

FORT MADISON LANDFILL (Rodeo Park Dump)

(Fort Madison, Iowa)

GENERAL DESCRIPTION

The site is located in the SW 1/4 of Section 27, the SE 1/4 of Section 28, the NE 1/4 of Section 33, and the NW 1/4 of Section 34, all in T68N, R4W. The site is on the north side of the city of Fort Madison, Lee County, Iowa. The 105-acre site consists of two former landfills owned by the city of Fort Madison (solid waste permit #56-SDP-05-88). The site was entered on the Registry in November 1989. The west part of the site is the old Rodeo Park Dump. Its two disposal cells were used from an unknown date until 1972. The east part of the site is the Old Fort Madison Landfill. Its two disposal cells were used from mid-1970 until November 1980. Both landfills received municipal wastes and large quantities of industrial wastes containing various hazardous substances.

SITE CLASSIFICATION

The site is classified "d" in accordance with 455B.427.3 upon completion of closure activities in 1994.

TYPE AND QUANTITY OF HAZARDOUS WASTE

Landfill records indicate hazardous substances have been disposed of at the site including 120 drums of sulfur-contaminated soil, 1,100 lbs of 75% DDT, 15 drums of methylene chloride/polyurethane, 104 drums of 50% xylenes and 20% dimethyl-formamide, 5,000 lbs. cellulose nitrate, 6,000 gallons of spent sulfuric acid, drums of chromate destruction sludge, 3,800 gallons of distillation sludge, over 500,000 gallons of liquid paint waste, and unknown volume of potassium cyanide and chlorinated hydrocarbons.

SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS

Many rural residents in the area rely on private wells that draw water from the lower Pleistocene aquifer. Fort Madison also has two municipal wells that use the same aquifer. The wells are located two miles southeast of the site but are not considered at risk. The site is located near two surface streams; French Creek and Fork Creek. Both creeks flow through the city of Fort Madison and discharge into the Mississippi River. The Rodeo Park Landfill is part of a larger municipal park and is the site of an annual rodeo.

SUUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

The site's owner has completed various investigative and remedial actions required by the 1989 Administrative Order. These activities include:

- Implement grading and drainage improvements:

This activity began in April 1991 and final grading and capping were completed in the summer of 1994.

- A groundwater investigation report:

The report was submitted in April 1991 and approved in November 1992.

- Complete installation of leachate wells and gas venting and submit a report of well installation:

Four leachate piezometers have been installed. The piezometers are used to evaluate the effectiveness of the toe drain, installed as part of the Leachate Control Plan.

- Submit a Leachate Control Plan (LCP) and construct the system:

The LCP was submitted in July 1992. The final LCP was approved in May 1994 and construction was completed in 1994. Phase I of the LCP required installation of a toe drain in each fill area to an elevation below the surface seeps.

The leachate from the Rodeo Park Dump is pumped to a storage tank at the top of the ravine. Leachate collected from the city of Ft. Madison landfills is pumped and stored in the Lee County leachate storage lagoon. The leachate from both sites is hauled to the city of Fort Madison wastewater treatment facility.

