



State of Ohio
Environmental Protection Agency

Division of Emergency and Remedial Response

Integrity Drive South Drum Dump State Site Assessment Report



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Ted Strickland, Governor
Chris Korleski, Director

OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA)
DIVISION OF EMERGENCY & REMEDIAL RESPONSE (DERR)

SITE ASSESSMENT REPORT

Integrity Drive South Drum Dump]

Franklin County
125-001243-005
OH000592626

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EXECUTIVE SUMMARY

Integrity Drive South Drum Dump site is a 34-acre site located 3 miles southeast of downtown Columbus. It is the southern part of an old landfill that was operated by Franklin County from 1954-1963. In the mid-1960s, the landfill was bisected by U.S. Interstate 70. Franklin County retained ownership of the parcel north of Interstate 70 and sold 103 acres it owned south of Interstate 70 to a private developer, George Bentz. Mr. Bentz did not develop the 34-acre landfilled portion of the property. It remained vacant and was subject to unauthorized dumping.

US EPA completed two time critical removal (TCR) actions at the site, and Ohio EPA completed a preliminary assessment, integrated assessment, expanded site inspection, and a ground water investigation. After the first U.S. EPA TCR, the site was evaluated for placement on the National Priorities List (i.e., Superfund) but it did not qualify; U.S. EPA issued a no further action planned designation in January 1998. In August 2006, Ohio EPA responded to a spill at the site after a bulldozer operator punctured a drum containing waste trichloroethene. This incident resulted in the second U.S. EPA TCR, which was completed in 2007. This site assessment is a follow-up to the 2007 TCR action.

This site assessment was completed in accordance with current Ohio EPA, Division of Emergency and Remedial Response site assessment guidance. Based on this guidance the site meets threshold criteria for additional state actions, but no further action is recommended based on balancing criteria. It is unlikely that additional state actions would significantly reduce the potential threat to human health and environment due to releases at this site at this time.

1.0. INTRODUCTION

In January 1998, U.S. EPA, Region 5, issued a no further remedial action planned (NFRAP) designation for the Integrity Drive South Drum Dump site. The NFRAP designation was based on an Ohio EPA recommendation, dated October 31, 1997, which was based on information generated during an integrated assessment (IA) and expanded site inspection (ESI). The IA and ESI were completed after U.S. EPA completed a time critical removal (TCR) of drums, sludge, and contaminated soil in 1995. In 2006, another drum dump area was discovered, which resulted in U.S. EPA completing another TCR in 2007. After the 2007 TCR was completed, Ohio EPA Division of Emergency and Remedial Response (DERR) decided to assess the site using its current site assessment guidance.

The objective of this site assessment is to determine if additional state or federal actions are necessary to protect human health and the environment. Information and data from the IA, ESI, TCR, Ohio EPA ground water investigation, and other information were utilized to make this determination.

2.0. BACKGROUND

Site Name: Integrity Drive South Drum Dump

Alias:

DERR I.D. No:125-1243

U.S. EPA I.D. No: OH000592626

District: CDO

County: Franklin

Site Address: 2101 Integrity Drive South and 2001 Integrity Drive South

Directions to Site: From CDO travel to Interstate 70 east, exit onto Alum Creek Drive and travel east to Integrity Drive South. The site is south of Integrity Drive.

Latitude: 39° 55' 55"

Longitude: -82° 56' 15"

2.1. Map(s) Attached (List):

Figure 1: Site Location

Figure 2: Site Features and Parcel Information

Figure 3: Extent of Old Franklin County Landfill and Anchor Landfill

Figure 4: Lots 4 and 5 of the Alum Creek Office and Distribution Park

Figure 5: Topography and Drainage

Figure 6: Soil, Surface Water/Sediment, Ground Water Sample Locations

Figure 7: Ground Water Pathway Analysis Map

Figure 8: Natural Heritage Map

Figure 9: Human Population Map with a 4 Mile Radius

2.2. Site Description

Integrity Drive South Drum Dump is located 3 miles southeast of downtown Columbus (**Figure 1**). The site is approximately 34 acres in area. It is bordered by Alum Creek to the east, Interstate 70 and Integrity Drive South to the north, Anchor Landfill (Pemoga Development Co.) to the south, and Alum Creek Drive to the west. Currently, the site consists of five parcels and three owners: J&J Investment Company (Parcel # 010 12581 and 12582); MP Dory Company (Parcel #010-258338 and 218215); and Columbus-Franklin County Metro Parks (Metroparks) (Parcel # 010-279306). The northeastern end of the site is in the Ohio Department of Transportation (ODOT) Interstate 70 right-of-way. The Alum Creek Greenway Trail, an asphalt pedestrian and bicycle path, is located at the eastern edge of the site (**Figure 2**).

