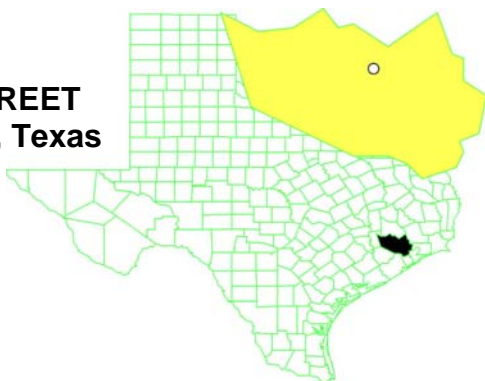


**NORTH CAVALCADE STREET
Harris County (Houston), Texas
EPA ID# TXD980873343
Site ID: 0602956**



**EPA Region 6
Congressional District 18**

**Contact:
Camille Hueni
214.665.2231**

Updated: April 2009

Current Status

Pending Action to Reselect Site Remedies under an Amendment to the Record of Decision (ROD):

EPA is evaluating other remedial options for both soils and ground water for the Site. A Focused Feasibility Study (FFS) was finalized June 30, 2008, and will support comparison of new remedial alternatives and provide recommendations for public review and comment in 2009. The remedial alternatives will be summarized in the Proposed Plan, and will be made available at the time of public notice. A public meeting will be held to present these options and take formal comments. After the public comment period has closed, and comments considered, EPA plans to reselect remedies for the North Cavalcade Street Superfund Site in an amendment to the ROD.

The public notice and meeting have not yet been scheduled; please refer back to this site for details.

Site Reuse Potential: The North Cavalcade Street Superfund Site is bounded by rail lines on both the east and west sides, by Cavalcade Street to the south, and Loop 610 to the north. The southern half of the site is privately owned, with two commercial businesses located on the western part of the property. The northern ten acres of the site will be available for reuse after a soils remedy has been reselected and construction completed. Currently, this property is only accessible through the southern half of the Site. The Harris County Toll Road Authority has plans to extend the Hardy Toll Road in the rail right-of-way along the Site's western boundary. The construction may open up limited access to the northern ten acres. Construction of the Toll Road is expected to be complete within four years. Remedial options under consideration assume that the property will continue as commercial or industrial use. Questions concerning reuse can be directed to Camille Hueni, at (214) 665-2231.

Third Five-Year Review: EPA completed the third five-year review for the North Cavalcade Street Superfund Site on September 29, 2008. The review documents that the actions performed to date at the site are protective of human health and the environment in the short term: contaminated soil is contained and is protected from access, and there are currently no ground water receptors. The City of Houston continues to provide drinking water onsite and to neighboring residences through their public drinking water system. Creosote-related non-aqueous phase liquid (NAPL) and dissolved phase contaminants in the shallow sand (OU1) aquifer have been extracted, in part, and treated under the current ground water remedy selected by the 1988 Record of Decision. The pump and treat system was suspended in October 2003, pending further evaluation of deeper ground water contamination. The 2004 field investigation delineated the NAPL in both the shallow sand and the underlying interbedded sand unit, and the offsite ground water plume associated with the deeper source material. The long-term protectiveness of the ground water remedy will be contingent on the implementation of a ground water remedy to address the NAPL source and the contaminant plume for both the shallow and the interbedded sand units (OU1; OU3).

The five-year review recommends that the Agency propose, select, and implement a remedy for all ground water and soil operable units (OU1-OU3) to ensure that human health is protected in the long term. Operation and maintenance should be developed specific to the remedy selected and defined during remedial design. A ground water monitoring plan and network should be developed after the ground water remedy is selected, and institutional controls implemented, as appropriate, during the design and construction phase. Maintenance at the site is also recommended to address issues for both the soils containment cell and the ground water treatment plant.

The Third Five-Year Review report will be available to the public at the information repository, located at the Houston Central Library, Government Documents Area, 500 McKinney Street. Questions concerning the review can be directed to Camille Hueni, EPA Remedial Project Manager, at (214) 665-2231.

