

# **ENVIRONMENTAL SITE ASSESSMENT**

**NCR Recreational Fields  
Part Parcels R72-30-7-1 and -2  
Dayton, Montgomery County, Ohio**

**Prepared For:  
City of Oakwood, Ohio  
30 Park Avenue  
Dayton, Ohio 45419**

**October 9, 2006**

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**Report No. EN-24403A.01**

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## RECOGNIZED ENVIRONMENTAL CONDITIONS

ASTM E1527-00 - Standard Practice for Environmental Site Assessments defines a **recognized environmental condition** as “the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, past release or material threat of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, groundwater, or surface water of the *property*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws.” The term does not include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

LJB, Inc. has performed a **Phase I Environmental Site Assessment**, in conformance with the scope and limitations of ASTM Practice E1527-00, of the NCR recreational fields consisting of portions of Montgomery County parcels R72-30-7-1 and -2, located west of Far Hills Avenue and south of River Park Drive in Dayton, Montgomery County, Ohio. Any exceptions to, or deletions from, this practice are described in Section 2 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the **property** except the following:

- During environmental studies performed by NCR, arsenic was detected in surface and near-surface soils of the recreation fields at levels that exceed the Ohio EPA VAP generic direct-contact soil standard for residential soils (VAP residential standard). While arsenic can occur in Ohio soils at levels above the VAP residential standard, comparisons with two populations of CERCLA-generated background data indicate a past release rather than naturally-occurring levels of the metal. Lead was detected in one sample at levels above the VAP residential standard. The presence of these metals above natural levels and risk-based standards constitutes a recognized environmental condition. Because the contaminants do not appear at elevated levels in the groundwater beneath the subject property, it does not appear that significant migration of the contaminants is occurring. A management plan is recommended to prevent both future migration and exposure of visitors to and workers at the subject property.
- During the NCR environmental studies, trichloroethene was detected in several monitoring wells in early sample rounds at levels above the U.S. EPA drinking water maximum contaminant level (MCL), which is also used as the Ohio EPA VAP generic potable use groundwater standard. The compound was intermittently detected in later groundwater samples from the same wells, but not above the MCL/VAP standard. The presence of this volatile organic compound in the groundwater at the subject property is considered a recognized environmental condition, but other than continued monitoring, no action is recommended because levels present are not sufficient to result in a threat to human health or the environment, or to migrate off the subject property.
- During the NCR environmental studies, *cis* 1,2-dichloroethane was detected in a monitoring well along the east line of the subject property at levels above the U.S. EPA drinking water MCL. The well is relatively new and only one round of sampling data is available. Two other wells have had much lower levels, well below the MCL/VAP standard, of this contaminant in early sample rounds. The detection at levels above the standard represents a recognized environmental condition. As with the trichloroethene detections discussed above, continued monitoring is recommended, but because the groundwater is not used as drinking water, the levels present are not considered sufficient to result in a threat to human health or the environment, or to migrate off the subject property.

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## 1 SUMMARY

This Phase I Environmental Site Assessment has been prepared at the request of the city of Oakwood, Ohio. It investigates the NCR recreational fields consisting of portions of Montgomery County parcels R72-30-7-1 and -2, located west of Far Hills Avenue and south of River Park Drive in Dayton, Montgomery County, Ohio. The purpose of this report is to examine the current environmental condition of the subject property as part of qualifying for the innocent landowner defense to CERCLA liability. The study included a site visit, examination of historical and photographic records, inspection of agency records relating to environmental concerns, and interviews with persons having knowledge of activities occurring on the property currently or in the past.

### 1.1 Property Information

The subject property may be divided into two portions for purposes of discussion. The main portion of the property includes the Oakwood soccer fields and associated parking, and has been a recreational field throughout its known history. Around 1919 evidence suggests a portion of this area was used for community gardens. The entire area was graded by NCR for use as corporate and community ball fields in 1938; some fill soils appear to have been placed on the subject property during this activity.

Around the southern and southeastern edges of the subject property, NCR maintains an access road and storage building. Historically, this area was the general location of the Miami and Erie Canal and a traction railroad linking Dayton to Cincinnati. Both of these former uses were discontinued by the 1930s, and the access road is clearly visible in the 1962 aerial photograph. Because the storage building was used for storage of explosives and flammable materials during the second world war, it is assumed the access road was present in some form by that time.

The majority of the subject property is level and rests in the former flood plain of the Great Miami River, with an embankment of approximately ten feet up to the level of the access road. The property is underlain by sand and gravel alluvial deposits of the Miami Valley Buried Aquifer, a sole source aquifer. On-site geological investigations indicate the presence of an upper saturated sand and gravel zone with some silt content, overlying the deeper aquifer. Based on studies performed by NCR in the vicinity, this saturated zone is heavily influenced by localized pumping and the maintenance of the water level in the nearby Old River Park lagoon, resulting in wide fluctuations in the groundwater flow direction. According to information developed for the University of Dayton urban setting designation study, the fluctuations have prevented groundwater contamination detected elsewhere on the NCR campus from traveling any great distance.

During the site visit, the soccer fields were being striped with latex field paint. During mixing at the maintenance storage building in the middle of the fields, a small amount of paint had been spilled on the concrete and asphalt pavement. Because of the pavements' slopes, the materials had not traveled onto the ground surface. The grass of the fields appeared healthy except around fence posts and the vegetation line at the edge of the field, where herbicide had apparently been used to prevent vegetative growth.

The parking lot adjacent to the fields was in poor condition, with some gravel areas and some areas deteriorated sufficiently to permit significant grass growth. Dry wells used for drainage of the lot showed no staining or liquid surface sheen. A marked utility line at the edge of the lot appears to correspond to a telecommunications line shown on plans of the area provided by the city of Oakwood.