Ohio Soil Recycling, LLC, MP Dory, Metroparks, and ODOT occupy the site. Ohio Soil Recycling operates on the J&J Investment property and sells bulk blended top soil, screened top soil, clay fill, and mulch. They accept petroleum contaminated soil and treat it at a designated 1800 square foot impervious treatment pad. Ohio Soil Recycling bioremediates the petroleum contaminated soil with microbes, white rot fungus, nutrients, and oxygen. Ohio Soil Recycling has covered most of the site with several feet of treated soil. Ohio Soil Recycling operates under a storm water permit. MP Dory is a construction contractor and uses the property as an office and for equipment storage and maintenance. Metroparks owns the eastern end of the site, adjacent to Alum Creek. Metroparks built the asphalt Alum Creek Greenway Trail that trends north-south along Alum Creek. ODOT maintains the Interstate 70 right-of-way.

2.3. Regulatory Information

The Integrity Drive South Drum Dump site is part of an old unregulated Franklin County landfill that operated during the 1950s and 1960s. The landfill was unknown to U.S. EPA and Ohio EPA until 1981. It was discovered via a CERCLA 103(c) notification submitted by the Borden Company. The following is a list of Ohio EPA and U.S. EPA regulatory actions that have taken place:

- In 1981, the Borden Company responded to the 1979 Eckhardt Survey and submitted a hazardous waste site notification under Section 103(c) of CERCLA (1980). The 103(c) notification stated that Columbus Coated Fabrics disposed of hazardous waste at the "Columbus City Dump" during the 1960s.
- In 1985, Ohio EPA completed a federal preliminary assessment (PA) under a U.S. EPA grant of the Columbus City Dump site. It was given a low priority recommendation for state action and a no federal action recommendation. The PA defined the southern extent of the site based on parcel ownership; not by the extent of the original landfill operation. Therefore, the southern extent of the Columbus City Dump was determined to be Interstate 70. The landfill actually included the Integrity Drive South Drum Dump site.
- In 1990, Ohio EPA received a complaint from the Columbus Police Department of exposed drums with unknown contents at the Bentz Foundation property, south of Integrity Drive South. Ohio EPA investigated the drum dump and named the Bentz Foundation property the Integrity Drive South Drum Dump site.
- In 1993, Ohio EPA completed a state PA of the Integrity Drive South Drum Dump site. The PA gave the site a low priority but recommended environmental sampling before making a final determination.
- In 1994, Ohio EPA completed a federal IA under a U.S. EPA grant at the Anchor Landfill, which included an investigation of the Integrity Drive South Drum Dump

site. It appeared that the two sites were connected, but the properties were under different ownership. Soil and sludge samples were collected, and Ohio EPA documented a release of hazardous substances. The information was used to request U.S. EPA to assess the site for a TCR. U.S. EPA determined that a TCR was justified.

- In 1995, U.S. EPA completed a TCR of the exposed drums and a sludge pit. Ohio EPA completed a federal IA under a U.S. EPA grant.
- In 1997, Ohio EPA completed a federal ESI that focused on the ground water pathway.
- In 2006, Ohio EPA responded to a solvent spill when a bulldozer punctured a drum that contained waste solvent at the eastern boundary of the site, near Alum Creek and Interstate 70. The area was being graded for the construction of the Alum Creek Greenway Trail. Ohio EPA determined that additional drums were buried in the area and referred the site to U.S. EPA for a TCR. U.S. EPA assessed the spill site and determined that a TCR was justified.
- In 2007, U.S. EPA completed the TCR and Ohio EPA completed a ground water investigation.

2.4. Site History

1954-1968. In 1954, Franklin County leased 16 acres from Frank and Lillian Straub for a county-operated landfill. Within a few years, the landfill expanded south beyond the original lease to include another 14 acres of the Straub's property. Franklin County apparently expanded the landfill without the Straub's permission. In 1961, the Straub's lawyer contacted Franklin County, and the Straubs leased the county a total of 35.26 acres. Deed records indicate that Franklin County owned the 35 acre tract of land, south of the Straub lease, and the landfill expanded onto that property. A 1960 aerial photograph shows the extent of the landfill operation (**Figure 3**). Previous reports have stated that the Anchor Landfill site was part of the county landfill, but no records could be found that indicate Franklin County operated on that property. In 1963, Franklin County informed the Straubs that they had ceased landfill operations, and that the lease for the 35.26 acre tract was terminated. In 1964, the State of Ohio obtained permanent easements from the city of Columbus for Interstate 70. An aerial photograph taken in 1964 shows grading for Interstate 70 that bisects the landfill. In 1966, the city of Columbus obtained permanent easements from the Straubs and William Franz (lessee) for a sanitary sewer line. Deed records indicate Franklin County acquired the Straub property in 1967.

