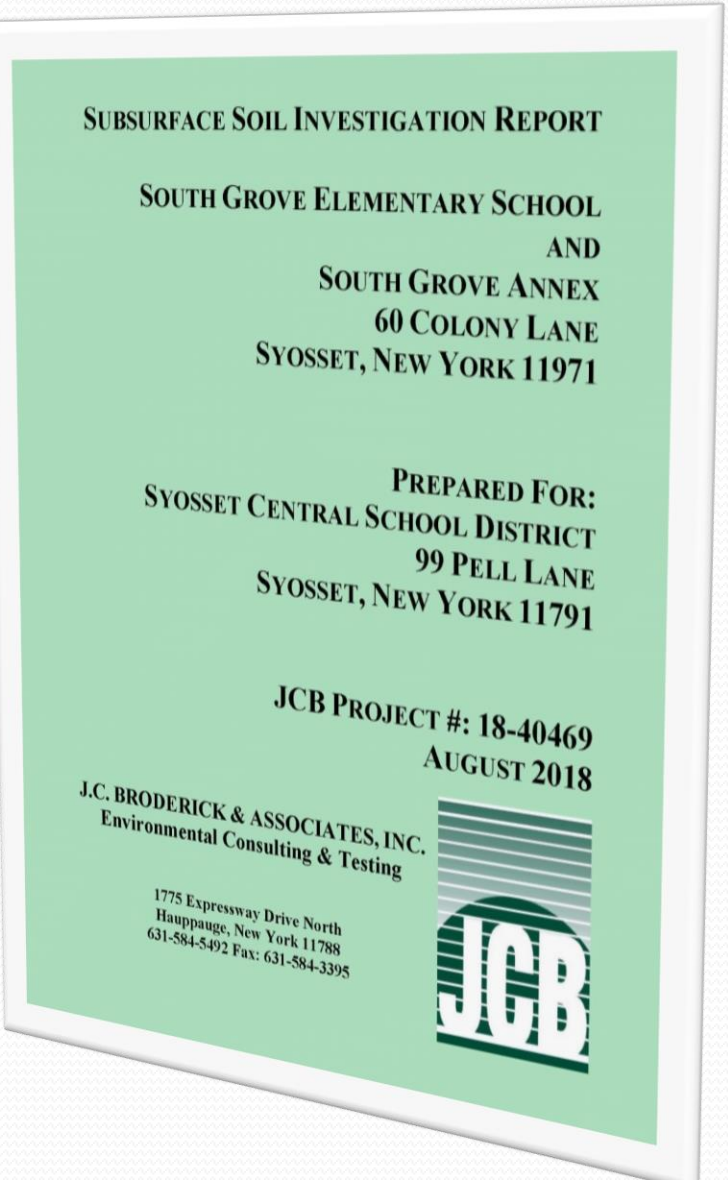
VVI Investigation Results

- All detectable concentrations observed were reported well below published occupational health guidelines.
- All detectable concentrations observed in the occupied spaces of the school buildings were below the NYSDOH Background Values.
- No hazardous condition or immediate health concern was identified associated with VVI.