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Several monitoring wells were noted in the field and parking lot areas and appeared to correspond well with those documented in environmental investigation reports provided by NCR. They appeared in good condition with no odors, staining or deterioration noted.

In the access drive area, piles of hard fill materials were noted along the drive east of the southern maintenance building. No indications were noted of the presence of drums or other containers, or materials other than soil, asphalt, concrete, brick and very limited metal pipe and fence materials.

The southern maintenance building contained mowers, snow blowers and propane storage racks together with other exterior maintenance items. No major chemical storage other than a pallet of fertilizer was present. In the two southern bays of the building, fairly heavy oil staining of the apparent dirt floors was noted.

Adjacent to the east side of the southern maintenance building, a hydrocarbon odor was detected. The odor appeared to come from the heavy creosote-like treatment applied to an adjacent utility pole. A transformer on the pole was intact with no signs of leakage, and the ground surface surrounding the pole appeared unstained except immediately adjacent to the pole, where the liquid preservative had come into contact with the soils at the base of the pole.

South of the southern maintenance building across the access drive was a large pile of cut tree trunks and brush; no other materials appeared stored in this location. The soils between the east end of this pile and the west end of the hard fill pile contained fragments of brick, glass and asphalt-like materials.

Near the southwestern corner of the subject property, a large number of polyethylene drums converted for use as trash barrels were overturned for storage, and had been surrounded by dense vegetative growth. A nearby dumpster contained cardboard shipping containers and trash of a type identifying it as coming from the adjacent Old River Park and recreational fields.

Of the government records reviewed, 11 sites were found to be located within the minimum search distances set by the ASTM E1527-00 Standards on Environmental Site Assessments for Commercial Real Estate. The subject property was not on any database searched. The sites are discussed in Table 4.

### 1.2 Findings

The following environmental conditions were identified during the course of this investigation:

- The floors of the two southern bays in the southern maintenance building exhibited a layer of heavily oil-stained soil. The staining indicated a slow release over time of petroleum from the yard maintenance equipment stored in the bays. Because the area is covered and does not receive rainwater infiltration that could promote the migration of the oils, it appears that the petroleum is contained within the surface of the building's floors. The stained area is expected to be classified as a *de minimis* amount that would not present a threat to human health or the environment, and therefore does not qualify as a recognized environmental condition. To prevent the future migration of contaminants in the event of changing conditions, the stained soils should be removed and properly disposed, and housekeeping measures should be instituted such as the use of adsorbents to contain dripping oils.
- During environmental studies performed by NCR, arsenic was detected in surface and near-surface soils of the recreation fields at levels that exceed the Ohio EPA VAP generic direct-contact soil standard for residential soils (VAP residential standard). While arsenic can occur in Ohio soils at levels above the VAP residential standard, comparisons with two populations of

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CERCLA-generated background data indicate a past release rather than naturally-occurring levels of the metal. Lead was detected in one sample at levels above the VAP residential standard. The presence of these metals above natural levels and risk-based standards constitutes a recognized environmental condition. Because the contaminants do not appear at elevated levels in the groundwater beneath the subject property, it does not appear that significant migration of the contaminants is occurring. A management plan is recommended to prevent both future migration and exposure of visitors to and workers at the subject property.

- During the NCR environmental studies, trichloroethene was detected in several monitoring wells in early sample rounds at levels above the U.S. EPA drinking water maximum contaminant level (MCL), which is also used as the Ohio EPA VAP generic potable use groundwater standard. The compound was intermittently detected in later groundwater samples from the same wells, but not above the MCL/VAP standard. The presence of this volatile organic compound in the groundwater at the subject property is considered a recognized environmental condition, but other than continued monitoring, no action is recommended because levels present are not sufficient to result in a threat to human health or the environment, or to migrate off the subject property.
- During the NCR environmental studies, *cis* 1,2-dichloroethane was detected in a monitoring well along the east line of the subject property at levels above the U.S. EPA drinking water MCL. The well is relatively new and only one round of sampling data is available. Two other wells have had much lower levels, well below the MCL/VAP standard, of this contaminant in early sample rounds. The detection at levels above the standard represents a recognized environmental condition. As with the trichloroethene detections discussed above, continued monitoring is recommended, but because the groundwater is not used as drinking water, the levels present are not considered sufficient to result in a threat to human health or the environment, or to migrate off the subject property.
- In photographs from 1938, indications were noted of grading activities including the placement of some quantity of fill soil. No indications of the placement of non-soil materials on the subject property were noted, nor was uneven settlement noted in the field. Therefore, the former grading activities are not considered a recognized environmental condition.
- Photographs from 1938 show the placement of non-soil fill in the vicinity of the north line of the former Old River Park swimming pool and the adjacent tennis courts. The fill materials in the photographs included furniture, containers, and drums. The nature of the fill suggests the potential for the presence of hazardous substances or petroleum products in the subsurface at that location. However, groundwater flow studies performed by Hull & Associates as part of the University of Dayton urban setting designation study indicate any groundwater contamination is likely to remain in the general vicinity of the source rather than to travel beneath the subject property. Based on currently available information, the off-site fill materials are not considered a recognized environmental condition with respect to the subject property. If a greater level of comfort is desired, one or more monitoring wells could be installed near the northwestern corner of the subject property and sampled for appropriate chemicals of concern.
- During the site visit, spilled diluted field paint was noted on the concrete and asphalt pavement adjacent to the field maintenance building. The quantity was relatively small and given the dilution this spill would likely qualify as a *de minimis* amount. Therefore, the spill is not considered a recognized environmental condition.
- During the site visit, hard fill piles were noted along the access drive at the southeast corner of the subject property and off the property to the south and east. No containers, stains or other indications were noted of the presence of hazardous substances or petroleum products, and vegetative growth around the piles was healthy. Therefore, these materials are not considered a recognized environmental condition.