1968-1978. Mr. George Bentz of Integrity Supply, Inc. purchased 103 acres of property from Franklin County south of Interstate 70. Franklin County retained ownership of the parcel of land north of Interstate 70 (Columbus City Dump site). Mr. Bentz intended to

develop the property into a business park and construct a warehouse and supply building for Integrity Supply, Inc. In 1972, the development of the 103-acre Alum Creek Office and Distribution Park was announced. The project was a joint venture between YDT Investment Properties Corporation and Javelin Properties, Inc. By 1978, Integrity Drive South was constructed, and the 103-acre tract was parceled into 6 separate lots. The Integrity Drive South Drum Dump site is two separate lots: Lot 4 (15.6 acres) and Lot 5 (18.5 acres) (**Figure 4**). The other four lots were located north of Integrity Drive South and were developed. Lots 4 and 5 remained undeveloped.

1978-1990. In 1978, Mr. Bentz gave permission to Capitol University to dump clean fill at the site. In 1979, Mr. Bentz complained to the Franklin County Department of Sanitation and Columbus Police Department of illegal dumping of trash at the southeast corner of Integrity Drive South, adjacent to Lot 4. He asked the Department of Sanitation to pick up the trash off of Integrity Drive. In 1979, Mr. Bentz gave permission to Davis McKee, Inc. to dump clean fill on Lot 5, directly behind the cemetery. In 1980, Mr. Bentz gave permission to George Igel and Company and Complete General Construction Company to dump fill and excavated material on the property. In 1985, Mr. Bentz complained to Columbus Police that trees were being stolen off of Lots 4 and 5. He also complained to Columbus Mayor, Dana Rhinehart, of illegal dumping. On February 7, 1988, Mr. Bentz died and the property was transferred to the Bentz Foundation.

1990. Richard C. Kuhn (MP Dory Company President) acquired the western 7.1 acres of Lot 5.

1990-1995. The Columbus Police Department reported to Ohio EPA that they observed abandoned drums near the southeast end of Integrity Drive South. Ohio EPA confirmed the complaint, investigated the site, and referred it to U.S. EPA for a TCR action. U.S. EPA completed a TCR action and Ohio EPA completed a federal IA.

1995-2005. In 1995, J&J Investment acquired the eastern part of Lot 5 (7.5 acres). In 2001, MP Dory acquired 4 acres of Lot 5 and J&J Investment acquired Lot 4 (15.6 acres) and Lot 3 (5.3 acres). In 2003, MP Dory acquired the western end of Lot 5 (7.1 acre parcel) from Mr. Kuhn. In 2004, the Bentz Foundation dissolved and transferred all remaining funds to the Catholic Church (approximately \$3.5 million). In 2005, Metroparks acquired 1.274 acres from Lot 4 from J&J Investment, along the west bank of Alum Creek, for the Alum Creek Greenway Trail.

2006-2007. In 2006, Metroparks began the construction of the Alum Creek Greenway Trail. On August 30, 2006, a bulldozer operator punctured a buried drum that contained waste trichloroethene. Metroparks cleaned up the initial spill as an emergency response action (Incident # 0608-25-3147). In 2007, U.S. EPA completed a TCR action and Ohio EPA completed a ground water investigation.

2.5 Redevelopment Activities

Ohio EPA is not aware of any redevelopment activities other than the Alum Creek Greenway Trail.

2.6. Previous Field Work

1994-1995 IAs and TRC Site Assessment. Ohio EPA completed federal IAs for Anchor Landfill and the Integrity Drive South Drum Dump. *Note: The Anchor Landfill IA included an investigation of the Integrity Drive South Drum Dump.* In addition, U.S. EPA completed a site assessment for the TCR action. The IAs and TRC site assessment state that the drums and waste were in earthen ridges and that a rubbery sludge was in a pit adjacent to the Anchor Landfill. The soil, sludge, drum contents, and surface water/sediment of Alum Creek were sampled for the IA.

1997 ESI. The federal ESI evaluated the ground water pathway. Ohio EPA used its level-of-effort contractor, RD Zande, to install three monitoring wells at the site. The monitoring wells were sampled twice (December 1996 and September 1997).

2003 Water Quality Studies. Ohio EPA Division of Surface Water (DSW) completed the Big Walnut Creek Biological and Water Quality Study in 2000 and published the results in 2003. DSW collected chemical and biological data upstream and downstream of the site.

