

City Industries, Inc.

3290 Forsyth Road

Winter Park, Florida

County: Orange

District: Central

Site Lead: EPA

Placed on National Priorities List: October 4, 1989

HWC # 008

ERIC ID # 3781

Site Description and History

The City Industries, Inc. (a/k/a City Chemical Company – Forsyth Road) site is located at 3920 Forsyth Road, Winter Park, Florida in Township 22S, Range 30E, Section 03 at 28° 36' 04.3449" N, 81° 17' 58.7126" W. This one-acre facility operated from 1971 to August 1983. Activities included the receipt, handling, storage, reclamation, and disposal of a wide variety of waste chemicals. Due to inadequate plant practices and intentional dumping, soil and ground water at the site are contaminated. Surface drainage during plant operation was directed into a ditch running along the front of the property and subsequently into Crane Strand wetland.

Threat

Wastes found in the soil and ground water include a wide variety of chlorinated and non-chlorinated organic solvents, paint and varnish wastes, acid/alkaline plating wastes, waste ink and 1,4-dioxane.

A number of private wells are located within a 2,000-foot radius of the site; however, none of these wells are used for drinking water purposes. The City of Winter Park's well field is located approximately 1,900 feet from the site; however, these wells draw water from a minimum of 700 feet below ground surface and there is a 140-foot thick confining layer separating the contaminated surficial aquifer from the Floridan Aquifer. The majority of the surficial aquifer contaminant plume is located within a Florida Groundwater "Delineated Area" that restricts well placement and groundwater use, per Chapter 62-524, Florida Administrative Code.

Response Strategy and Status (January 2017)

In August 1983, the site was abandoned by the owner, leaving approximately 1,200 drums of hazardous waste and thousands of gallons of sludge in a number of large holding tanks on site. A state-funded removal of these wastes was conducted during August and September 1983. A suit was filed against the company and the property owner in January 1984. The company and its owner defaulted twenty days later. In February 1984, the EPA removed the remaining sludge and storage tanks. In May 1984, the EPA removed 1,670 tons of contaminated soil; heat treated it, and returned it to the site. Additionally, 180 cubic yards of contaminated soil was removed and transported to a hazardous waste landfill. In December 1985, the facility owner was indicted for RCRA violations and criminal charges. He was found guilty of 17 counts, received a suspended sentence, and ordered to serve three months in jail. In August 1988, the 11th Circuit Court of Appeals reversed the original court's dismissal of two illegal dumping charges. In December 1988, the facility owner was sentenced to an additional 15 months in jail.

In May 1986, the Florida Department of Environmental Regulation (FDER now DEP) contractor completed a multi-phase Contamination Assessment. The final Contamination Assessment concluded that a contaminant plume in the surficial aquifer had migrated approximately 600 feet to the east of the site. A possible sinkhole was discovered in close proximity to the site, and the FDER contractor completed an investigation of the area in October 1986, which indicated a potential for contamination of the Floridan Aquifer. Additional investigation of the Floridan aquifer was recommended.

In February 1987, the PRP contractor, Geraghty and Miller, Inc., submitted the Feasibility Study (FS) Work Plan. In December 1987, the revised FS Work Plan was approved by FDER and the FS was initiated in February 1988. Installation and sampling of a Floridan Aquifer monitor well was completed in July 1988. The sampling results indicated that the City Chemical site had not contaminated the Floridan Aquifer. The draft FS was completed by the PRP contractor in December 1988, and submitted to FDER and EPA for review.

The recommended remedial alternative consisted of groundwater recovery, treatment by air stripping, and discharge of effluent to the Iron Bridge Publicly Owned Treatment Works (POTW). FDER and the EPA completed the FS review in February 1989, and the FS was found to be unsatisfactory. In March 1989, lead management role for the site was transferred from FDER to EPA. In April 1989, the PRP Committees submitted a response to the FDER and EPA review comments. In June 1989, the PRPs submitted a second draft of the FS. In August 1989, the FDER submitted their review comments for the revised FS to the PRP committees and the EPA. A number of significant problems still existed with the FS, resulting in FDER requesting EPA to take over completion of the FS. In November 1989, the EPA met with the PRP Committees, submitted their review comments, and notified the PRP Committees that FS revisions must be completed by December. In December 1989, the PRP Committees submitted the third draft of the FS to EPA and FDER for review. The FS was found to be unsatisfactory, and EPA tasked Weston, Inc. to satisfactorily complete the FS. Weston completed the FS revisions in June 1990.

In January 1990, the EPA held a public meeting in Orlando to present the selected remedial alternative. In March 1990, the draft Record of Decision (ROD) was submitted to FDER for review and concurrence; FDER concurred with the ROD in April. The selected remedy consisted of pumping the ground water, treating it by air stripping, and discharging the treated water to the Iron Bridge POTW. The contingency remedy called for discharge of the treated water to a nearby canal. Because the EPA and Iron Bridge POTW were unable to reach agreement with regard to the City Chemical discharge, EPA implemented the contingency remedy.

In September 1990, the EPA tasked Weston, Inc. to develop a work plan for additional site investigation and design. In October 1991, EPA and the PRPs entered into a Consent Decree, which provided for de minimus parties to pay for the design through a trust fund and EPA would conduct the design through a federal contractor. The remaining de maximus parties would pay for the construction, operation, and maintenance of the designed treatment system; again, EPA would construct the system through a federal contractor.

