

Wingate Road Municipal Incinerator Dump
1300 Northwest 31st Avenue
Fort Lauderdale, Florida
County: Broward
District: Southeast
Site Lead: EPA
Placed on National Priorities List: October 4, 1989
HWC # 085

Site Description and History

The Wingate Road Municipal Incinerator Dump is a 61-acre site located in a residential community within the western city limits of Fort Lauderdale, Florida in Township 49S, Range 42E, Section 32 at 26° 08' 39.8400" N, 80° 11' 04.9200" W. Approximately 44,000 people live within a mile of the site. Rock Pit Lake is an abandoned borrow pit adjacent to the northeast corner of the site. The facility was in operation from 1955 to 1978 and consisted of two incinerator buildings, a vehicle maintenance shop, an office building, and a 40-acre dump. Approximately 480 tons of household and industrial wastes were incinerated at the facility daily. The leftover ash was placed in the dump while ash-cooling water was discharged to a settling pond (Lake Stupid) at the southeast corner of the site. The settling pond lost permeability due to ash buildup soon after the cooling water systems were installed in 1966, and overflow from the pond was routed to Rock Pit Lake. Untreated wastes, including hazardous wastes (pesticides), were disposed of periodically in the dump. The Potentially Responsible Parties (PRPs) include the City of Fort Lauderdale and the Port Everglades Authority.

Threat

Municipal incinerator facilities have historically produced dioxin-contaminated ash due to inadequate burn temperatures. Predictably, dioxins were detected at the site. Pesticides such as DDT, aldrin, dieldrin, and chlordane were also detected at the site, along with metals. These substances have a wide variety of negative health effects depending on exposure concentration and pathway. Samples of the Rock Pit Lake sediments indicated that contamination had spread to these sediments from the Wingate Road facility. Direct contact with, or accidental ingestion of, the contaminated media from the area of the site poses a potential health threat.

The primary contaminant sources at the site included the areas and structures that contained ash or ash residue from the incineration process. The predominant contaminants identified in the onsite surface soils and ash residue were lead, arsenic, benzo(a)pyrene, beryllium, and dioxins. Contaminated soils have been either relocated under the 40-acre cap as part of the Superfund remedy or were excavated and disposed offsite by the DEP removal action. Digging restrictions have been placed on the capped area of the site.

Antimony and lead have been detected sporadically in groundwater samples from various wells. Residents near the site have been connected to the public water supply system. Restrictions are currently in place to limit groundwater use and well installation. Land and groundwater use restrictions are specified in deed restrictions attached to the site property and were filed by the City in August 2000.

Response Strategy and Status (July 2016)

The EPA conducted a site inspection and developed a Hazard Ranking System (HRS) Report for the site in 1984. The City of Fort Lauderdale began closure of the landfill in 1986, in accordance with Florida Administrative Code requirements. The site was placed on the NPL in 1990 with a Hazard Ranking Score of 31.72.

The City of Fort Lauderdale and the Port Everglades Authority entered into an Administrative Order on Consent (AOC) with the EPA in 1991 to conduct the Remedial Investigation and Feasibility Study (RI/FS). Task Environmental was selected as the PRP's consultant for the project and the RI/FS work plan was approved in July 1992. Four phases of field investigation were conducted from August 1992 through September 1994. Approximately 300 samples of soil, sediment, surface water, groundwater, and incinerator ash residue were collected during Phase I.

Phase IIa was conducted to assess the distribution of dioxins and furans (dioxin TEQ). Phase IIb was conducted to provide quality assurance regarding the metals data from the Phase I water samples, and to collect additional samples for dioxins. Phase III was conducted in September 1994 to assess the potential impact of off-site air deposition of fly ash from the historic incinerator stack emissions.

A preliminary site characterization report was submitted in April 1993, and the RI report was submitted in November 1993. A public meeting was held in February 1994 to present the results of the RI. Due to the lack of data pertaining to contamination by the stack air emissions, the EPA requested sampling of the soils in the local neighborhood located northwest of the site. EPA submitted the Baseline Risk Assessment in December 1993. The Draft Feasibility Study was submitted by Task Environmental on March 1994.

Phase III of the RI included collection of twenty surface soil samples by the EPA from residential areas located northwest of the site, based on prevailing wind direction during the time when the incinerators were operational. The sampling would be used to determine if dioxins or metals from incinerator emissions had been deposited in residential areas at concentrations that would pose a health risk. EPA concluded that the results indicated no health risk.

Fish tissue samples were collected from Lake Stupid and Rock Pit Lake during Phase IIa of the RI, and analyzed for dioxins and mercury. Fish fillet samples from Rock Pit Lake contained dioxins at concentrations up to 0.07 parts per trillion (ppt) TEQ.