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- During the site visit, a large pile of cut wood was noted south of the south maintenance building. No other materials were noted in the pile, and it is not considered a recognized environmental condition.
- Near the southwest corner of the subject property, a large number of polyethylene drums converted for use as trash barrels were stored upside-down adjacent to the access drive. This storage area was also noted on the 2000 aerial photograph. Vegetative growth was healthy around the drums and no staining or other indications of the presence of hazardous materials or petroleum products were noted. Therefore, the converted drums are not considered a recognized environmental condition.
- NCR facilities in the immediate vicinity of the subject property appear on multiple environmental databases, as listed in Table 4. As indicated, all RCRA records indicate no violations or enforcement actions. The leaking underground storage tank investigation at the building sold to the Dayton Daily News indicates no contaminants have traveled onto the subject property and that the UST in question has been removed, preventing future releases. Information provided by NCR relating to their Voluntary Action Program activities at the NCR West Campus indicates no contaminants have traveled onto the subject property as a result of past NCR activities. For these reasons, the presence of the NCR sites on multiple environmental databases does not constitute a recognized environmental condition with respect to the subject property.
- The Shell/True North UST release incidents on South Main Street include one for which no further action status has been obtained, and another currently under investigation with multiple groundwater contaminants reported. Based on information provided by NCR for the intervening properties, the release at this site is not expected to result in petroleum substances in the groundwater beneath the subject property, and therefore these release incidents are not considered a recognized environmental condition with respect to the subject property.
- The Hotopp & Sons reported UST release incident is not listed on the BUSTR online database. This generally indicates a mistaken permit application that briefly resulted in a release database record, but does not indicate a release incident and therefore does not qualify as a recognized environmental condition.
- No further action status has been granted for the Frank Z Chevrolet release incident, and therefore it is not considered a recognized environmental condition with respect to the subject property.
- A release incident database record has been generated for the former Sohio on Brown Street due to a closure permit request. This does not indicate a release has occurred, and therefore this database record is not considered a recognized environmental condition with respect to the subject property.
- The city of Oakwood Service Department on Shafor Boulevard has a record on the Ohio EPA DERR database indicating a site assessment has been performed at that site. LJB's professional knowledge indicates that the Shafor Boulevard site will not impact the subject property.
- The Tomlinson Residence on Oakwood Avenue is located in an area where geological formations would not be expected to allow for travel of contaminants onto the subject property. Therefore, this site is not considered a recognized environmental condition with respect to the subject property.

## 2 SCOPE OF SERVICES

### 2.1 Purpose

The purpose of this Phase I Environmental Site Assessment is to assist the Client in meeting one of the requirements necessary to qualify for the innocent landowner defense to CERCLA liability, that of performing all appropriate inquiry into the previous ownership and past uses of the property consistent with good commercial and customary practice. As such, the following Scope of Services was performed in accordance with ASTM Practice E 1527-05.

### 2.2 Terms and Conditions

This report presents information concerning LJB's investigation into the presence and potential physical impact of recognized environmental conditions with respect to the subject property. Questions regarding the impact of recognized environmental conditions to owner liability should be referred to a qualified environmental attorney.

The scope of the LJB Inc. investigation of the NCR recreational fields consisting of portions of Montgomery County parcels R72-30-7-1 and -2, located west of Far Hills Avenue and south of River Park Drive in Dayton, Montgomery County, Ohio (report dated October 9, 2006), was in accordance with the generally accepted standards and practices of engineers and environmental consultants undertaking similar environmental assessments, and the statements contained in the report are true and correct to the best of LJB's knowledge.

This Phase I Environmental Site Assessment is limited in scope to the specific terms of the agreement previously entered into between LJB and the city of Oakwood, Ohio. While LJB has made every reasonable effort to ensure the accuracy and completeness of the information contained in this report, LJB makes no warranty, express or implied, with respect to the information related to the records review conducted for this investigation, since this information is collected, maintained and provided by other agencies. LJB shall not be liable for any damage, consequential or otherwise, caused by or resulting from the information and/or conclusions contained herein, except for damage resulting from LJB's own negligence. The ownership history information was obtained from a cursory inspection of public records. LJB is not a professional title insurance firm and makes no warranty, express or implied, that the chain is a legally defensible or insurable comprehensive delineation of past ownerships. This report is intended solely for the use of the city of Oakwood and may not be relied upon or disseminated to any third person or entity, other than a commercial financial institution or other lender providing financing for the acquisition or improvement of the subject property, without the express written permission of LJB.

### 2.3 Historical References

Ownership history research was performed by LJB personnel for the parcels comprising the subject property. A list of deeds and other pertinent information is included in Appendix A. This information is included solely as an indicator of prior land usage and is not intended to represent a complete deed record. In addition, the following materials were examined for indications of land usage:

- Dayton City Directories (on file at the Dayton Metro Library Main Branch) for the years 1915-2004.
- Montgomery County Atlases for 1851, 1869, 1875 and 1896 (on file at the Dayton Metro Library Main Branch).
- Sanborn Fire Insurance Maps viewed on OPLIN for the years 1898, 1918 and 1950.

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- Historical USGS topographic maps from LJB's internal files for the years 1913, 1955, 1966, 1974 and 1981.
- Aerial photographs provided by the Miami Valley Regional Planning Commission covering the years 1938, 1949, 1962, 1968, 1975, 1980, 1987 and 1995.
- Historical photographs of the subject property obtained from the NCR collection maintained by the Dayton History Archive Center.

