

# Letter Health Consultation

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**Evaluation of Exposure Pathways Related to the 2009 Environmental Management Plan**

**SOUTHSIDE HIGH SCHOOL  
ELMIRA, CHEMUNG COUNTY, NEW YORK**

**EPA FACILITY ID: NYD987025921**

**Prepared by  
State of New York Department of Health**

**MARCH 4, 2010**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Agency for Toxic Substances and Disease Registry  
Division of Health Assessment and Consultation  
Atlanta, Georgia 30333**

## **Health Consultation: A Note of Explanation**

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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LETTER HEALTH CONSULTATION

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# STATE OF NEW YORK DEPARTMENT OF HEALTH

Flanigan Square 547 River Street Troy, New York 12180-2216

Richard F. Daines, M.D.  
Commissioner

James W. Clyne, Jr.  
Executive Deputy Commissioner

March 2, 2010

Mr. Gregory V. Ulirsch, Ph.D.  
Division of Health Assessment and Consultation  
Agency for Toxic Substances and Disease Registry  
4770 Buford Highway MS (F-58)  
Atlanta, GA 30341

RE: Health Consultation Follow-up Actions  
Environmental Management Plan  
NYS DOH Project #808015N  
Southside High School  
Elmira (C), Chemung Co.

Dear Mr. Ulirsch:

I am writing to inform you that the Elmira City School District has developed an environmental management plan for the above-referenced property. The management plan was prepared in response to recommendations made by this Department and the Agency for Toxic Substances and Disease Registry (ATSDR) in the *Health Consultation for Southside High School* (September 2003), which was written under our cooperative agreement with your agency. As discussed in the health consultation, subsurface soils, groundwater and soil vapor at the property are contaminated with chlorinated solvents, polychlorinated biphenyls, metals, and petroleum-related compounds. Per the request of the New York State Education Department, the New York State Departments of Health and Environmental Conservation reviewed and provided comments on drafts of the plan to ensure that the actions presented in the final document would be protective of human health and the environment.

I have enclosed an overview of the key elements of the plan and how these elements address the exposure concerns identified in the health consultation. If you have any questions or wish to discuss the plan further, please call me at 518-402-7860.

Sincerely,

Krista M. Anders, Ph.D.  
Public Health Specialist  
Bureau of Environmental Exposure Investigation

Enclosure

ec: A. Salame-Alfie / G. Litwin / D. Miles / G. Laccetti / FILE  
B. Putzig / T. Schneider — NYSDEC, Region 8  
C. Thurnau — NYSED  
L. Graziano — ATSDR, NY  
T. Kump — Chemung County Health Department

## INTRODUCTION

The Elmira City School District prepared an *Environmental Management Plan* (Sterling 2009) for the Southside High School in Elmira, Chemung County, New York. The plan is intended to ensure that contamination in subsurface soils, groundwater and soil vapor at the property are properly managed — especially when ground-intrusive activities are conducted — to minimize human exposures. It is also intended to follow the recommendations on minimizing exposures to subsurface soils and developing media-specific management plans that were provided by the New York State Department of Health (NYS DOH) and the Agency for Toxic Substances and Disease Registry (ATSDR) in the *Health Consultation for Southside High School* (ATSDR 2003).

## DISCUSSION

### *PUBLIC HEALTH ISSUES*

Results of environmental sampling previously completed at the property indicate subsurface soils, groundwater and soil vapor at the property are contaminated with chlorinated solvents, polychlorinated biphenyls, metals, and petroleum-related compounds (ATSDR 2003). The results also indicated that people are not coming into contact with the contaminants because of the following:

- ◆ contaminated soil is below the ground's surface and cover systems (vegetated soil, paving and building foundations);
- ◆ groundwater is not used for drinking water or other purposes at the school; and
- ◆ the building's heating, ventilating, and air-conditioning system is operated in a manner intended to ensure that contaminants beneath the building are not drawn into the school and affecting the indoor air quality (i.e., it is operated in a positive pressure mode).

People may be exposed to the subsurface contamination during ground-intrusive activities due to the following:

- ◆ the potential release and off-site migration of volatile contaminants and contaminated dust in outdoor air;
- ◆ the potential for direct contact with contaminated groundwater; and
- ◆ the direct deposition of subsurface soil on the ground's surface.

People may also be exposed to the following:

- ◆ subsurface soil contamination if existing cover systems are not maintained or are removed, and
- ◆ volatile contaminants in soil vapor if these contaminants are drawn into the school and affect the indoor air quality via soil vapor intrusion.

### *PUBLIC HEALTH ACTIONS*

This section describes how these potential exposures are addressed in the environmental management plan (i.e., the general actions that will be taken by the school district to address the potential for exposures).

- ◆ The potential release and off-site migration of volatile contaminants and contaminated dust in outdoor air:

The environmental management plan includes a Community Air Monitoring Plan. This plan provides for real-time monitoring of volatile organic compounds and particulates (i.e., dust) at the downwind perimeter of each designated work area when ground-intrusive activities

are in progress at the property. The Community Air Monitoring Plan is intended to provide a measure of protection for the downwind community (including the school community, residences, businesses, and workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of ground-intrusive work activities. The action levels specified in the Community Air Monitoring Plan require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Special provisions are also provided if the ground-intrusive work is being completed within 20 feet of potentially exposed populations or occupied structures.