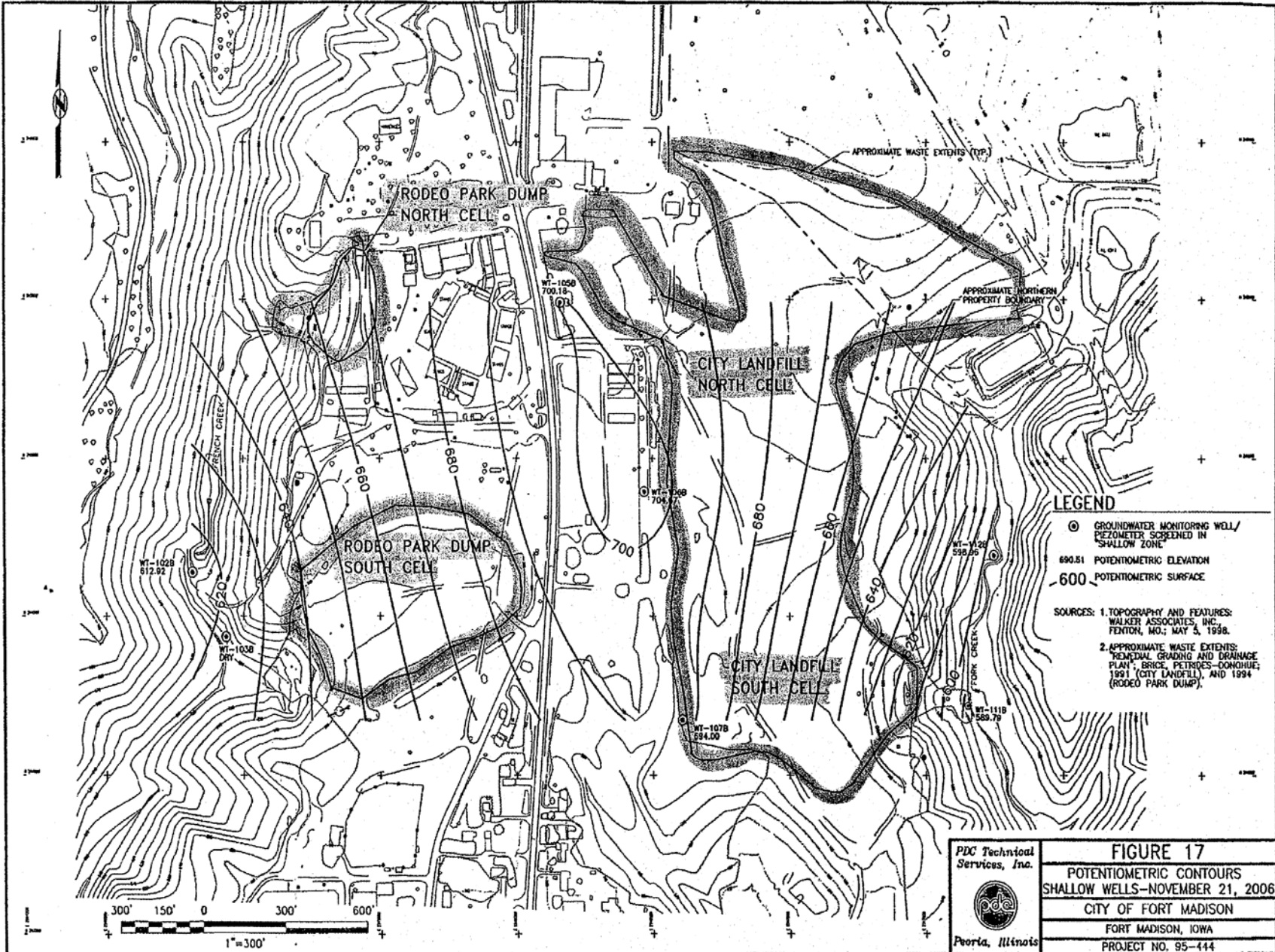
- A leachate treatability report was submitted in April 1991 and reviewed in November 1992. As recommended in the report, the leachate is hauled to the Fort Madison Publicly Owned Treatment Works (POTW).
- A Final closure plan with a Hydrogeologic Monitoring System Plan (HMSP) was submitted as part of the April 1991 groundwater investigation. It was reviewed and conditionally approved in November 1992. Baseline groundwater and surface water monitoring was initiated in January 1993 and completed in 1994. Semi-annual monitoring continues to date.
- A Final closure/post closure plan (C/PCP) was submitted on January 24, 1994 and supplemented on May 23, 1994. The C/PCP was approved as part of the Closure Permit (#56-SDP-88C) which was issued May 26, 1994. Certification of the completion of closure regrading, capping, and revegetation was submitted on June 29, 1994. The Closure Permit requires routine inspections, maintenance, and monitoring for 30 years.
- Remedial Action Performance Reports:
Since implementation of the LCP, annual surface water and groundwater quality monitoring at the sites has indicated general compliance with the water quality standards.
- Six new vadose-zone gas monitoring wells were installed in 2017 to better assess the movement of landfill gas in the subsurface.

2020: Semiannual inspections are performed and an annual reporting of site conditions submitted to Solid Waste Section of IDNR. This report includes summary of general conditions, as well as groundwater quality, surface water quality, leachate removal volumes, and methane gas monitoring data. These semiannual reports may be found at the web link below. <https://programs.iowadnr.gov/solidwaste/reports/DocumentDNA>

2021: An inspection was conducted in July. The cover was in generally excellent condition. No issues of significance were noted. The city has installed a new sidewalk over one corner of the property, and it seems to have crossed the cap/waste area in one location. The sidewalk did not appear to penetrate the cap more than a few inches and it was on the flat portion, so overall, it seems like it might be a good thing if it reduces foot traffic on the grassy portion during the rodeo. The site continues to produce more methane than other sites of the same age, and the city has installed some monitors to make sure there is no accumulation in any of the buildings onsite during the rodeo.

2022: The site continues to be regulated and monitored under Iowa DNR Permit 56-SDP-05-88 and is monitored annually for groundwater and inspected semi-annually by a professional engineer. Landfill gas is monitored periodically and is always done prior to the annual rodeo hosted at the location. No issues were noted in 2022 that differ from previous monitoring or inspection. A DNR Field Office 6 site inspection was also conducted in 2022.

2023: The site remains regulated and monitored under Iowa DNR Permit 56-SDP-05-88 and is monitored annually for groundwater and inspected semi-annually by a professional engineer. These reports have been submitted on time and reviewed by DNR Solid Waste Staff. Landfill gas is monitored prior to the annual rodeo hosted at the location. No issues were noted in 2023 that differ from previous monitoring or inspection.