2006 U.S. EPA TCR Site Assessment. A targeted site assessment at the Metroparks Alum Creek Greenway Trail spill site was completed by U.S. EPA to determine if a TCR action was warranted. U.S. EPA used a backhoe and trenched through the buried waste at three locations and collected ten samples of the excavated material. The trenches revealed deteriorated 55-gallon drums, paint waste, impacted soil, and miscellaneous trash near the surface at the spill site and toward Interstate 70. Trenching also indicated that the paint waste and drums were dumped on top of the original county landfill and then covered with soil.

2007 Ohio EPA Ground Water Investigation. Ohio EPA evaluated the ground water quality downgradient of the 2007 TCR area. Ohio EPA collected three ground water samples from the uppermost aquifer using direct push methods (Geoprobe).

2.7. Topography, Geology, Hydrogeology and Hydrology

The Integrity Drive South Drum Dump is in the Eastern Corn Belt ecoregion, which is characterized by till plains of level to rolling terrain and glacial moraines and outwash features.

The climate in central Ohio is considered a warm temperate climate where the annual mean temperature is 51° F and the annual rainfall is approximately 37 inches.

Topography at the site slopes gently toward Alum Creek but has been altered by the Ohio Soil Recycling soil piles. Surface water drainage is to Alum Creek via storm water drains on the south and north boundaries of the site (**Figure 5**). Alum Creek flows north to south 4.5 miles to Big Walnut Creek. Alum Creek has an annual mean discharge of 196 cubic feet per second at Livingston Avenue, 1.3 stream miles upstream from the site, and an average gradient of approximately 8 feet/mile.

Southern Alum Creek is located over a buried valley that was incised into Devonian age shale bedrock. The depth of the buried valley is approximately 100 feet. The buried valley sediments consist of glacial till with sand and gravel outwash deposits. Alum Creek alluvium deposits overlay the glacial sediments. The local aquifer is the Alum Creek Buried Valley Aquifer, which can yield over 500 gallons per minute (**Figure 7**). Ground water is obtained from sand and gravel lenses that are interbedded with glacial till. Area well logs indicate sufficient ground water for domestic wells occurs 8-100 feet below the surface. According to borehole logs for the three monitoring wells constructed at the site, U.S. EPA's trenching, and Ohio EPA's 2007 ground water investigation, the ground water table at the site is at the same pool elevation as Alum Creek (732 feet AMSL) in the refuse.

2.8. Land Use and Demographic Information

Nearby land-use is mixed residential, commercial, and recreational. A cemetery is adjacent to the northwest border of the site. Land use to the north and south is mainly commercial/industrial. Franklin County has offices and facilities to the west. Recreational land use (Alum Creek Greenway Trail) borders the east and northeast. The nearest residential land use is 700 feet to the east and is an apartment complex on the opposite bank of Alum Creek. According to the 2000 census, the population within 1 mile is 5797 (**Figure 9**).

Ohio EPA personnel conducted a site reconnaissance in October 2008. Ohio Soil Recycling is still in operation and is treating and stockpiling soil on-site. MP Dory maintains buildings and is storing construction equipment. Both properties maintain chain link fences around their properties. Metroparks has completed the Alum Creek Greenway Trail and has landscaped its property and constructed a wooden fence. No visible waste was observed at the site or at the Columbus City Dump site.

3.0. METHODOLOGY

Site information and data generated during federal and state assessments were used to meet the objectives of this assessment.

IA and ESI. The objective of the Integrity Drive South Drum Dump IA and ESI were to fully evaluate the nature and extent of contamination at the site. The quantity and quality of the data was sufficient to refine the federal hazard ranking system (HRS) score and to fulfill HRS documentation requirements. (HRS is used to evaluate sites for placement on the National Priorities List.) Data quality objectives (DQOs) were based on U.S. EPA's quality assurance and quality control procedures for site inspection field activities. The procedures used were documented in the *Quality Assurance Project Plan for Region 5 Superfund Site Inspection Activities for Ohio EPA*. A U.S. EPA contract laboratory program (CLP) laboratory analyzed the samples and validated the data. The data is, therefore, sufficient to document releases to environmental media.

Biological and Water Quality Study Big Walnut Creek Basin. Ohio EPA employs biological, chemical, and physical monitoring and assessment techniques to meet three objectives. One of the objectives is to determine the extent to which use designations assigned in the Ohio Water Quality Standards are either attained or not attained. The information in this biosurvey was used qualitatively to evaluate if releases at or from the site adversely affected Alum Creek.