◆ The potential for direct contact with contaminated groundwater:

The environmental management plan includes a Groundwater Management Plan. The Groundwater Management Plan discusses the personal protective equipment to be worn by workers involved with managing groundwater in excavations and the procedures to be followed for the proper management of the groundwater itself.

◆ The deposition of subsurface soil on the ground's surface:

Per a recommendation provided by the NYS DOH and ATSDR in the health consultation, the environmental management plan includes a Soils Management Plan. This plan states that "all excavated soil, regardless of condition, must be placed on polyethylene sheeting and covered with sheeting to reduce precipitation, infiltration and dust migration." The Soils Management Plan also presents the procedures to be followed for the proper characterization of excavated soils to determine whether it can be reused as a soil cover system, as fill material below a cover system, or disposed at a permitted facility.

◆ The potential for direct contact with contaminated soil due to the deterioration or removal of the existing cover systems:

Guidelines for the repair or replacement of the cover systems during future ground-intrusive work breaching the cover systems are summarized in the Soils Management Plan. Protocols are also in place to maintain the function of the cover systems, to repair any deficiencies, to inspect the integrity of the systems on a routine basis, and to ensure maintenance activities are implemented. These protocols are provided in the Operations, Monitoring and Maintenance Plan of the environmental management plan.

◆ The potential for exposures related to soil vapor intrusion:

Per recommendations provided by the NYS DOH and ATSDR in the health consultation, the environmental management plan includes an Indoor Air Quality Action Plan. The Indoor Air Quality Action Plan describes the mitigation actions currently being implemented, initial sampling that will be completed to verify the effectiveness of these actions, differential pressure monitoring program that will be used to monitor the operation of the heating, ventilating, and air-conditioning system, and additional actions they will implement in new buildings or additions constructed on the property. Details on the inspection, operation and maintenance of the mitigation measures to verify their continued effectiveness are provided in the Operations, Monitoring and Maintenance Plan.

## CONCLUSIONS

The Elmira City School District developed a comprehensive environmental management plan that follows the recommendations provided by the NYS DOH and ATSDR in the health consultation. The NYS DOH concludes that the chlorinated solvents, polychlorinated biphenyls, metals, and petroleum-related compounds in subsurface soils, groundwater and soil vapor will not harm people's health if the actions specified in the environmental management plan are implemented.

#### NEXT STEPS

In December 2009, the school district collected air samples from within and beneath the school in accordance with the Indoor Air Quality Action Plan. The samples were collected to verify that mitigation actions currently being implemented at the school are continuing to be effective. These actions are intended to ensure that contaminants beneath the school are not drawn into the building and affecting the indoor air quality. The NYS DOH and ATSDR are in the process of evaluating the results and providing recommendations in letter health consultation to the New York State Education Department.

The school district has been implementing the environmental management plan as they construct a Science Addition to the high school. They are installing a vapor barrier and sub-slab depressurization system in the addition to address the potential for exposures related to soil vapor intrusion. They will also be operating the heating, ventilating and air-conditioning system for the Science Addition in a positive-pressure mode. These mitigation measures are discussed in the Indoor Air Quality Action Plan. Once the systems are installed and operational, the school district will implement an operations, maintenance and monitoring plan in accordance with the procedures provided in the Operations, Monitoring and Maintenance Plan of the environmental management plan.

#### REFERENCES

ATSDR (Agency for Toxic Substance and Disease Registry). 2003. *Health Consultation for Southside High School, Elmira, Chemung County, New York*. U.S. September 30, 2003. Prepared by the New York State Department of Health under a cooperative agreement with the Agency for Toxic Substance and Disease Registry.

Sterling Environmental Engineering, P.C. 2009. *Elmira City School District, Southside High School, Elmira, New York: Environmental Management Plan*. June 19, 2009. Prepared for the Elmira City School District.

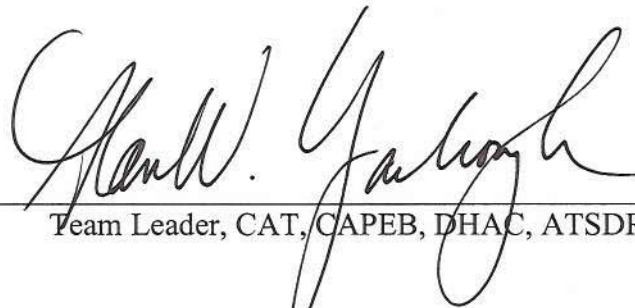
## CERTIFICATION

The letter health consultation for the Southside High School—Review of Environmental Management Plan was prepared by the New York State Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was initiated. Editorial review was completed by the cooperative agreement partner.

  
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Technical Project Officer, CAT, CAPEB, DHAC

The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this health consultation, and concurs with its findings.

  
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Team Leader, CAT, CAPEB, DHAC, ATSDR