

# Johnson County Environmental Department

## LANDFILL FACT SHEET

May 2007

**FOR: APAC-RENO CONSTRUCTION & DEMOLITION LANDFILL**  
**167<sup>TH</sup> Street & Metcalf Avenue**  
**Overland Park, KS**

### **What is a Construction & Demolition Landfill?**

It is a commercial facility permitted to dispose of construction & demolition (C&D) waste from off-site. Materials that may be accepted at C&D landfills include (but are not limited to) wood (tree and limb debris, pallets, used lumber), bricks, gypsum board, asphalt and other inert materials from construction or demolition sites. Materials that may not be accepted include (but are not limited to) municipal solid waste such as food, paper, plastic, yard waste and other household trash, asbestos, hazardous waste, and chemicals.

There are 7 C&D landfills operating in Johnson County, including the APAC-Reno C&D Landfill which is one of the largest in volume of waste disposed.

### **Background and History**

- The 140-acre property is bounded by 167<sup>th</sup> Street to the south, Metcalf Avenue to the east, 162<sup>nd</sup> Terrace to the north, and Highway 69 to the west. It was located in unincorporated Johnson County until 2001-2002 when Overland Park annexed it.
- Reno Construction bought the property in the early 1950's and it became part of the Ashland Paving & Construction (APAC) Company in the early 1970's. It is commonly referred to as APAC-Reno. APAC-Reno was purchased by Oldcastle Materials Inc. in 2006. The parent company is CRH plc which is headquartered in Dublin, Ireland.
- The property was used as a limestone quarry as well as an asphalt plant operation in the 1950's (quarrying no longer occurs, although the asphalt plant continues to operate).
- Unpermitted landfilling of C&D waste at the property started in the early 1980's.
- In 1985, Johnson County determined that use of the property for C&D waste disposal was a grandfathered, legal non-conforming land use. As a result of this determination, the landfill operation was able to continue operating on the property without additional land use approval as long as the land use did not change.
- In 1985, the Johnson County Environmental Department issued a county solid waste permit to APAC-Reno for C&D waste disposal on 50 acres.
- In 1986, KDHE issued a state solid waste permit to APAC-Reno for C&D waste disposal on 50 acres.
- Overland Park accepted the county's legal, non-conforming land use determination when the property was annexed in 2001-2002. With the annexation, all authority for land use and zoning decisions related to the landfill passed from the county to the city.
- Both KDHE and Johnson County inspect the landfill for compliance with solid waste environmental requirements. State inspections occur at least annually; county inspections occur at least quarterly.
- Both KDHE and Johnson County have solid waste regulations that apply to landfills, but state regulations generally take precedence because they are usually more restrictive.

- The Johnson County Environmental Department and KDHE collaborate on regulatory issues pertaining to solid waste facilities located in Johnson County including the APAC-Reno Landfill.