### 2.4 Geophysical References

The following geophysical data sources were reviewed for information concerning the physical setting of the subject property:

- USGS 7.5 Minute Topographic Map, Dayton South Quadrangle. Obtained from DeLorme 3-D TopoQuads® 2.0, ©2002 DeLorme (www.delorme.com).
- SCS Soil Survey of Montgomery County, Ohio. Map and descriptions obtained from the National National Cooperative Soil Survey Web Soil Survey 1.1; additional information obtained from the June 1973 Montgomery County Soil Survey.
- National Flood Insurance Program FIRM Maps for Montgomery County, Ohio (Panel Numbers 39113C0252E and 39113C0256E). Effective January 6, 2005.
- ODNR Ground Water Resources Map of Montgomery County. Published 1986.
- ODNR Ground Water Pollution Potential of Montgomery County. Report No. 28. Published January 1995.
- MVRPC Montgomery County Sole Source Aquifer Map. Issued October 1988.
- ODNR Map of Oil and Gas Fields in Ohio, 1974.
- ODNR Map of Oil and Gas Pipelines in Ohio, 1989.

### 2.5 Government Agency Record References

A records search was performed by FirstSearch Technology Corporation on August 22, 2006. A corrected version necessary due to the corruption of the original electronic file was obtained on September 21, 2006 and is provided in Appendix D. The records were examined by LJB during the course of the investigation for indications of the presence of known sources of contamination in the vicinity of the subject property. As reflected in Table 3 in Section 3.5, each database was searched for records within the specified ASTM Approximate Minimum Search Distance for that database. Information concerning the contents and update status of each database are found at the end of the FirstSearch report in Appendix D.

### 2.6 Site Investigation Methodology and Limiting Conditions

LJB personnel conducted an on-site examination of the subject property on September 20, 2006 to examine it and the surrounding area for evidence of contamination with hazardous materials or of potential sources of the same. The access drive was walked within the subject property and driven outside of the property boundaries. Vegetation lines adjacent to the access drive on the subject property were entered at regular intervals except where dense vegetation prohibited entry. The southern maintenance building was entered. The perimeter of the soccer fields was walked and the interior was bisected; the interior of the field maintenance building was observed from the open doors. The perimeter of the parking lot was walked and the interior observed on a random, wandering path. No sampling was done in association with this report.

### 2.7 Correspondence and Interview Contacts

The following individuals were contacted during the course of the investigation for information regarding the subject property:

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- City of Oakwood officials provided general information on planned uses of the site.
- Mr. Roger McReady with NCR provided information throughout the investigation and arranged access to the restricted areas of the subject property. NCR security officer P. Beattie provided the access during the site visit.
- Personnel with the Montgomery County Combined Health District were contacted regarding known environmental concerns at the subject property.
- Mr. Jeff Opt, NCR archivist with Dayton History, provided assistance with the NCR archives maintained by that organization.

### 2.8 Additional Information Sources

The following additional information sources were consulted during the course of the investigation:

- RMT Inc. Property Assessment – Soccer Fields and Adjacent Parking. August 31, 2006.
- Undated, unattributed table and graph: VOCs Detected in Groundwater at MW-604 Over Time. Provided by NCR.
- RMT Inc. Site plan, boring logs, well diagrams and data table, soccer field investigation. Various dates, 2003.
- NCR. NCR World Headquarters, Montgomery County; Request for Information – Response. August 21, 2006.
- BHE Environmental, Inc. Phase I Environmental Site Assessment of the NCR Sugar Camp Facility, 101 W. Schantz Avenue, Dayton, Ohio. July 15, 2003. Contained within NCR (2006).
- RMT Inc. NCR Area 6 Initial Site Characterization, Dayton, Ohio. May 2003 (Working Copy). Contained within NCR (2006).
- RMT Inc. Subsurface Investigation, NCR, Dayton, Ohio. May 2004 (working copy). Contained within NCR (2006).
- RMT Inc. Adjacent Property Assessment – Area 6 and Lot 3. February 27, 2006. Contained within NCR (2006).
- Hull & Associates, Inc. General Summary of Hydrogeologic Information for the University of Dayton Campus West Property Located at 1600 Brown Street and 1300 South Patterson Boulevard, Dayton, Ohio 45409. Undated.

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### 3 RECORDS REVIEW

#### 3.1 Location

The subject property is located south of River Park Drive and west of Main Street/Far Hills Avenue at the former NCR recreational ball fields, as shown in Figure 1. Figure 2 provides a more detailed site map showing information specific to this Phase I Site Assessment.

#### 3.2 Ownership and Occupancy History

Dayton City Directories first list properties by street address in the 1914-15 directory. The directory series was examined at ten-year intervals from 1914-15 through 2004 for Main Street (nearest east), Stewart Street (nearest major north), River Park Drive (nearest north), Patterson Boulevard (nearest west), K Street (north; internal NCR street) and L Street (north, internal NCR street). Table 1 shows all non-residential listings for these streets in the vicinity of the subject property.

**Table 1:** City Directory Listings, NCR Recreational Fields

Address	Year(s)	Use
Subject Property	All	Not specifically listed
1 River Park Drive	1990 through 2004	NCR Universal Credit Union/ Cuna Mutual Insurance Group
East Side Main Street between Stewart and L Streets; addresses in the 1300s	1914-15 through 1970	NCR
1515 South Main Street	1990 through 2004	Dayton Area Board of Realtors/ Harmon Homes
1520 South Main Street	1990 through 2004	Medical offices
1600 South Main Street	1980 2000	Capsular Products (division of Appleton Papers) micro encapsulation NCR data base info retriev
1601 South Main Street	2000	CIT Credit "factors of coml paper"
1610 South Main Street (Southeast corner Main Street and L Street)	1930 through 1940	Filling station
1611 South Main Street	2000	NCR data processing
1169 Patterson Blvd	1940	Staley Dye House dyers and cleaners
East side Patterson Blvd south of Stewart Street	1950 through 1960	NCR
1334 Patterson Blvd	2000	Jones Lang LaSalle Americas real estate agent
1414 Patterson Blvd	1990 through	Marriott Hotel
1700 Patterson Blvd	1980 through 1990	NCR World Headquarters
Northeast corner Patterson Blvd and Calgary Ave	1940	Filling station
East side Patterson Blvd south of K Street	1950 through 1990	Old River Park

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### 3.3 Site Development History

Copies of historic atlases, topographic maps and aerial photographs are included in Appendix B. Due to potential copyright concerns, Sanborn maps have been reviewed but have not been copied in the appendices. Due to conditions of the access agreement with LJB, materials from the NCR archives have been reviewed but have not been copied in the appendices.