The Record of Decision (ROD) was signed by the EPA on May 14, 1996. The DEP agreed with the basic remedy, except for the cleanup levels used for arsenic and dioxins in surface soils, which are above the DEP acceptable risk level of 1×10^{-6} . The ROD identified the selected remedial action as: (1) excavation of residual ash, contaminated soils, and sediment, and placement of these materials on the landfill before capping; (2) decontamination and/or demolition of all buildings and structures on the southern portion of the site; (3) placement of a clay cap on top of the landfill and; (4) construction of a vertical barrier between the landfill and Rock Pit Lake.

Lake Stupid would be drained and excavated to eliminate human contact with the sediments, and to eliminate the potential ecological exposure pathways. New monitoring wells would be placed around the site to provide groundwater monitoring data, and surface water quality will be monitored in Rock Pit Lake. Fish samples will be collected on a semi-annual basis and tested for lead and dioxins. Groundwater, surface water, sediment and fish tissue monitoring would continue for up to 30 years.

The residents surrounding the Wingate site received a Technical Assistance Grant (TAG) in July 1996, and formed a Community Advisory Committee (CAC). A City-sponsored community meeting was held in July 1996, to provide communication from the City to all community members regarding previous and future site activities. Community members indicated they had several issues and concerns regarding the proposed remedy.

In August 1997, Congressman Alcee Hastings, on behalf of the residents of the Wingate community, requested that an independent EPA team review all reports pertaining to the site. Final recommendations from the team included two major changes to the ROD. An Explanation of Significant Differences (ESD) documented these changes: (1) Landfill capping remedy proposed by the Region IV EPA was appropriate, but a geosynthetic membrane cap would be installed instead of a clay cap; (2) Treat onsite or dispose of 150 cubic yards of dioxin- contaminated soils offsite. The ESD was signed by EPA in November 1997. The DEP agreed with the ESD changes and the remedy for this site, but issued a non-concurrence letter based upon the arsenic and dioxins soil cleanup levels selected by the EPA in the ROD.

The EPA conducted additional sampling of soil and groundwater at several adjacent residences located east and south of the landfill in March 1998. The sampling results indicated there were exceedances of arsenic and dioxins in soil above EPA and DEP cleanup goals at some residential locations. All property owners were notified by the EPA of the sampling results. Groundwater sampling data indicated there might be offsite migration of metals south of the onsite cooling water pond known as Lake Stupid.

The Florida Department of Health (DOH) received funding from the federal Agency for Toxic Substances and Disease Registry (ATSDR). The ATSDR provided funding for the Community Health Investigation – Disease and Symptom Prevalence Study portion of the DOH request. The purpose of this study was to measure the occurrence of self-reported illnesses, compare these occurrences to a control population, and then determine the need for further investigation. The EPA conducted a community meeting to discuss the sampling results with the community in August 1998, over a four-day period. In October 1998, the residents requested that the DOH not fund the Community Health Investigation in the community; the residents stated that the health study, as designed, would not benefit the community.

“A Motion of Non-Parties to Be Heard in Response to Proposed Consent Decree” was filed on February 1, 1999, by Legal Environmental Assistance Foundation, Inc. and Legal Aid Service of Broward County, Inc. On December 28, 1999, this motion was denied by the United States District Judge. The Consent Decree between the PRPs and EPA for the Remedial Action was signed in January 2000.

Contractors were approved by the EPA to perform remedial activities in accordance with the requirements of the Consent Decree. PEER Consultants, P.C. (Peer) was named the Supervising Contractor for Remedial Design (RD) related to demolition of site structures and GeoSyntec was approved as the supervising contractor for preparation of all preliminary RD activities other than demolition. IT Corporation was designated as the construction contractor.

The Remedial Design Work Plan (RDWP) and Health and Safety Plan were prepared by GeoSyntec Consultants on behalf of the Wingate Cooperating Parties Group. These documents were submitted to both EPA and DEP in December 1998, and approved in March 1999.

The DOH issued a final report in May 1999, stating that vegetables and other products grown near the site were safe for consumption. The RDWP was initiated in April 1999, and the final RD was approved by the EPA in July 2000. Implementation of the approved air monitoring plan was initiated in early September 2000, and there were no air samples indicating exceedances of target levels. Site clearing was initiated by IT Corporation in September 2000. All site construction was completed at the end of January 2002, and a final site inspection was conducted by both the EPA and DEP.

The DEP conducted offsite soil sampling in specific right-of-way areas in June 2000, to determine if there were "patterns" of soil contamination above the DEP residential SCTLs for both dioxins and arsenic. These areas had been identified by the EPA 1998 investigation, which indicated levels of arsenic and dioxins greater than the DEP residential soil cleanup target levels (SCTLs) of 0.8 mg/kg for arsenic, and 7 ng/kg for dioxin TEQ. Based upon this initial sampling event, the DEP conducted four additional, separate soil sampling events for dioxins from May through October 2001, to delineate areas requiring remediation. Sixty-six residential parcels were sampled for dioxins. Seventeen residences exhibited low dioxin soil contamination above the Department's SCTL of 7 ng/kg, and would require soil remediation.