Remedial Summary: The 1988 Record of Decision required that ground water be extracted and treated to reduce site-related contaminants. The pump and treat remedy construction for ground water was completed in 1993, but suspended in 1995 when large, unexpected volumes of Dense Non-Aqueous Phase Liquid (DNAPL) exceeded the capacity of the treatment system. A supplemental field investigation was conducted in 1998 to better understand the geologic framework at the site, to determine the extent of DNAPL, and to support modifications of the system. The modified treatment system was placed in operation in August 2001. Additional field information from August 2000 investigation indicated, however, that contaminants had migrated to a deeper sand, 30-40 feet below ground surface. The remedial design and objectives of the 1988 ROD did not include impacts to this deeper zone. EPA Region 6 and TCEQ completed additional field work in January 2004 to further delineate the source areas, and dissolved ground water plumes, for both the shallow and deeper sand. The ground water pump and treat system was temporarily suspended pending additional work to re-evaluate the pump and treat remedy.

In addition, efforts to bioremediate the contaminated soils were discontinued in August 1998 due to the inability of the remedial method to reach the 30 mg/kg cleanup goal for carcinogenic polycyclic aromatic hydrocarbons (cPAHs), amended in the 1994 Explanation of Significant Differences. The soils were consolidated into a temporary treatment cell on the northern 10 acres of the Site, and covered with an impermeable liner awaiting final disposition by EPA and TCEQ.

Benefits

The objective of this site cleanup is to protect human health and the environment by controlling the migration of shallow ground water contaminants and/or eliminate the potential to contaminate deeper aquifers, and if possible restore the shallow ground water to a potential future beneficial use. In addition a second objective is to remediate contaminated surface soils so that they no longer pose a dermal contact or ingestion risk.

EPA reviews the protectiveness of selected ground water and soil remedies every five years. The first five-year review, completed in 1998, found the remedies to be protective of both human health and the environment. The second five-year review, completed in 2003, documented that actions performed at the site to date are protective of human health and the environment in the short-term because the contaminated soils have been temporarily contained onsite and restricted from access and that the pump and treat system was removing contaminants and product. The review, however, noted that site assumptions had changed and recommended that the ground water remedy be re-evaluated to address the creosote-related impacts to a deeper ground water zone approximately 30 feet below surface.

As noted in the status section, the third five-year review, completed in September 2008, determined that conditions at the site are protective of human health and the environment in the short term: contaminated soil is contained and is protected from access, and there are currently no ground water receptors. There are no ground water receptors, however, for this or the shallow aquifer. The City of Houston provides drinking water onsite and to neighboring residences through their public drinking water system. To better ensure long-term protection, EPA and TCEQ are evaluating other remedial options to reduce contaminants in both ground water zones and to provide a final remedy for the temporarily staged soils, as recommended in the most recent third five-year review (see above).

National Priorities Listing (NPL) History

NPL Inclusion Proposal Date: October 5, 1984
NPL Inclusion Final Date: June 10, 1986
HRS Score: 37.08

Wastes and Volumes

The pollutant at the North Cavalcade site is creosote, and its related constituents, in both soil and ground water. Detectable constituents include polycyclic aromatic hydrocarbons (PAHs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), benzene, toluene, xylene, ethylbenzene, naphthalene, and metals. [Cleanup criteria is based on final concentrations expected for cPAHs (soils) and benzene (ground water)] There is an estimated 22,000 cubic yards of soils temporarily staged in a containment cell at the northern end of the Site, pending selection of another remedy. There were 14.2 million gallons of contaminated ground water originally estimated for the Site; that amount has increased as contamination has been confirmed at the next interbedded sand aquifer.