**Table 2:** Historical Map and Aerial Findings, NCR Recreational Fields

Location	Years	Findings
Subject Property	1851-1938	Undeveloped land adjacent to Miami & Erie Canal. Side branch of Miami River first shown in 1913. Small building shown near northeast corner of property, 1918 Sanborn only. Surface disturbed in 1938 aerial, possibly from grading.
	1949-2000	Ball fields operated by NCR. South storage building first appears in 1962 aerial. Portions of canal appear through 1966 topographic map. Northeast parking lot first appears in 1968 aerial, as does materials storage along southern access road. Most materials storage gone by 1980 aerial; some remains around south storage building through 2000 aerial. Square light area (pavement or uncovered soil) located along north property line in 1995 aerial only. Ballfield infields deteriorated in 2000 aerial.
Adjacent area to north	1851-1918	Only minor development indicated. A road connects canal to river in 1851, with a building at the river end. A drainage way appears in a similar location in 1869-1875. The roadway reappears on the 1913 topographic map, connecting to K Street on the 1918 Sanborn map, in which Stewart Street appears for the first time.
	1938	Several NCR buildings present: building at southeast corner of Stewart Street and Patterson Boulevard; several small buildings in future new foundry location. Remainder of surface disturbed.
	1949-1955	Previous buildings remain; large parking area and one additional NCR building added (not shown on 1955 topographic map). Old River Park swimming pool present, reached by access drive crossing subject property from south.
	1962-1975	Increased NCR use. Building added along Stewart Street, 1962. Small buildings and building noted in 1949 replaced by new foundry building in 1962; surface disturbance is visible in former 1949 building location. Pavement (future tennis courts) present along north subject property line. Foundry annex present beginning in 1966. Additional parking lot around foundry in 1968; building southeast of Stewart and Patterson is expanded. Additional Old River parking adjacent to swimming pool in 1975 aerial.

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**Table 2, cont.**

Location	Years	Findings
Adjacent area to north, continued	1980-2000	Decreasing NCR use. Foundry replaced by parking in 1980 aerial, and Marriott Hotel under construction to northwest. Building along Stewart being demolished in 1995 aerial. Old River Park swimming pool filled in on 2000 aerial.
Adjacent area to northeast	1851-1895	Mostly undeveloped. Canal present; saw mill shown through 1875.
	1913-1974	Increasing development along Main, Stewart, K and L Streets. Railroad first appears in 1913. 1918 Sanborn confirms each block has a building, including foundries, warehouses and the theater. Lumber and miscellaneous storage immediately adjacent to northeast side of subject property. One building converted to a green space by 1968 aerial.
	1975-2000	Decreasing development in same area. Two buildings along L Street demolished by 1975 aerial. Another gone by 1980 aerial. Credit Union building constructed in one 1975 vacant area; outside storage in lumber yard greatly reduced. Dayton Area Board of Realtors building constructed by 1987. Railroads gone by 1995. One additional building gone by 2000.
Adjacent area to east	1851-1949	Lightly developed. Main Street/Far Hills Avenue present throughout. Traction railroad visible in 1938 and 1949 aerials. Storage along access drive begins in 1949 aerial.
	1962-1987	Foundry sand placement in adjacent ravine begins in 1962; storage along access drive continues. Both activities diminish in 1975 aerial. 1980 aerial shows surface disturbance but no stored materials along access drive; an access path leading to a large, dark-colored clearing in the wooded ravine area indicates possible additional foundry sand placement. By 1987, woods are being reestablished. Apparent soil piles are located along southeast bend of access drive.
	1995-2000	Vegetative cover increases along access drive and in wooded area. Materials storage limited to the paved storage yard and immediate environs.
Adjacent area to south	1851-1913	Beginning residential development. Miami-Erie canal follows south line of property. The Cincinnati Turnpike (later Schantz Avenue) is present. Residences begin to appear by 1869 atlas. Cemetery first appears in 1895 atlas. Looped path on Sugar Camp property first appears on 1913 topographic map.

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**Table 2, cont.**

Location	Years	Findings
Adjacent area to south, continued	1918-1968	NCR and other commercial development. Filling station at northwest corner of Schantz and Far Hills Avenues first shown on 1918 Sanborn. NCR Sugar Camp cabins and assembly buildings appear on 1938 aerial, as does filling station at southwest corner of Schantz and Far Hills.
	1975-2000	Present-day Sugar Camp buildings and parking first appear in 1975 aerial. Filling stations appear demolished by 1980. All but one of the residences north of Schantz between Far Hills and the NCR property appear demolished by 2000.
Adjacent area to west	1851-1895	One building appears on north side of canal west of subject property in 1851. Gone by 1869. Different building appears further north in 1895. No split shown in river during these years.
	1913-1974	River side channel shown in 1913. Old River Park alignment of channel appears under construction in 1938. Patterson Boulevard modern alignment, Old River Park, Carillon Park all present by 1949.
	1975-2000	NCR World Headquarters under construction in 1975. New building appears at edge of park in 1987. No other major changes.

A 1919 map from the NCR archive indicates the subject property was in use as a community garden. The canal and traction railroad are also shown. North of the subject property, multiple wells are shown leading to a central pump house. Several buildings are present, all of which have been demolished over time.

Photographs from 1938 show construction of Old River Park, including the recreational fields. Based on photo dates, construction began in early 1938. Overview photos show that the field was graded to its present profile. Some fill soils appear to have been placed on the subject property. In the area to the north, several photos show drums and containers, as well as wooden furniture, at the base of a fill slope in the vicinity of the north side of the future Old River swimming pool and tennis courts.