## **Landfill Expansion Permit Application**

- During the late 1980's and 1990's, the landfill was expanded to approximately 82 acres in violation of the State permit.
- State C&D landfill permitting requirements in the 1980's and 1990's were more general and less stringent than today. Development of the APAC-Reno landfill did not follow the original permit drawings. Under these circumstances, expansion into areas outside those permitted by KDHE were hard to track.
- KDHE strengthened the state C&D landfill requirements in 2004 to include accurate design plans, maps, operating plans, closure and postclosure plans, restrictive covenants, financial information, and construction quality assurance plans.
- The expansion oversight was discovered in 2005 during review of APAC-Reno's operating plan, a document required under KDHE's updated C&D landfill regulations.
- In late 2005, KDHE directed APAC-Reno to submit a permit application for the expanded area to rectify this situation, or cease operations. APAC-Reno submitted a permit application to KDHE in early 2006 that proposes to:
  - Expand the footprint laterally from 50 to 82 acres
  - Expand the footprint vertically from 1000 to 1024 feet at its highest point using 3:1 slopes
- All of the 82 acre lateral expansion area has been landfilled. At a minimum, filling to original contours for stormwater control is necessary. The vertical expansion would add additional capacity to the landfill, estimated at 10-12 years at current disposal rates.
- Under Kansas law, landfill permit applications cannot be considered by KDHE unless 2 local certifications are in place:
  - Certification that the permit application is consistent with the county solid waste management plan
    - Provided by the Board of County Commissioners in March, 2006
  - Certification that the permit application is consistent with local land use and zoning requirements
    - Provided by Overland Park in February, 2006
- KDHE held a public informational meeting on APAC-Reno's permit application in February, 2007, and has now begun their technical and environmental review (see state permitting process flowchart).
- The permit review process will continue until KDHE is satisfied that all state technical and environmental requirements can be met. If they cannot be met, KDHE will deny the permit. However, state regulatory requirements can be met through enforceable conditions in the permit and by mandating changes to the landfill design. KDHE may consider the environmental compliance history of the facility but cannot consider local land use or zoning issues in their permit review process.
- While APAC-Reno failed to obtain the necessary state permit prior to the expansion, they have maintained state-required financial assurance instruments to cover the actual fill area. These instruments, typically in the form of bonds, ensure that KDHE can cover the costs to properly close the landfill if necessary.

## **Odor Issues**

- Inspections in the mid-1990's revealed the existence of sporadic, fleeting odors from the landfill which seemed to coincide with heavy rain periods and the landfill's efforts to recycle some waste materials including wood and gypsum board. Stockpiles of these materials were initially suspected as the main cause of the early odors due to inadequate cover and infiltration of moisture. Various remedies were implemented which temporarily abated odors. Recycling efforts were later terminated.
- In the spring and summer of 2005, there was a significant increase in odors which were identified as hydrogen sulfide (H<sub>2</sub>S) gas which is toxic and flammable in high concentrations. H<sub>2</sub>S smells like "rotten eggs" and is detectible by the human nose at very low concentrations, and there were numerous odor complaints from nearby residents and businesses.
- Investigations revealed the primary cause of the H<sub>2</sub>S gas to be large quantities of buried gypsum board that had become saturated with water under low oxygen conditions. Approximately 10 feet of water had accumulated in the bottom of the landfill due to poor operating practices including inadequate surface water control and water infiltration from the pollution control equipment at the asphalt plant. The H<sub>2</sub>S was migrating in this water along seeps in the fill area and escaping to the air.
- In the fall of 2005 and winter of 2006, KDHE required the landfill to implement a number of corrective measures to control the H<sub>2</sub>S emissions (see Odor Control Timeline). All measures were eventually implemented and the odors have been significantly reduced, although residents still notice occasional odors. Dewatering of the landfill is underway to reduce gas generation. Landfill gas is now being collected and burned as fuel in the on-site asphalt plant.
- Under some conditions and in high enough concentrations, H<sub>2</sub>S gas can be a serious risk to human health. As a precautionary measure in the fall of 2005, state and local environmental officials requested that the federal Agency for Toxic Substances and Disease Registry (ATSDR) evaluate the situation at the APAC-Reno Landfill.
- ATSDR conducted community monitoring in the landfill vicinity during the summer of 2006 to evaluate whether the H<sub>2</sub>S emissions might pose an elevated human health risk. Their final report is scheduled for release this summer. However, the data did not suggest an elevated risk to public health at the H<sub>2</sub>S levels that ATSDR monitored.
- The landfill is conducting continuous H<sub>2</sub>S monitoring, both in the interior and at the landfill perimeter. The interior monitors are equipped with automatic alarms if H<sub>2</sub>S levels exceed certain thresholds. Procedures are in place to alert local emergency response personnel should H<sub>2</sub>S levels warrant. All H<sub>2</sub>S data from the monitoring network is shared with KDHE. The highest H<sub>2</sub>S level detected from the perimeter monitors was a one-time record of 0.1 ppm, which is below the level that could pose an immediate risk to public health.
- KDHE has authority to require APAC-Reno to take additional measures to address any reoccurrence of H<sub>2</sub>S odor problems.
- Violations of the State's solid waste permit requirements have been cited since 1990 at the APAC-Reno Landfill, as follows: two notices of violation were issued during the period 1990 to 2004; two notices of violation in August, 2005; and five notices of violation in May, 2006 which included a fine. Other violations were noted at APAC-Reno during 2007 which are pending action by KDHE.