2006 U.S. EPA TRC Site Assessment. The objective of the 2006 U.S. EPA site assessment was to determine if a U.S. EPA TCR action was warranted. U.S. EPA made this determination by evaluating the threats to human health, welfare, and the environment based on soil data and field observations. U.S. EPA tasked Weston Solutions, Inc. to perform the necessary work under the direction of U.S. EPA's on-scene coordinator. The quantity and quality of the data was sufficient for U.S. EPA to characterize the threat and justify the TCR. A U.S. EPA CLP laboratory analyzed the samples and validated the data. The data is sufficient to document a release to soil.

2007 Ohio EPA Ground Water Assessment. The objective of Ohio EPA's ground water assessment was to document a release to ground water above drinking water maximum contaminant levels (MCLs) specified in Ohio Administrative Code (OAC) 3745-81 at the Metroparks spill site. DQOs required the collection of at least three ground water samples downgradient of the waste (adjacent to the west bank of Alum Creek), and the analytical method detection limit needed to detect analytes at or below MCLs. The data is sufficient to document analyte release to ground water below the MCL.

3.1. Field Screening and Sampling Locations

Field screening data was not used in this assessment. Soil, surface water, sediment, and ground water sampling locations are depicted in **Figure 6**.

3.2. Field Screening and Sampling Methodologies

Field screening data was not used in this assessment. Sampling methodologies are documented in the IA, ESI, and site assessment reports and are consistent with U.S. EPA protocol and Ohio EPA standard operating procedures (SOPs).

1995 IA. Ohio EPA collected soil, sludge, surface water, and sediment samples using methods consistent with U.S. EPA protocol and Ohio EPA SOPs. The sampling methods consisted of mainly using spoons and scoops to collect the samples.

1997 ESI. The ESI evaluated ground water. Permanent monitoring wells were installed at three locations. Ohio EPA contracted RD Zande to install and develop the wells. Samples were collected using a peristaltic pump with Ohio EPA personnel present. Samples were analyzed by a U.S. EPA CLP laboratory.

2006 U.S. EPA TCR Site Assessment. Soil samples were collected from trench piles using spoons. Samples were analyzed by a US EPA CLP laboratory, First Technology, Inc.

2007 Ohio EPA Ground Water Investigation. Ohio EPA collected ground water samples using the Geoprobe™ in accordance with SOP 15.01, Screen Point Ground Water Sampling. The screen point was advanced to at least 4 feet below the ground water table. Ground water was purged and samples were collected using a peristaltic pump in accordance with Ohio EPA SOPs. Samples were analyzed by the Ohio EPA contract laboratory, Kemron.

4.0. RESULTS

4.1. Field Screening and Sampling Results

Sampling results indicate releases of hazardous substances to on-site soil, Alum Creek sediment, and ground water (**Tables 1-3**):

- Soil. Analytes identified in soil include trichloroethene, benzene toluene, ethylbenzene, total xylenes, methylene chloride, chloroform, benzo(a)anthracene, benzo(b) fluoranthene, butylbenzylphthalate, benzo(a)pyrene, PCBs, pesticides, arsenic, lead, and barium.
- Surface water/Sediment. Several polynuclear aromatic hydrocarbons (PAHs) and metals were detected in sediment at a storm sewer outfall at the southern property boundary with Anchor Landfill. The DSW water quality survey data and other DERR sediment data indicate that PAHs and metals are prevalent in sediment throughout southern Alum Creek. Therefore, the concentration of the analytes detected at the outfall is not unique, and available data is not sufficient to determine if the analyte concentrations are the result of releases at or from the site.
- Ground water. The 1997 ESI did not identify any contaminants of concern in ground water. Ohio EPA's 2007 ground water investigation detected vinyl chloride, chlorobenzene, benzene, 1,2 dichlorobenzene, and 1,4 dichlorobenzene, and several inorganics in ground water.

4.2. Comparison of Field Screening and Sampling Results to Screening Levels Criteria

Analytes detected in soil, sediment, and ground water were compared to screening levels acceptable to Ohio EPA for these particular environmental media. Summaries of the comparisons are listed below and in **Tables 1, 2, and 3**:

- Soil. Analyte concentrations in soil were compared to U.S. EPA Region 9 preliminary remediation goals (PRGs), residential land use. PCBs, trichloroethene, benzene, toluene, ethylbenzene, total xylenes, chloroform, PAHs, arsenic, lead, and barium exceeded the Region 9 PRGs.
- Sediment. For human health sediment screening, analytes detected in sediment were compared to residential Region 9 soil PRGs. Several PAHs exceeded the screening standard. For potential ecological effects, analyte concentrations in sediment were compared to U.S. EPA Region 5, RCRA Ecological Screening Levels for sediment. Again, several of the PAHs exceeded the screening levels. To further evaluate the severity of the potential ecological effects, analyte

concentrations in sediment were compared to the applicable severe effect level (SEL) for benthic organisms published by Persuad et al, 1993. A few of the PAHs exceeded the SELs including: indeno 1,2,3-cd pyrene, pyrene, fluoroanthene, phenanthrene, and chrysene .