Other photos from the 1930s show storage sheds along the railroad near the buildings northeast of the subject property. Based on views across the fields toward Far Hills Avenue and Sugar Camp, no NCR activity was taking place along the southern and southeastern sides of the fields as of the late 1930s. A series of 1959 photographs taken from a plane above the field show no storage in this area, although the southern maintenance building is present. The Sugar Camp cabins are visible. A cleared area in the woods along Far Hills Avenue appears to be grass-covered.

An undated photograph that appears to be from the late 1960s or early 1970s based on the fading of its color shows wood and metal items (crates, beams, metal casings typical of HVAC equipment) stored along the access drive west of the southern maintenance building. An aboveground storage tank with riveted ends and an apparent pressure fitting on one side is present among the stored items; it rests at an angle and does not appear to be connected to any equipment.

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### 3.4 Regulatory Agency Records

Where prescribed, the minimum search distances set by the ASTM E1527-00 Standards on Environmental Site Assessments for Commercial Real Estate have been used in searching regulatory agency records. Table 3 shows the number of sites found within the minimum search distance for each database searched. Relevant sites are discussed in Table 4. The subject property does not appear on any database.

**Table 3: Regulatory Agency Record Search Results**

Federal Databases	Minimum Search Distance	# Sites Found	State Databases	Minimum Search Distance	# Sites Found
National Priorities List	1 mile	0	Ohio DERR Database	1 mile	3
CERCLIS	0.5 mile	0	BUSTR Registered UST Summary	Subject/Adjoining	0
CERCLIS NFRAP	0.5 mile	0			
RCRA TSD Facilities	0.5 mile	0	BUSTR Petroleum UST Release Incidents (LUST)	0.5 mile	9
RCRA CORRACTS	1 mile	0			
RCRA Generators including NLR	Subject/Adjoining	0	Ohio EPA Brownfields Inventory	0.5 mile	0
ERNS	Subject/Adjoining	0	Licensed Solid Waste Landfills	0.5 mile	0
<b>Government Databases Not Included in the ASTM Standards – All Searched Subject/Adjoining</b>					
Database	# Sites Found	Database	# Sites Found		
Federal Air and Surface Water Releases	0	Federal PCB Activity Sites	0		
Ohio SPILLS	0	Federal Toxic Release Inventory	0		
Federal FINDS	1	NPDES Permits	0		
Federal NCDB	0	US DOT HMIRS	0		

**Table 4: Regulatory Agency Record Discussion**

Site Name, Address and Distance/Direction from Subject	Database	Comments
NCR Corp. Facilities Planning Div./ AT&T GIS 1611 S Main St	RCRA Gen FINDS (3)	FINDS for AT&T: lists RCRA record FINDS for NCR (2): both list FRS and Ohio Core records; one lists RCRA record RCRA: Small quantity generator, no violations or enforcement actions

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**Table 4, continued**

Site Name, Address and Distance/Direction from Subject	Database	Comments
AT&T Global Information Solution/ NCR Corporation CTP 1601 S Main St	FINDS (2) RCRA Gen UST LUST	FINDS for AT&T: lists RCRA record. FINDS for NCR: lists RCRA and FRS records RCRA: Conditionally exempt small quantity generator with no enforcements or violations UST: One 8,000 gallon diesel UST in use as of 2002 LUST: Tier 2 – release under investigation; BUSTR online indicates benzene in the groundwater. A Tier1/Tier 2 Evaluation Report prepared by Terran indicates all contamination is contained within the immediate vicinity of the former UST, which is at least 500 feet northeast of the subject property.
NCR Corp World HQ 1700 S Patterson Blvd	Ohio DERR LUST	DERR: site is in Voluntary Action Program (VAP). Information provided by NCR indicates the VAP site is actually located to the north of the subject property, and that contamination detected on the VAP property has not traveled onto the subject property. LUST: No further action status obtained.
NCR West Campus Property 1300 S Patterson Blvd	Ohio DERR	Site obtained Clean Ohio Fund monies. This site is the VAP site discussed above.
NCR Corporation 1529 Brown St EMD	LUST	No further action status obtained.
Shell #23420931760/ True North #1703 1224 S Main St	LUST (2)	Shell: No further action status obtained True North: Tier 1 – release under investigation; BUSTR online indicates multiple groundwater contaminants.
Hotopp & Sons 1611 Brown St	LUST	FirstSearch indicates “no closure report received” status; BUSTR online does not list this release.
Frank Z Chevrolet 1620 Brown St	LUST	No further action status obtained.
Former Sohio 1611 Brown St	LUST	Incident status assigned due to request for closure permit; no release has been confirmed.
Unknown (Tomlinson Residence) 315 Oakwood Ave	LUST	Release reported from unregulated UST; BUSTR does not track such releases beyond the report.
City of Oakwood Service Dept 210 Shafor Blvd	Ohio DERR	Site has undergone a Site Assessment. LJB professional knowledge indicates this site has no potential to impact the subject property.

### 3.5 Physical Setting Source Review

Copies of available maps and information are included in Appendix C.

The subject property is relatively level, and is located at the base of a bluff rising over 60 feet to the south and southeast. The southern and eastern edges of the property include portions of an embankment associated with the former canal and traction railroad and elevated approximately ten

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feet above the main portion of the property. The subject site is located outside of the designated flood plain, within Zone X, minimal flooding.

The SCS Soil Survey for Montgomery County shows two main soil map units on the subject property: Ross-Urban land complex and Urban land, gravelly material. Minor areas of Made Land and Hennepin and Miamian silt loams, 18 to 25 percent slopes, moderately eroded, are found in the southeastern corner of the subject property.