## **Other Environmental Compliance Issues**

- There have been public concerns over the years about the impact of the APAC-Reno Landfill operations on groundwater and surface water either being discharged or migrating off-site.
- Recent hydro-geological studies of groundwater underlying the landfill have not indicated that contamination from the landfill is present in uppermost aquifers or moving off-site. Groundwater monitoring is ongoing and monitoring data is subject to KDHE review. KDHE has authority to require additional hydro-geological studies if warranted and will also require the landfill operators to implement corrective actions should groundwater monitoring data indicate contamination above levels of concern.
- The landfill holds a KDHE permit that requires surface water discharges to meet state water quality standards. KDHE enforces compliance with this permit. One violation of this permit was cited in 2001. APAC-Reno corrected the violation. The permit was recently modified to allow a higher discharge rate from points on the east and west boundaries of the landfill property.
- There have been public concerns over the years about the air emissions from the asphalt plant which operates on the property. The plant holds a KDHE permit that requires these emissions not to exceed state and federal air pollution requirements. Under a contract with KDHE, the county periodically inspects the plant for compliance with this permit. Two paperwork violations of this permit have been cited since 1990 at the APAC-Reno Landfill, both of which were subsequently corrected.
- The asphalt plant has recently been granted KDHE approval to install new air pollution control equipment which is expected to reduce particulate emissions. This new equipment is being installed voluntarily and is not required by KDHE. It should substantially reduce the water vapor plume which is visible from the plant. It should be installed by spring of 2007 and will eliminate a source of industrial process water that had infiltrated the landfill in the past.
- During the February, 2007 public information meeting, some residents reported seeing Deffenbaugh trash trucks at the APAC-Reno Landfill and suggested that this might be evidence of illegal waste disposal. The county has learned that these trucks are legally collecting solid waste from the APAC-Reno C&D Landfill administration office for ultimate disposal at the Johnson County Landfill (a privately owned landfill permitted to receive municipal solid waste).

## **Public Participation and Involvement**

- Both KDHE and Johnson County have taken a number of steps to keep the public informed about developments involving the APAC-Reno Landfill.
- Public contacts or inquiries regarding the landfill were infrequent prior to 2005. Since the escalation of odor problems in 2005, county and state staff has responded to dozens of email and telephone inquiries and complaints about the landfill.
- In September 2005, KDHE, Johnson County and ATSDR hosted a public informational meeting to address community concerns about the odor problems.
- In 2005, Johnson County began posting information about the landfill on the county's web site. Web pages devoted to the landfill were developed and are still being maintained and periodically updated. About 5,000 addresses located within 1.5 miles of the landfill were notified in writing when the web pages were launched in 2005.
- The Board of County Commissioners (BOCC) distributed two progress report letters to about 5,000 addresses in 2005 and 2006. The 2006 letter also included information regarding the BOCC's pending action to certify that the APAC-Reno Landfill expansion permit application was consistent with the Johnson County Solid Waste Management Plan.

- ATSDR has assisted a number of citizens with their health concerns pertaining to the landfill operations. ATSDR also worked collaboratively with several citizens to place temporary H2S monitoring devices at their locations.
- In February, 2007, KDHE hosted a public information meeting about APAC-Reno's expansion permit application. The county provided written notification about this meeting to about 5,000 addresses located within 1.5 miles of the landfill.
- Additional public outreach and opportunities for public input will continue as long as there are public concerns being expressed about the landfill. Should KDHE issue a draft permit proposing to approve the landfill expansion, KDHE will provide an opportunity for further public comment through a public hearing on the draft permit.

### **Contacts for More Information**

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APAC-Reno Information on the web: [www.jced.jocogov.org](http://www.jced.jocogov.org)

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