

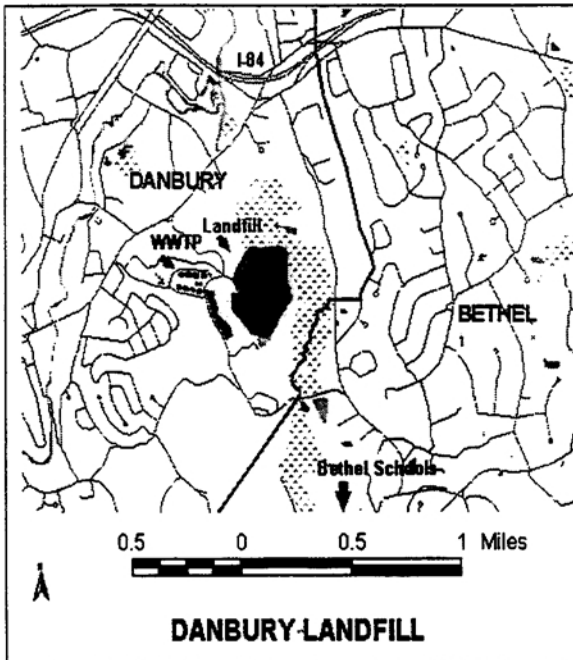


# Danbury Landfill Update



February 1997

A Joint Newsletter of the CT Departments of Public Health and Environmental Protection, the Danbury and Bethel Health Departments and the Bethel Citizens Coalition. The articles represent the perspective of the contributing organizations.



## *Introduction from the Bethel Health Department*

*Laura Vasile, Bethel Health Director  
Charles Steck, Bethel 1st Selectman*

Since approximately August 1996, the Town of Bethel has been grappling with a serious odor problem originating from the Danbury landfill. The Bethel areas which appear to be affected the most are Shelter Rock, Payne Road, Castle Hill, Meckauer Circle, Brookview Court, Chimney Heights and the school complex. Some days the odor permeates an even larger portion of the town.

We have received hundreds of calls about the situation.

This newsletter has been produced to provide you with information concerning the on-going investigation and activities to eliminate the odor. It is a product of a collective effort involving the Department of Public Health (DPH), the Department of Environmental Protection (DEP), Danbury, Bethel and the newly formed Bethel citizen's coalition. This first issue includes an overview of recent developments and responds to the major health and environmental issues raised by residents.

Bethel Health Department has taken a pro-active stance and has actively sought the participation of the Commissioner of the DEP, the Commissioner of Health, Governor Rowland, our Congressmen, State Representatives and the residents of the Town of Bethel to help resolve the odor problem.

The DEP is charged with the regulatory authority under the State of Connecticut general statutes to regulate landfills for air quality and solid waste issues. The DPH is responsible to assist with public health issues related to the odor. This odor problem is not an environmental health problem directly under the control of either the Bethel Health Department or the Board of Selectmen for the Town of Bethel. Our role has been to coordinate activities with the city of Danbury and the various state agencies to bring this matter to an end. Both municipalities are obviously interested in a solution to this odor problem.

Due to concern for their children's health at home and at school, residents requested a public meeting be held to address the odor. The first public information meeting was held at Bethel High School on December 12, 1996. Residents spoke of short term ill health effects they were experiencing when the odor was present in their homes and on their property. They also voiced concerns about the odor in the school buildings, and asked specific questions of state environmental and health specialists and Danbury officials.

On December 17, 1997, the DEP and DPH came to a Bethel Citizen's meeting at the Bethel Municipal Center to address issues raised by Bethel and Danbury residents at the first public informational meeting. At that time, DEP technical specialists from the Water, Waste and Air Bureaus each took time to set forth a strategy to address residents requests. Groundwater sampling was requested to assure there was no contamination of the water within the vicinity of the landfill. Four wells have been tested and results are pending. Residents took a tour of the Danbury sewage treatment plant and Danbury has offered this to any other interested groups. The DEP has requested that Danbury speed up the process for installation of the gas recovery system at the landfill and requested installation of a temporary system to begin burning off the odor. This system should be in place by April 15, 1997. The DEP committed to conducting representative air sampling data of the odor as it exists in the community. Random samples will be conducted on private properties, in several homes and at the Bethel school complex. Air data is being made available to the public as it becomes available.

Bethel Health Department has been maintaining an odor registry since August, 1996. Many area residents still complain of itchy, watery eyes, scratchy throats, runny noses, headaches, stomach aches and an increase in asthma episodes, inhaler use,

sinusitis, ecetera. We are advising everyone with medical concerns to see their primary physician. The primary physician can refer you to a specialists in environmental medicine for further evaluation if necessary.