- Ground water. Analytes concentrations in ground water were compared to the MCLs specified in OAC 3745-81. Barium is the only analyte that exceeded its MCL. The maximum barium concentration detected was 4.06 mg/l, which is 2 times the MCL of 2.0 mg/l.

5.0. DISCUSSION

5.1. Migration and Exposure Pathways

Migration and potential exposure pathways were evaluated for ground water, surface water/sediment, and soil.

Ground Water. A release from the site to ground water above the MCL has not been documented. Although barium was detected in ground water at a concentration twice it's MCL, sufficient site-specific background data is not available to determine if barium is related to releases at the site. The majority of the population within 4 miles relies on municipal water supplied by the city of Columbus. Isolated pockets of unincorporated residential neighborhoods that rely on individual wells for their water supply occur within 4 miles. The nearest residential wells are located approximately 1 mile to the south. The nearest significant public water supply is the village of Obetz public water supply wells, located approximately 4 miles south of the site. Other public water supplies include trailer parks, churches, and gas stations (**Figure 7**). Based on the above factors, the ground water exposure pathway is not complete and is not a threat.

Surface Water and Sediment. The nearest surface water receptor is Alum Creek. Data from the IA indicate PAHs migrated to Alum Creek via a storm sewer located at the southern border of the site. PAHs exceed the U.S. EPA Region 9 residential PRGs for soil and U.S. EPA Region 5 Ecological Screening Levels. The highest concentrations were detected at the storm water outfall. Therefore, PAHs in sediment may pose a threat to human health and have an adverse impact to benthic organisms. However, water quality surveys and other sediment data available for Alum Creek indicate PAHs are prevalent in sediment from Westerville to Big Walnut Creek; therefore, the site's contribution is unknown.

Alum Creek is classified as a warm water habitat, and its use designation is primary contact recreation, public water supply, industrial water supply, and agricultural water supply. The potential sensitive environments downstream of the site are small scattered wetland areas in the Alum Creek floodplain. One federal and five state listed endangered/threatened species were identified approximately 4.5 miles downstream at the confluence of Alum Creek and Big Walnut Creek (**Figure 8**). The concentrations of

PAHs in sediment at the storm water outfall indicate a potential threat to benthic organisms. At the site, the substrate is rocky with little sediment accumulation, and the physical character of Alum Creek was likely altered by the construction of the Interstate 70 bridge. No potable water intakes are located downstream. The potential human exposure pathways are direct contact with sediment and ingestion of aquatic organisms.

Soil. The land use at the site and immediately adjacent to it is commercial; therefore, the likely potential exposures will be to workers and trespassers. The nearest residential populations are located 700 feet from the southeast corner of the site, east of Alum Creek (**Figure 9**). The site can be accessed via the Alum Creek Greenway Trail or by trespassing on Ohio Soil Recycling and MP Dory properties. The principal soil exposure pathway is via direct contact.

U.S. EPA removed all visible near-surface contaminated soil during the TCRs and covered the areas with at least 2 feet of clean fill. Ohio Soil Recycling covered their property with treated petroleum contaminated soil to a depth of several feet and, according to Ohio EPA's Division of Solid and Infectious Waste Management, has plans to equal the grade of the Anchor Landfill, which is at least 16 feet higher in elevation than the original surface of the site. MP Dory has also covered their property with fill, gravel, and asphalt. Metroparks has covered the TCR area with clean fill, top soil, and asphalt. The above factors have resulted in significantly reducing or eliminating the soil exposure pathway for most of the site. The threat to human health from direct contact with soil is, therefore, minimal.

5.2. U.S. EPA Removal Actions

In 1994, Ohio EPA referred the site to U.S. EPA Region 5 for a TCR action. U.S. EPA evaluated the site and concluded that a TCR action was justified. In 1995, U.S. EPA completed the TCR, which consisted of the removal of approximately 600 drums and a sludge pit. The drums were located near the center of Lot 5, and the sludge pit was located at the eastern end of Lot 5 and along the southern property boundary with Anchor Landfill (**Figure 6**). U.S. EPA removed all visible drums; a sludge pit; and an estimated 340 tons of contaminated soil and paint waste. U.S. EPA covered the removal area with clay and top soil.