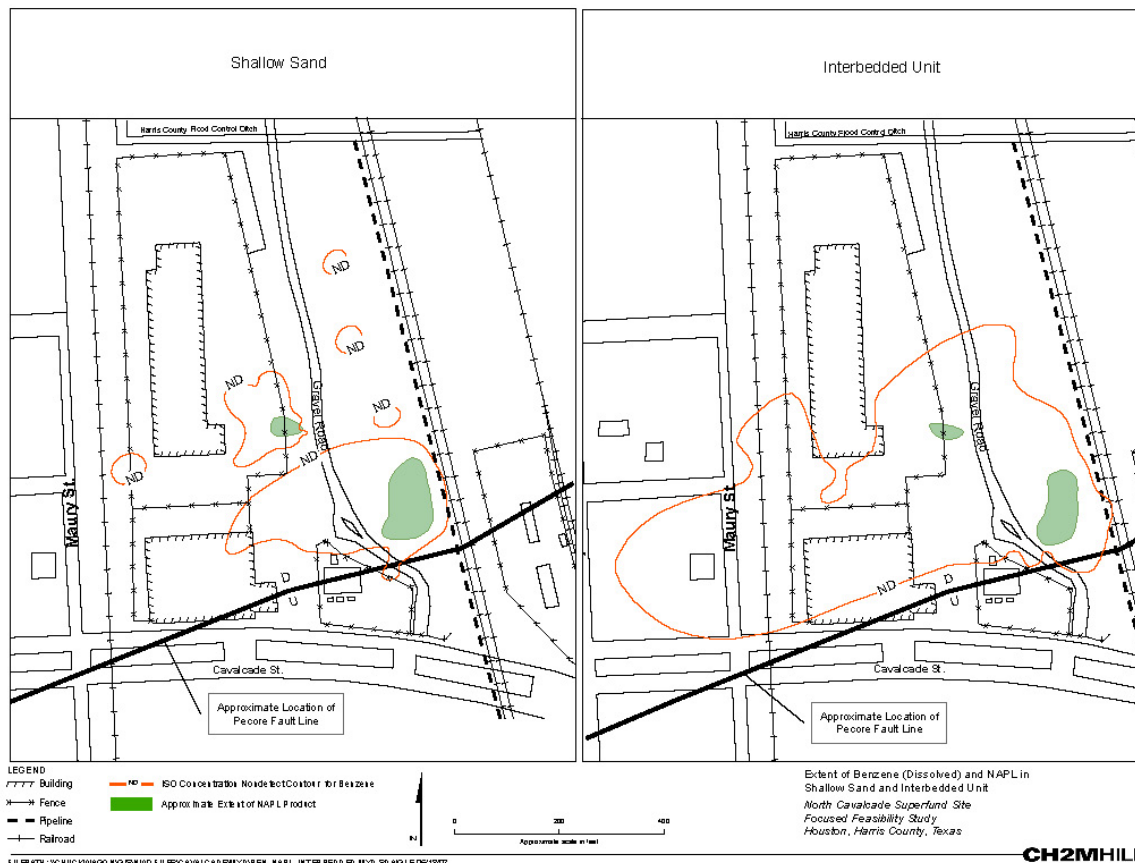
Site Description and Maps

The North Cavalcade Street Superfund Site (approximately 21 acres) is located northeast of the intersection of Cavalcade and Maury Streets and approximately one mile southwest of the intersection of Loop 610 and U.S. Interstate 59, just north of downtown Houston. The site was first developed as a wood treatment operation in 1946, with continued operations until property foreclosure in 1961. The property was divided and went through a succession of owners. There are two commercial businesses now on the southern half of the property: Coastal Casting Company and Owens Electric. The pollutants at the site are associated with the earlier wood treatment operations.

The following map shows the Site outlined in yellow. The soils containment cell, located as the shaded rectangle in the northern section of the triangle, holds approximately 22,000 cubic yards of material. The southern part of the property contains the treatment plant at the Cavalcade boundary, the two creosote source areas. The two structures at the west boundary house the two commercial businesses on the site. Loop 610 can be seen in the upper right-hand corner of the aerial map.