In January 1991, EPA submitted a draft Remedial Design (RD) Sampling and Analysis Plan for review by FDER. In January 1991, EPA selected PEER Environmental to conduct the treatability studies and treatment system design. Copies of the final RD Work Plan and RD sampling and analysis plan were forwarded to FDER in June 1991. EPA obtained an NPDES permit for storm water discharge of treated groundwater. In March 1992, FDER completed a review of the 100% design documents and suggested that EPA modify the design criteria to reflect State of Florida Class III Standards.

In March 1993, the EPA selected ERM-Enviroclean, Inc. as the remedial action contractor. The construction of the groundwater treatment system was completed in October 1993 and included installation of 13 groundwater recovery wells, each approximately 60 feet deep and screened from 25 to 60 feet below land surface (bls). A 30-day startup test was successfully completed in May 1994 and Operation and Maintenance (O&M) of the groundwater remedy is ongoing. Treated groundwater is discharged to the Crane Strand Drainage Canal. The potential responsible parties (PRPs) for the site assumed responsibility for O&M in August 2004.

In February 1994, the EPA issued an Explanation of Significant Differences (ESD) to add vinyl chloride and *cis*-1,2-dichloroethene to the list of contaminants in the ground water requiring cleanup.

In 2011, a DEP's request, the PRP was asked to sample for 1,4-dioxane during the 21st annual groundwater-sampling event. 1,4-dioxane was detected above Natural Attenuation Default Concentration (NADC) and Groundwater Cleanup Target Level (GCTL).

In 2012, groundwater data from the 22nd annual groundwater-sampling event showed 1,4-dioxane concentrations in two onsite wells above the Natural Attenuation Default Concentration (NADC). 1,4-dioxane concentrations above the Groundwater Cleanup Target Level (GCTL) were also detected in five onsite wells. Groundwater data indicated the 1,4-dioxane plume did not appear to be completely delineated on the eastern side of the site.

Operation and Maintenance (O&M) of the remedial system was projected to be required for 15 years with five-year reviews and quarterly reports. The first five-year review was received in March 1997. The second five-year review was received in August 2004. The third five-year review (FYR) was received in September 2009. The 3rd FYR concluded that the contaminant plume remains stable, the remedy is protective of human health and the environment, and the remedy is functioning as required to achieve groundwater cleanup goals, based on existing monitoring data.

The fourth EPA Five-Year Review (FYR) site visit was conducted in March 2014. The final Five-Year Review report was signed by EPA on August 25, 2014. Recommendations based on the FYR included 1) determine the need for land use controls (restrictive covenant) on the original City Industries property and offsite to ensure the entire groundwater contaminant plume is addressed, 2) evaluate remedial options to target source reduction and to maintain containment of the groundwater plume, 3) document the addition of 1,4-dioxane, isopropyl benzene and 1,2,4-

trimethylbenzene as site contaminants of concern through an ESD, and 4) evaluate options to remediate 1,4-dioxane.

Based upon EPA and DEP review of the 2012 groundwater-sampling report, the PRP group was instructed to complete delineation of the 1,4-dioxane groundwater plume. Additional onsite and offsite assessment work was completed in 2013 and 2014. Results were documented in the February 2015 Supplemental Assessment Report. Groundwater monitoring results from January 2015 is summarized in the May 2015 Annual Remedial Action Report. The data indicates that most of contaminant mass is generally limited to the former City Industries property, and lies beneath a lens of low permeability sediments (35-38 feet bls) where TCE and 1, 1-DCE are at high enough concentrations to continue to act as a source of groundwater contamination. A groundwater contaminant plume in a permeable sand approximately 38-45 ft below land surface (bls), contains TCE and 1,1-DCE significantly above GCTLs and extending off the City Industries Property to the north, south and west. Deepest groundwater samples were collected at 62 ft bls and confirmed elevated concentrations of TCE and 1, 1-DCE, primarily onsite. 1,4-Dioxane was identified in offsite groundwater.

Schedule

The current pump-and-treat remedial system was designed and installed in the early 1990s. As the system ages, the frequency and duration of operational downtime is increasing. It is likely the system has reached the point of diminishing returns toward achieving the remedial goals. Groundwater recovery rates continue to be constrained by the naturally occurring phosphorus levels in groundwater and concentration limits that must be met for discharge of treated water to the Crane Strand Canal under the NPDES permit. The treatment system is also not designed to address 1,4-dioxane.

EPA, DEP and the PRP group representatives met in April 2016 to discuss a path forward to optimize the groundwater remedy. The PRP group submitted a focused feasibility study (FFS) in August 2016 which is under review by EPA and DEP. The FFS presents an evaluation of remedial enhancements to the existing groundwater recovery and treatment system in order to achieve the groundwater remediation goals at the site, both in the source area and east of Forsyth Road. It also looks at optimization measures to address compliance with surface water discharge criteria and to address the 1,4-dioxane groundwater plume. Following completion of the FFS, the EPA will issue an Explanation of Significant Differences (ESD) to document selected changes to the existing groundwater remedy.