A third meeting was held on January 29, 1997 at the Bethel Municipal Center to discuss placement of a cap over the landfill and provide an update on the air monitoring sampling strategy. We encourage your active participation in future meetings. If you would like to participate and more actively monitor the odor resolution process we encourage you to contact the Bethel Citizen's Coalition.

### ***Update from the Department of Environmental Protection (DEP)***

#### **Background Information**

In 1993 the DEP informed Danbury officials that the landfill would require closure in accordance with Federal regulations. A consent order with the City of Danbury issued prior to the odor problem (12/19/95) required the following items:

- ◆ Stop receipt of waste by 12/31/96;
- ◆ Submit design of gas recovery system by 12/19/96;
- ◆ Complete the final cover and vegetation by 7/31/97; and
- ◆ Complete wetland mitigation and compensation actions by 10/1/97.

#### **Closure Plan Requirements**

- Requires the City of Danbury to cover the landfill with 18" of cover soil.
- Cover landfill with a synthetic cap over the top 9 and 1/2 acres.
- Cover the entire landfill with an additional six inches of top soil and seeded.
- Install a gas recovery system.

#### **Odor Controls**

During November 1996 DEP requested the City of Danbury to expedite the covering of the landfill with 12" of cover soil and to

install a temporary gas recovery system before completion of final cover. This system will be operational by April, 1997.

Also during November, the City of Danbury began applying soil onto the landfill to mitigate odors at a rate of 1,000 cubic yards per day. As of January 26, 1997 approximately 77,500 cubic yards of final intermediate cover has been applied to the landfill by the City of Danbury.

In December 1996, DEP approved a request by the City of Danbury to apply lime to the landfill in an attempt to control odors.

On December 19, 1996, DEP received from the City of Danbury plans for the installation of the temporary and permanent gas recovery system. These plans were reviewed on Jan. 3rd with Danbury officials.

At a Jan. 30th meeting Danbury officials submitted a preliminary schedule which will result in eleven gas collection wells and a temporary flare operational by April 30, 1997. The permanent flare which will incorporate a scrubber system to remove sulfur will be operational by August 1, 1997. The DEP is drafting a Consent Order which will incorporate the above schedule and other interim dates regarding installation of the gas recovery system.

On February 3, 1997, the DEP issued an "Authorization for Disruption" which authorizes the City to perform the final grading of the landfill in preparation for the installation of the gas recovery system and flare, and the final landfill capping.

#### **Water Sampling Activities**

On Jan. 30, 1997, staff from the DEP and the Bethel Health Director conducted sampling of four homes, one of which is supplied by a system that services multiple homes. Target analytes are volatile organic compounds, metals and leachate parameters. Samples were split between the State Health

Department Lab and a private lab selected by Bethel Citizens Coalition. DEP will review the analysis with the Bethel Health Director.

#### **Groundwater Monitoring Wells Adjacent to the Landfill**

Groundwater wells are monitored on a quarterly basis by a Danbury consulting firm. At the request of the Bethel Citizens Coalition, during the next sampling event by Danbury's consultants, DEP will conduct split sampling analysis on selected groundwater monitoring wells at the landfill.

#### **Leachate Collection System**

Leachate is rainwater which passes thru the landfill and reaches groundwater if not collected. DEP has reviewed design of the leachate collection system and provided comments to the City of Danbury. DEP is awaiting response to those comments. The City has been made aware of the general permit process requirements.

#### **Sewage Treatment Plant Tour**

On December 20, 1996 the DEP conducted a two hour Danbury Sewage Treatment Plant tour with representatives from the Bethel Citizens Coalition, EPA Officials, Sewage Treatment Operators, Danbury Officials, and the Bethel Health Director. The tour consisted of a review of the sewage treatment plant operations including sludge process, odor controls, and computerization of the plant processes.

The Danbury Plant utilizes enclosed digesters to process sludge. Gases produced by this process are destroyed prior to being released to the air. Under certain weather conditions a water vapor cloud can be formed by the trickling filters. This cloud has not been identified as a source of odor.

#### **Air Sampling Activities**

DEP has been conducting field surveys using its recently acquired hydrogen sulfide

sampling equipment. Initial efforts included determining the operational capabilities of the equipment and establishing sampling procedures.

The equipment has been utilized to provide round-the-clock, multi-day sampling of the air at a private residence near the landfill in Bethel. This sampling included a period with strong odors. Results to date have shown that levels are below the World Health Organization community air guideline, but above nuisance odor levels.

The hydrogen sulfide sampling program will be continued and expanded by DEP in coordination with the Bethel Citizens Coalition. Various locations and conditions will be sampled on a 24 hour, multi-day basis to provide information to the state Health Department for their evaluation. In addition, DEP is preparing to conduct sampling for other volatile compounds which may be in the landfill gas.