LEGEND

- ⊙ GROUNDWATER MONITORING WELL/
PIEZOMETER SCREENED IN
SHALLOW ZONE
- 690.51 POTENTIOMETRIC ELEVATION
- 600 POTENTIOMETRIC SURFACE

SOURCES: 1. TOPOGRAPHY AND FEATURES:
WALKER ASSOCIATES, INC.,
FENTON, MO.; MAY 5, 1998.

2. APPROXIMATE WASTE EXTENTS:
REMEDIAL GRADING AND DRAINAGE
PLAN, BRUCE PETROES-COMHAUE,
1991 (CITY LANDFILL), AND 1994
(RODEO PARK DUMP).

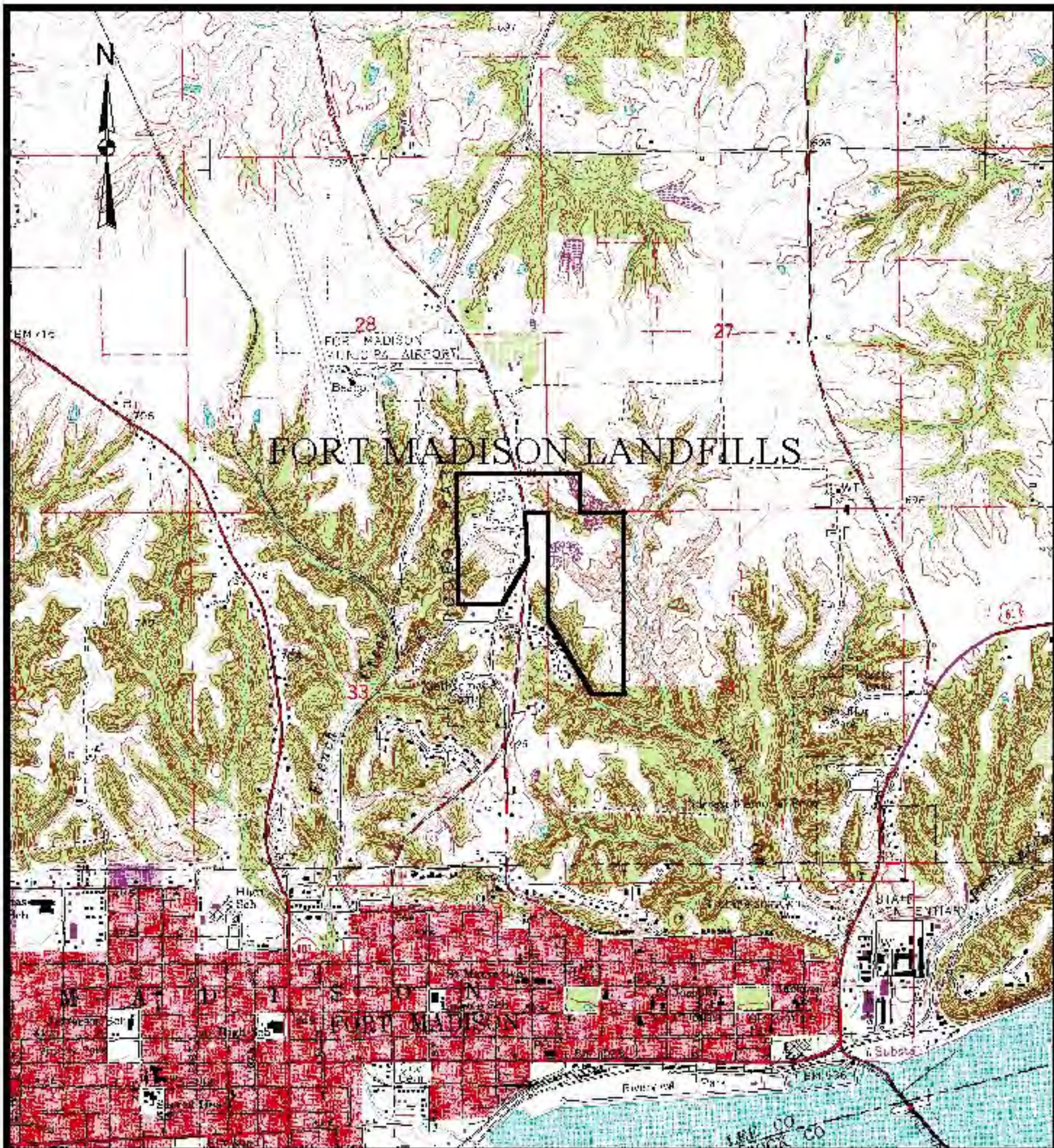
PDC Technical
Services, Inc.



Peoria, Illinois

FIGURE 17
POTENTIOMETRIC CONTOURS
SHALLOW WELLS—NOVEMBER 21, 2006
CITY OF FORT MADISON
FORT MADISON, IOWA
PROJECT NO. 95-444

(Fort Madison Landfills)



IOWA

Contour Interval 10 Feet

1000 0 1000 2000 3000 4000 5000 6000 7000 Feet