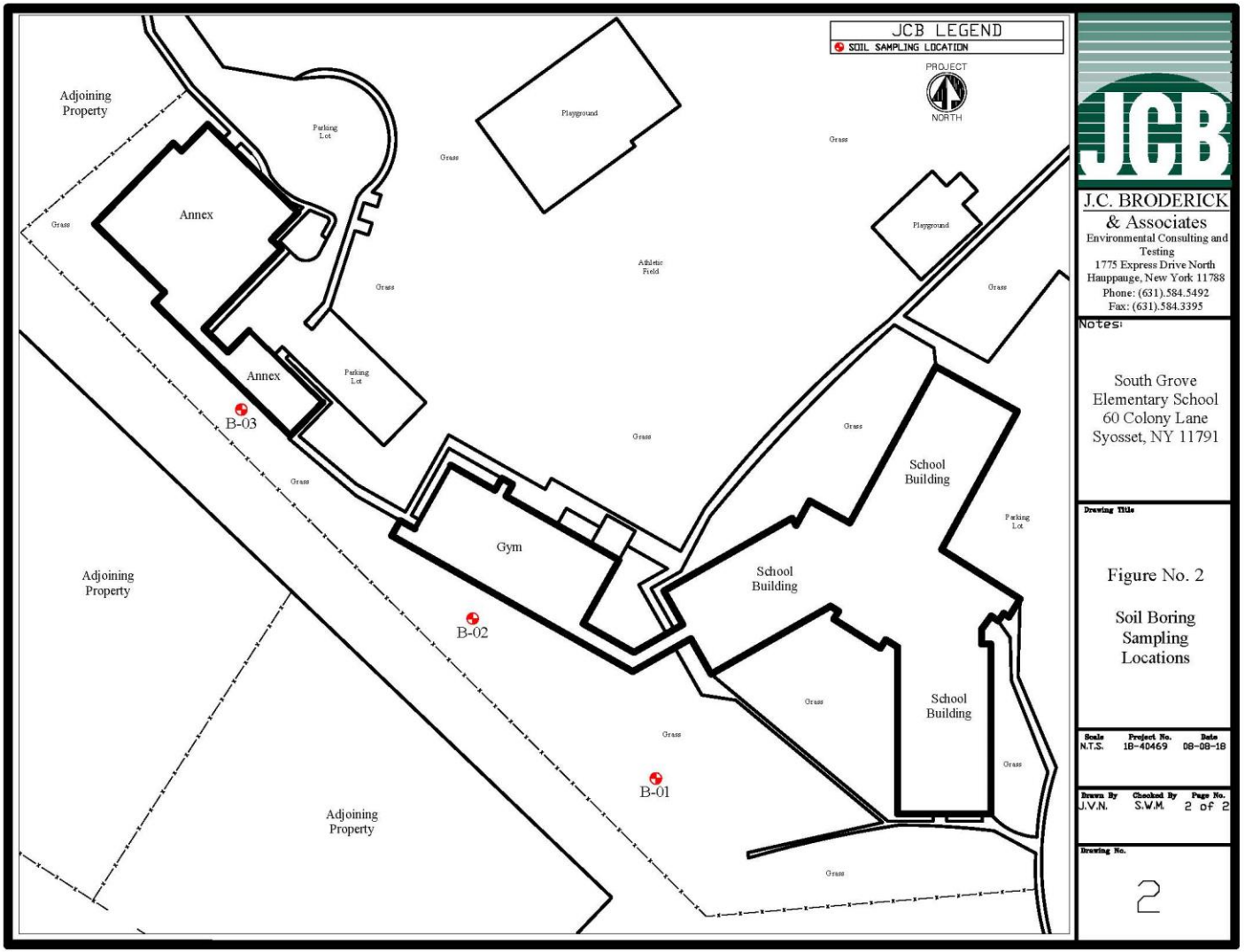
Subsurface Soil Investigation

In July, 2018 JCB conducted a Subsurface Soil Investigation at the South Grove Elementary School and Annex.

The investigation consisted of collecting 3 shallow and 3 deep soil samples.



Subsurface Soil Investigation



Subsurface Soil Investigation

- Direct Push Soil Sample collection on July 3, 2018.

Subsurface Soil Investigation Results

- A clay layer was identified approximately 85 feet deep
- The laboratory analysis results for the soil samples submitted from B-01, B-02, and B-03 did not indicate any detectable concentrations of VOCs or SVOCs exceeding the NYSDEC Part 375 for the Protection of Groundwater or Unrestricted Use Soil Cleanup Objectives.
- No further action with regards to the soil at the subject site is warranted at this time.

Groundwater Investigation

In August 2018, groundwater monitoring wells were installed on the property.

The investigation consisted of the installation of 3 groundwater monitoring wells, so the aquifer can be sampled at future intervals.

Preliminary Groundwater Results

After the installation of the first of three monitoring wells, a grab sample of the groundwater was collected and analyzed.

- The local groundwater table is greater then 100 feet below the surface.
- No volatile organic compounds (VOCs) were detected above the NYSDEC groundwater standards in this sample.

Preliminary Groundwater Results

- A small group of semi-volatile organic compounds (SVOCs) were detected above the NYSDEC groundwater standards in this sample.
- These compounds known as PAHs are most commonly formed by the incomplete combustion of natural (forest fires) or man-made sources (coal, wood burning, automobile exhaust) and are ubiquitous in the environment.
- No other SVOCs were detected above the NYSDEC groundwater standards in this sample.

Preliminary Groundwater Results

- Since these SVOCs are dissolved in groundwater that is over 100 feet below the surface and confined by an identified silty clay layer, there is no exposure pathway by VVI; therefore the buildings and grounds are safe. The only available pathway is exposure to the groundwater from pumping which the district does not do.

- Drinking and irrigation water is provided by the Jericho Water Authority from deeper aquifers
  - The water is required to be regularly and thoroughly tested before entering the distribution system.
- Once the 3 groundwater monitoring wells are completed and sufficiently developed, a round of groundwater samples will be collected, and a comprehensive groundwater investigation report will be prepared.

Subsurface Investigation Summary

- Volatile Vapor Intrusion Sampling
  - No hazardous condition or immediate health concern was identified associated with VVI.
- Soil Sampling
  - No further action with regards to the soil at the subject site is warranted at this time.
- Groundwater Sampling
  - Although the buildings and grounds are safe, some SVOCs were detected in the aquifer over 100 ft below surface.
  - There is no exposure pathway for these contaminants, as they cannot migrate upward nor penetrate the layer of clay.
  - Therefore the only way to be exposed to these chemicals is to pump the groundwater which the District does not do.