### ***Dept of Public Health Activities***

The CT Department of Public Health, Division of Environmental Epidemiology and Occupational Health (EEOH) first became involved with the Danbury Landfill last fall at the request of the Danbury and Bethel Health Departments. Local health departments are the primary vehicle for resolving community odor or health complaints. The state health department becomes involved when additional expertise, information or general support are needed. We at EEOH recognize the problem the landfill has become for the community, especially for Bethel residents living nearest to the landfill and for the Bethel schools. The complaints received by the Bethel Health Director make it obvious that the odor is having an impact on the quality of life in these neighborhoods. **Hydrogen sulfide is the major odorant gas released at the landfill.**

One of the first efforts undertaken by EEOH was to map the complaints received by the Bethel Health Director. This information has been useful in focusing air monitoring now underway by DEP. EEOH has reviewed the air monitoring data collected to date, which includes data taken from the landfill proper, from the neighborhoods surrounding the landfill, and from the Bethel High School. The sampling results have been consistent in showing low or non-detectable hydrogen sulfide levels in the community. This takes into consideration DEP's recent sampling (1/31-2/4) from the yard of a Bethel resident near the landfill during a period with strong odors. DPH will continue reviewing sampling data as it is collected by DEP or other parties.

EEOH has reviewed the scientific literature related to hydrogen sulfide and landfill gases. The landfill gases fact sheet developed by EEOH summarized our review. This fact sheet has been widely distributed to residents of Bethel and Danbury. The major point is that the strong sulfur odor experienced in parts of Danbury and Bethel occurs at very low hydrogen sulfide levels. The odors, on their own, can be unpleasant and make people sick (e.g., nausea, headache). However, much higher levels than those so far found in Danbury or Bethel are required to cause toxic effects (irritant damage to eyes or respiratory tract). Hydrogen sulfide is not known to cause chronic effects such as cancer, and does not pose a risk to pregnant women or their offspring.

Sampling data so far collected suggests that other chemicals which might be present at landfills are not a concern in the air coming from the Danbury landfill. EEOH is working with DEP in developing an air sampling program that will better characterize community levels of hydrogen sulfide and other landfill-related chemicals.

As part of our role in assessing public health, we have contacted area physicians to find out if they have patients who feel the landfill may have affected their health.



***Area Physicians Discuss  
Danbury Landfill***

***Dr. Edward Volpintesta  
Chair, Primary Care Roundtable***

Our January 30th Primary Care Roundtable at Danbury Hospital focused upon odor and health issues associated with the Danbury Landfill. Presentations were made by Dr. Mary Lou Fleissner of the Connecticut Dept. of Public Health and by Dr. Michael Hodgson who is in Environmental and Occupational Medicine at the University of Connecticut. Approximately 25 of our area physicians attended; also in attendance was Representative James Maloney. Everyone agrees that the odor has created a major nuisance which at times might prompt symptoms in certain patients. However, the physicians were reassured that long-term health problems are unlikely given the large margin of safety between the levels so far measured in the community and the much higher levels of hydrogen sulfide required to cause toxic effects.

This meeting increased understanding of the issues, enabling physicians to better address the concerns of their patients. Working with patients whose health may be affected by the odors is important during this period where landfill odors still occur. Area physicians can consider patient referrals to occupational and environmental medicine specialists.



***Bethel Citizens Coalition***

*Joanne Kirk*

The Bethel Citizens Coalition (BCC) consists of Bethel residents (and nearby Danbury residents) who have been adversely affected by the unremitting emissions of hydrogen sulfide gases from the Danbury Landfill. BCC began to evolve as residents aggressively pursued local and state officials in search of answers. As residents made phone calls, wrote letters, sought out other vocal residents and shared information, the coalition began to solidify.

BCC is working with local and state officials in moving this environmental crisis toward a speedy and complete resolution. BCC's primary focus is to ensure that the capping and installation of the gas recovery system will be properly designed, executed and will operate effectively, thus affording the affected community with the highest level of safety and finality. To elaborate, the final cap (originally proposed to only cover the top ten acres) is intended to 1) minimize infiltration of precipitation into the landfill, 2) reduce erosion and infiltration of oxygen which can affect the gas collection wells, 3) minimize leachate generation, and 4) reduce the impacts of the landfill on groundwater quality. In consideration of the severity of the odor problem, BCC is primarily concerned with *complete closure*. It has been determined that a synthetic cap over the entire landfill will offer the additional level of protection needed and offset the likelihood of re-occurrence.

Moreover, the BCC is committed to obtaining further comprehensive air and water testing in response to residents' existing, short term health effects and any potential long term health effects. Other issues BCC continues to address include,