On October 30, 2006, Ohio EPA referred the Metroparks spill site to U.S. EPA Region 5 for a TCR action. On November 8, 2006, U.S. EPA investigated the spill site to determine whether a TCR was warranted. On February 27, 2007, the U.S. EPA on-scene coordinator submitted an action memorandum to the U.S. EPA Region 5 Superfund Director to complete a TCR action. The TCR action took place during April 2007. U.S. EPA excavated 300 yards of soil/waste and removed 63 55-gallon drums and many smaller containers at the border of the Metroparks property and the ODOT Interstate 70 right-of-way (**Figure 6**). The extent of the removal was based on exploratory trenching before and during the TCR action. U.S. EPA did additional trenching to ensure that all of the hazardous waste and contaminated soil were removed on the Metroparks' property but did not explore beyond the Metroparks' property

boundary. The area excavated was covered with clean fill.

6.0. CONCLUSIONS AND SITE RECOMMENDATION

The Integrity South Drum Dump Site is part of an old Franklin County landfill that operated between 1954 and 1963. In 1964, the landfill was bisected by Interstate 70. Franklin County retained its property north of Interstate 70 and sold its property south of Interstate 70 to Mr. George Bentz in 1968. Mr. Bentz did not sell or develop the landfilled part of the property that he purchased. Being vacant, the property was subject to unauthorized dumping, and it appears that the drums and wastes were dumped after Franklin County ceased landfill operations. After Mr. Bentz died in 1988, the property was transferred to the Bentz Foundation. J&J Investment and MP Dory acquired the Integrity Drive South Drum Dump site from the Bentz Foundation. J&J Investment transferred 1.274 acres of their property to Metroparks in 2005.

Based on the site assessment guidance, the site meets threshold criteria for state and federal action (**See Attachment 1**):

- Ohio EPA has authority under state law and U.S. EPA has authority under federal law (CERCLA).
- Ohio EPA and U.S. EPA have documented a release of hazardous substances to soil and to Alum Creek sediment.
- Comparison of contaminant concentrations to screening level concentrations indicates that there exists a potential threat/harm to human health and the environment.
- Potentially responsible parties (PRPs) include the Borden Company, J&J Investment/Ohio Soil Recycling, MP Dory, Franklin County, the Metroparks and the State of Ohio (ODOT).

Although the site meets the threshold criteria, balancing criteria affects the decision to pursue state actions. The balancing criteria considered and explanations are listed below:

- Local and state government priorities exist for 3% of the site. The Metroparks' priority is to maintain the eastern part of the site as a right-of-way for the Alum Creek Greenway Trail. ODOT's priority is to maintain the right-of-way for Interstate 70. Both of the government entities have control over the land use on their properties. In the foreseeable future, land use will remain recreational use, mainly as a bicycle/pedestrian trail, and as a highway right-of-way.
- Identified PRPs are the Borden Company, J&J Investment/Ohio Soil Recycling, MP Dory, Franklin County, the Metroparks, and ODOT. Borden and Franklin County are the only PRPs known to have disposed of waste at the site. J&J Investment/Ohio Soil Recycling and MP Dory control 97% of the land but there is

no indication that either company released hazardous wastes on-site.

- Currently, the potential threat or harm to human health is low. The principle threat is due to direct contact with contaminated soil and waste on-site, and perhaps sediment in Alum Creek. The 1995 and 2007 TCR actions removed the near-surface waste and nearby contaminated soil where the releases were documented. In addition, Ohio Soil Recycling has covered nearly 60% of the site with several feet of soil, and MP Dory has covered their property with fill, asphalt, and gravel. Ohio Soil Recycling has contacted Ohio EPA in October 2008 and informed the agency of plans to fill the site with soil so that the elevation is equal to the Anchor Landfill, or approximately 16 feet above original grade. Finally, Metroparks has graded, covered, and landscaped its property adjacent to Alum Creek, along the Alum Creek Greenway Trail.
- The potential threat to Alum Creek receptors would be to benthic organisms in the immediate vicinity of the storm water outfall or in small pools downgradient of the outfall. The substrate is rocky and very little sediment exists adjacent to the site. The downstream extent of PAHs could not be determined based on existing information. The threat to human health via direct contact with sediment or by ingestion of aquatic life from releases at the site is considered low due to these site-specific factors. However, a more comprehensive study of Alum Creek in this area is needed to document effects of the potential unregulated sources of sediment contamination.

This site assessment was completed in accordance with current Ohio EPA, DERR site assessment guidance. Based on this guidance the site meets threshold criteria for additional state actions, but no further action is recommended based on balancing criteria. It is unlikely that additional state actions would significantly reduce the potential threat to human health and environment due to releases at this site at this time. Until a comprehensive study of Alum Creek is completed, the specific impacts of the site to sediment will remain unknown. Based on these factors no further state action is recommended.