The DEP conducted discussions with the Wingate PRPs regarding the need to conduct soil removal at the residential areas. However, the PRPs indicated an unwillingness to conduct this work. Initial site work and equipment mobilization began on January 23, 2002, and the DEP began removal of dioxin-contaminated soil on seventeen properties and specific right-of-way locations in the Washington Park Subdivision on January 28. Final removal and site restoration work was completed by the DEP on April 4, 2002. Two state cleanup contractors (Ecology and Environment, Inc. and IT Corporation) worked with the DEP on this project.

An Operation and Maintenance Plan was submitted to the EPA and DEP in August 2002. Initial groundwater, surface, and fish sampling was conducted in late August of 2002. Quarterly monitoring and sampling continued from August 2002 to December 2004. No volatile organic compounds were detected in the groundwater samples during the 2-year sampling period. Two constituents, antimony and lead, have been detected in concentrations that exceed the performance standards, and have been detected sporadically in groundwater samples from various wells. In 2004, lead was observed in MW 7B at levels of 73 and 88 µg/L, concentrations which were not consistent with historic sampling results. Lead was not detected in MW 7B in the January 2005 sampling event. An attempt will be made to sample a residential well located adjacent to the

southeast corner of the site to determine the extent of the lead exceedance and potential for migration. If lead is detected in groundwater samples above the standard in subsequent monitoring events, a plan for further assessment will be developed for review and approval.

No contaminants of concern were detected in surface water samples in concentrations that equal or exceed the performance standards. Antimony, arsenic, and cadmium were detected above ROD performance standards in the Rock Pit Lake sediments. Results from fish sampling indicated levels of dioxins exceeding the performance standard included in the ROD.

EPA completed the first Five Year Review in 2005. Based on review of the 2002-2004 quarterly monitoring results following landfill closure, the FYR recommended reducing the sampling frequency to semi-annually for groundwater and annually for surface water, sediments, and fish tissue. The number of analytes was also reduced based on prior detections or exceedances observed for each media.

State and County Health Departments are working with Community and City experts on a population survey plan. The ATSDR approved a proposal of \$120,000 in June 2003, for a disease and prevalence population study with the focus on symptoms and diseases associated with arsenic and dioxin. The study was initiated through the Broward County Health Department in May 2004. The results of the study were presented in the November 2007 final report submitted by the Florida Department of Health and entitled "Self-reported Disease and Symptom Prevalence Survey, Wingate Road Municipal Incinerator and Landfill, Fort Lauderdale, Florida".

In 2008, the DOH conducted a Health Survey within the vicinity of the Wingate Property. The findings were inconclusive. A copy of the report is available on the DOH website at: www.myfloridaeh.com/community/superfund/pha.htm.

The site qualified for EPA's Site-wide Ready for Anticipate Use measure in 2006, which signified that construction of the remedy had been completed and all institutional controls, as applicable, had been implemented. To date, no concrete actions have been taken toward reuse.

On June 29, 2010, EPA conducted their second Five Year Review site inspection of the Wingate Landfill. During the inspection it was noted that the facility was in compliance. It was also noted in the Five-Year Review that burrowing owls were nesting at the site and could damage the geomembrane. The City of Fort Lauderdale is using various methods to deter the owls from nesting and/or relocating them. Antimony remained in groundwater above cleanup goals in several monitoring wells but concentrations appeared to have declined since the 2005 FYR. Lead was detected in one monitoring well (MW 1B) in one sampling event above cleanup goals at 20 µg/L. Dioxin levels in fish fillet samples from Rock Pit Lake remained above cleanup goals but were not high enough to trigger a fish advisory based on the 1996 ROD criteria of 25 ng/kg. Rock Pit Lake was sampled twice during the five-year review period (2008, 2009) due to access issues to the private lake.

In 2010 EPA approved recommended adjustments to the site monitoring schedule based on results of the previous five years. The frequency of sediment monitoring in Rock Pit Lake was reduced

to every two years for antimony, arsenic and cadmium. Sediment monitoring of the wet retention area (formerly Lake Stupid) was discontinued. Semi-annual groundwater monitoring was reduced to annual monitoring of arsenic, lead, antimony and ammonia in 7 select monitoring wells. Surface water monitoring of Rock Pit Lake and the wet retention area was discontinued based on previous compliance with surface water quality criteria. Methane gas monitoring was discontinued.

Schedule

Routine Operation and Maintenance of the landfill cap is ongoing. EPA and the City of Fort Lauderdale have worked with the property owner to gain access to the Rock Pit Lake to perform the required monitoring. Monitoring currently includes sediment and fish tissue monitoring in Rock Pit Lake and groundwater monitoring.

A Five-Year Review site inspection was completed by EPA with DEP in September 2015. EPA will issue the next Five Year Review report in 2016.