Ross-Urban land complex indicates a silt loam soil with moderate natural permeability, but which has been altered by development. Urban land, gravelly material, indicates a soil that has been so altered by development that its characteristics cannot be predicted; in this case the native material is indicated to have a high gravel content. The Hennepin-Miamian silt loams would be expected to have moderately slow permeability. According to the soil survey, Made Land "consists of sanitary land fills and small, highly mixed spots outside of built-up areas."

The ODNR Ground Water Resources Map indicates that the site is located within a region of regionally extensive, thick permeable sand and gravel deposits expected to yield large quantities of groundwater. The adjacent hillside to the south and southeast is expected to have relatively thick unconsolidated deposits of silty sand and clayey till with thin layers of sand and gravel; groundwater yields in this formation are expected to be low. The ODNR Ground Water Pollution Potential Map indicates that the subject site is located in a hydrogeologic setting characterized by thick layers of sand and gravel deposited in a former topographic low. The report assigns the region groundwater pollution potential indices of 196 and 167, within the second and third most sensitive classifications of the eight established in the Pollution Potential Index Range, indicating that groundwater in the region is relatively sensitive to the effects of pollutant releases. Depth to groundwater is estimated at 15-30 feet. The site is located within the Class 1 and Class 2 boundaries of the designated sole source aquifer for Montgomery County.

The Sole Source Aquifer Map for Montgomery County indicates that main-aquifer groundwater within the immediate vicinity of the subject property is flowing generally southwest. However, studies conducted by NCR indicate that localized effects of pumping and operation of the Old River Park lagoon cause the near-surface groundwater at the subject property to alternate between southwesterly and northeasterly flow directions.

The ODNR Map of Oil and Gas Fields in Ohio indicates no oil or gas fields in Montgomery County. The USGS topographic map and the ODNR Map of Oil and Gas Pipelines indicate there are no pipelines located within one-half mile of the subject property.

### 4 SITE VISIT

LJB personnel performed a site visit on September 20, 2006, using the methodology described in Section 2.4. A copy of the field checklist completed at the time of the site visit is included in Appendix E of this report. Please refer to the checklist for potential indicators of environmental concerns for which LJB personnel specifically searched and which were not observed. Photos of the site are provided in Appendix F.

#### 4.1 General Site Setting

- Current Use:** Main portion: soccer fields and field maintenance equipment storage with adjacent parking.  
Access drive area: Additional maintenance equipment storage.
- Obvious Past Uses:** Main portion: Baseball/softball fields and parking.  
Access drive area: Cut vegetation disposal, hard fill disposal.  
Remnants of railroad grade and canal cut visible in some areas.
- Topography and Geology:** Main portion: relatively flat; slight slope toward edges.  
Access drive area: Drive is elevated approximately 10 feet above fields, with another elevated plateau marking the former railroad grade at approximately eight feet above the drive. In some areas, there is a channel likely marking the former canal between the drive and the railroad plateau.
- Structures:** Main portion: Storage building for ball field maintenance: paint storage and equipment storage located here. The building is wood-framed and –sided with a concrete floor pad.  
Access drive area: Storage building for lawnmowers and other park maintenance equipment is located south of the fields along the access drive. The building consists of a poured concrete structure with a concrete block addition. The concrete structure has dirt floors while the addition is on a concrete pad.
- Roads/Paths/Parking Facilities:** Main portion: Accessed by drives extending south from River Park Drive. Parking lot of deteriorated asphalt makes up northeast sixth of subject property. Access drive for Old River Park extends along north side of fields; more narrow access drive borders west side of fields with an extension to the maintenance building within the field area.  
Access drive area: The access drive extends along the east and south sides of the fields, joining the Old River Park drive southwest of the subject property. An access drive continues southwest from that point.
- Potable Water Supply:** Main portion: Municipal water supplies the soccer field facilities.  
Access drive area: No potable water supply evident
- Sewage Disposal System:** Main portion: Municipal sanitary sewer supplies the facilities.  
Access drive area: No sewage disposal evident.

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- Adjoining North: NCR facilities including Old River Park former swimming pool area and shower house, admission building and tennis courts; parking lots; and Buildings 31/22/13 (recently purchased by Dayton Daily News) and adjacent storage yard.
- Adjoining East: Additional Building 13 storage yards, continuation of the on-site access road, former railroad plateau and wooded undeveloped land. Materials storage, including a water storage tank and drummed soil cuttings from a previous environmental investigation, and hard fill piles were noted along the access road in this area. Far Hills Avenue is located beyond the undeveloped land. No items of concern were noted in the hard fill piles as viewed from the access road.
- Adjoining South: Wooded slopes leading to NCR's Sugar Camp facilities and the Beth Abram Cemetery. No materials disposal was noted on the slopes as viewed from the access road and, where possible, just inside the slope's vegetation line.
- Adjoining West: NCR Old River Park, including lagoon, and corporate headquarters.

### 4.2 Exterior Operations and Observed Environmental Conditions

Main portion: At the time of the site visit, the field area was divided into multiple soccer fields of varying sizes; striping was in progress during the site visit. Of the baseball/softball infields visible on historical aerial photographs, two remained immediately adjacent to the maintenance building. The infield surfaces had no striping or bases, and were covered with foot tracks, lending an appearance of disuse.

Grass cover of the soccer fields was generally healthy, with occasional areas of missing vegetation due to high traffic (e.g., goal areas) or prolonged cover (e.g., under trash bins). At the edge of the surrounding wooded slopes and around many of the fence posts surrounding the soccer field, vegetation had been killed, apparently with herbicide applied in a controlled pattern based on the sharp edges of the dead areas.

Five-gallon containers of the paints used to stripe the soccer fields had been moved out onto the concrete surface in front of the maintenance building to facilitate paint dilution and loading of the striping machines; some diluted paint had been spilled onto the pavement and adjacent asphalt. Because the concrete and asphalt pavements sloped toward each other, the liquid had pooled at their juncture. The paint was labeled as white latex field paint.