The Focused Feasibility Study, completed in 2008, summarizes the nature and extent of ground water contaminants of concern (benzene and naphthalene) for the dissolved phase plume. A January 2004 field investigation confirmed the location of creosote product in both the shallow and interbedded sand aquifer (to 30-40 feet below ground surface), and established the extent of the ground water plume to non-detect levels. The maps below show the two source areas (in green) for the Site ground water contamination: one is located due east of the Coastal Casting Building, while the larger source area is closer to the eastern boundary of the Site. The shallow and interbedded sand aquifers are in communication as indicated by the overlap of the two source areas with depth. The non-detect line (in red) delineates the benzene contaminant plume in the shallow, and the interbedded sands. The plume has migrated further down-gradient to the east-southeast in the deeper interbedded sand aquifer. The remedies considered in the FFS will address source areas and contaminant plumes for both zones.



Source Area and Extent of Benzene Plume (FFS, 2007)

Health Considerations

The 1988 Record of Decision considered that both surface soils and ground water were contaminated. Contaminated soils were treated but failed to meet the recommended 30 ppm cleanup level for carcinogenic polycyclic hydrocarbons, and have been staged in a temporary containment cell, pending selection of a final remedy. The soils are contained and covered, and do not pose a current risk to human health. The nearest water well (industrial use) is located 1500 feet up-gradient from the site. However, the shallow water-bearing units beneath the site are currently not being used as a drinking water sources. The City of Houston provides drinking water through their municipal drinking water system.

An updated human health risk assessment, for the FFS, considers that ground water contaminants are at both the shallow and deeper interbedded sand aquifers. The assessment also considers both onsite and offsite risks (for that part of the plume that has migrated offsite). A summary of those findings will be presented in the Proposed Plan, scheduled for public notice in 2009.

Record of Decision

The Record of Decision (ROD), signed June 28, 1988, selected a remedy which included biological degradation of soil contaminants, and the extraction and treatment of ground water, utilizing oil/water separation and carbon absorption processes. This remedy provided for protection of human health eliminating unhealthy exposure to contaminated soil and ground water.

On August 8, 1994 EPA approved an Explanation of Significant Differences (ESD) to raise the soil cleanup criteria for carcinogenic polycyclic hydrocarbons (cPAHs) from 1 to 30 parts per million (ppm). The cleanup level was set at 30 ppm after a 1992 field pilot failed to demonstrate that bioremediation would reduce the cPAH concentration to below 1 ppm. As explained in the ESD, the 30 ppm cleanup level for soils would continue to meet or exceed the human health protection objective of the 1988 decision.

EPA is evaluating other remedial options for both soils and ground water and is preparing to issue a Proposed Plan and Public Notice in Summer 2009. There will be a public meeting scheduled to discuss newly considered alternatives for both soils and ground water and an opportunity to submit comments. Please refer back to this page for updates on the meeting details. If you would like to receive information on the upcoming public meeting, as it is scheduled, please contact the Community Involvement Coordinator for this Site, Phyllis (June) Hoey, at 214-665-8522.

Community Involvement

Constituency Interest: No formal citizen groups or organizations, generally a low profile site. A demand exists for Spanish translations of fact sheets and informational materials.
Site Repository: Houston Central Library, Texas & Local History Division, Julia Idison Building, 500 McKinney Street, Houston, TX 77002

Anyone who wishes to be placed on the mailing list to receive current information about the Site is encouraged to call 1-900-533-3508.

Technical Assistance Grant (TAG)

Availability Notice: 4/89
Letters of Intent Received: 1. LIFT Endowment Fund, Inc. - 2/8/90 (withdrawn 8/20/90)
Final Application Received: North & South Cavalcade St. Group 12/93 and 9/94
Grant Award: Applications denied
Current Status: No TAG

Contacts

EPA Remedial Project Managers	Camille Hueni	214-665-2231
EPA Community Involvement Coordinator	Phyllis (June) Hoey	214-665-8522
EPA Site Attorney	Joseph Compton	214-665-8506
EPA Public Liaison	Donn R. Walters	214-665-6483
TCEQ Project Manager	Marilyn Long	512-239-0761

EPA Superfund Region 6 Toll Free Number 1-800-533-3508

Information Repository

Houston Central Library
Government Documents Area
500 McKinney Street
Houston, Texas 77002