Monitoring wells identified in materials provided by NCR were noted during the site visit. All were flush-mounted and in good condition.

The parking lot was deteriorated, with cracked and broken pavement and some areas of gravel rather than asphalt. Storm drainage at the lot appears to be handled via dry wells located along the west side of the lot. No staining, sheens or unusual odors were noted in conjunction with the dry wells.

On the northeast side of the parking lot, faded pavement markings stating "keep 15' away" indicated the presence of some kind of buried utility. Pavement cracking patterns followed the marked line.

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The orange markings are typical of telecommunications lines; a site plan provided to LJB indicates such a line in this area.

The slope adjacent to the south and east sides of the field area was densely vegetated with trees and undergrowth; entry was limited. No obvious signs of disposal were seen on the sides or at the base of the slope.

Piles of soil mixed with hard fill (concrete and asphalt with occasional brick, fence materials and wood and two segments of insulation-wrapped metal pipe) lined both sides of the access drive east of the southern maintenance building, extending through the point at which the access drive leaves the subject property. Immediately across from the southern maintenance building, large quantities of cut wood including tree trunks had been piled. The wood appeared weathered and therefore the storage was likely long-term.

A strong hydrocarbon odor was noted on the east side of the maintenance building, and appeared attributable to the heavy layer of creosote-type preservative that had been applied to the base of an adjacent utility pole.

A large number of polyethylene drums painted green and apparently used as trash bins were stored upside-down adjacent to the access drive approximately 500 feet west of the maintenance building. Vegetation was growing around and between the drums. A dumpster containing items such as recreational equipment shipping boxes was located immediately west of the drums.

### **4.3 Interior Operations and Observed Environmental Conditions**

The interior of the field maintenance building stored paints, painting equipment and recreational equipment. No staining or spills were observed.

The interior of the southern maintenance building was divided into three sections. The newer concrete block section contained a workbench, locked storage cabinets, a refrigerator, push lawn mowers and traffic cones together with assorted landscape maintenance equipment. No staining or spills were observed, other than staining and fallen ceiling materials associated with a roof leak.

The interior of the eastern bay of the older concrete section contained a mower, snow blowers, a pallet of fertilizer and a propane storage cage containing several canisters of the gas. The floor was dirt or concrete with a thick layer of covering dirt; the dirt in the rear half of the bay was stained. A petroleum odor was noted.

The interior of the western bay of the same section contained two riding mowers, a snow plow blade, an empty ice storage cooler, a stack of step ladders, and an empty propane storage rack. The floor in this bay was similar to that in the eastern bay and was similarly stained. A petroleum odor was also noted in this area.

### 5 INTERVIEWS AND ADDITIONAL INVESTIGATIONS

Representatives of the Montgomery County Combined Health District indicated that, other than any concerns related to NCR's use of the area, they knew of no health concerns related to the subject property.

Data provided by NCR indicates several rounds of field investigation have taken place at the recreational fields since 2003. Information was also provided for other NCR properties, with the exception of materials covering the property sold to the Dayton Daily News, which is now under that organization's control.

Field investigations at the recreational fields have included surface and subsurface soil samples and groundwater samples. While the specific analytical methods used varied from round to round, in general these materials have been analyzed for volatile and semi-volatile organic compounds, metals and PCBs. Very low levels of a few volatile and semi-volatile organic compounds and PCBs have been detected, but none of the levels detected in the soils exceeded the Ohio EPA Voluntary Action Program (VAP) generic direct-contact soil standards for residential sites. To evaluate groundwater the VAP program uses generic potable use standards. Two volatile organic compounds have been detected in the groundwater at levels slightly above the VAP potable use standards. Trichloroethene was detected in four samples in 2003, but has not been detected above laboratory detection limits since that time. *cis*-1,2-Dichloroethene was detected in one well in 2006; this well is newly installed and has only been sampled once. In any case, the groundwater beneath the recreational fields is not used for drinking water, and the levels detected do not appear to represent a health risk to users of the recreational fields.

Three metals have been detected in soil and groundwater samples at levels above the VAP residential soil standards and/or potable use standards. It should be noted that many metals, including all those detected above the VAP standards, occur naturally in the soils and often also in the groundwater. Manganese was detected at levels just slightly above the potable use standard in one well, the only metal detected above the potable use standards. Lead was detected in one soil sample at levels above the residential soil standard.

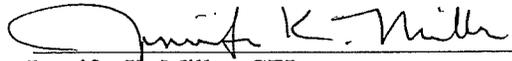
Comparison of the soil sample results to the VAP residential standard for arsenic might be considered a special case, given that the VAP standard is risk-based and is set lower than the levels that occur naturally in many Ohio soils. Therefore, the levels detected in the recreational field soil samples were also compared to levels taken from a study of background (i.e., not contaminated) soil samples at Dayton-area CERCLIS sites and a survey of background levels detected nationally at CERCLIS sites. For reference, CERCLIS sites are those suspected of contamination with hazardous wastes, and investigation of these sites generally proceeds with the oversight of the Environmental Protection Agency.

The levels of arsenic in the soils at the recreational fields varies widely from location to location, which is common in soil metals analysis. In general, almost all of the soil arsenic levels exceeded the VAP residential standard. Approximately 60% of the surface and near-surface soil samples contained arsenic at levels above that which would be expected to occur naturally, based on the Dayton-area background study. Seven of the samples, including two that were taken from closely spaced sample locations, exceeded the maximum level identified as naturally-occurring in the national survey.

**ENVIRONMENTAL PROFESSIONAL STATEMENT**

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training and experience, to assess a property of the nature, history and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signed:



Jennifer K. Miller, CEI  
Environmental Scientist



John A. Eastman, P.E., Ph.D.  
Chief Environmental Engineer