7.0. REFERENCE PAGE/ATTACHMENTS

Ohio Department of Natural Resources, 1958. *Map Illustrating the Ground Water Resources of Franklin County, Ohio.*

Ohio Department of Transportation aerial photography 1955, 1960, and 1964.

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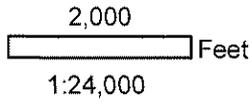
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Figures



Figure 1
 Site Location
 Integrity Drive South Drum Dump Site Assessment



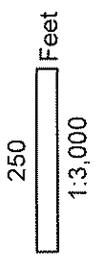
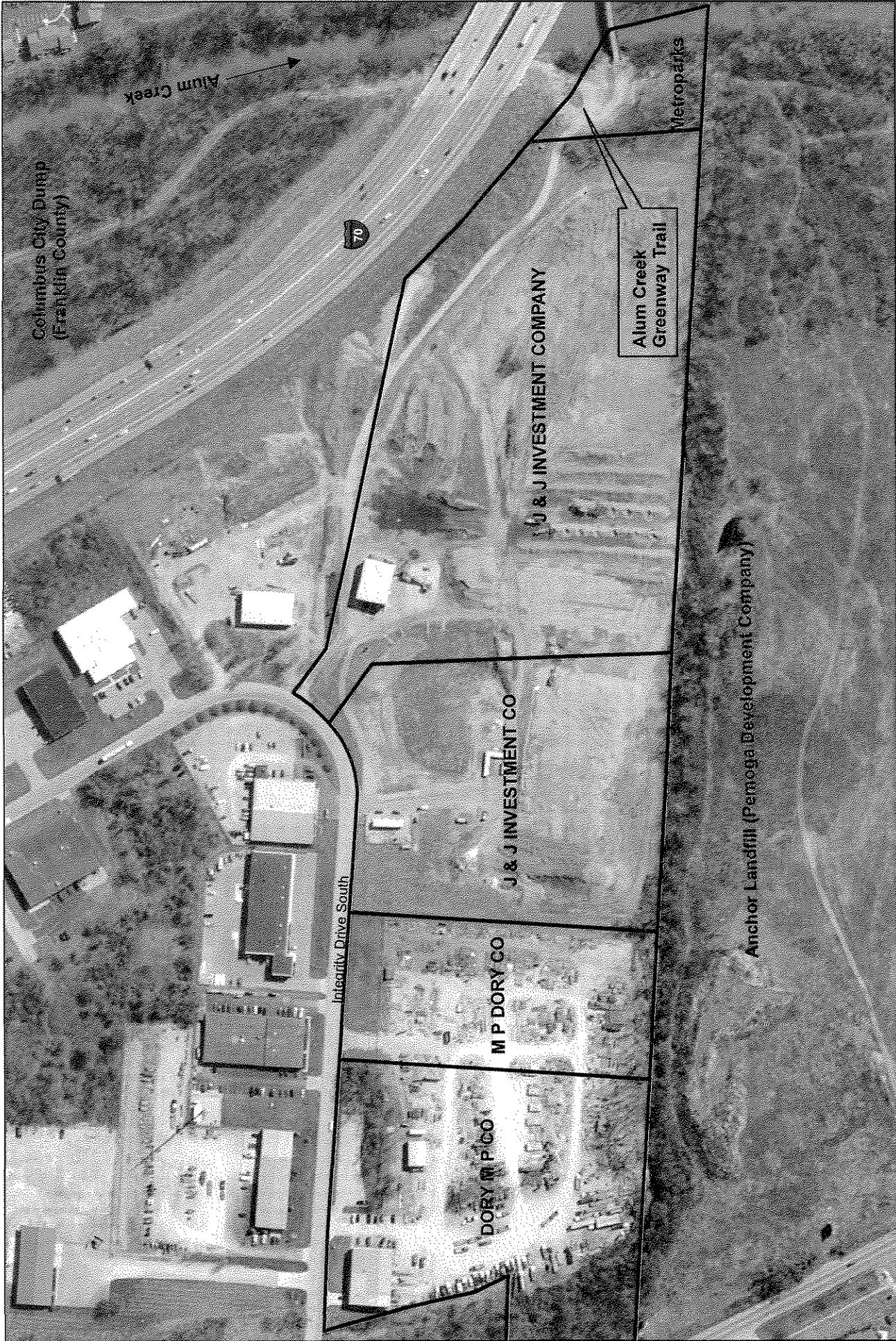


Figure 2
 Site Features and Parcel Information
 Integrity Drive South Drum Dump Site Assessment

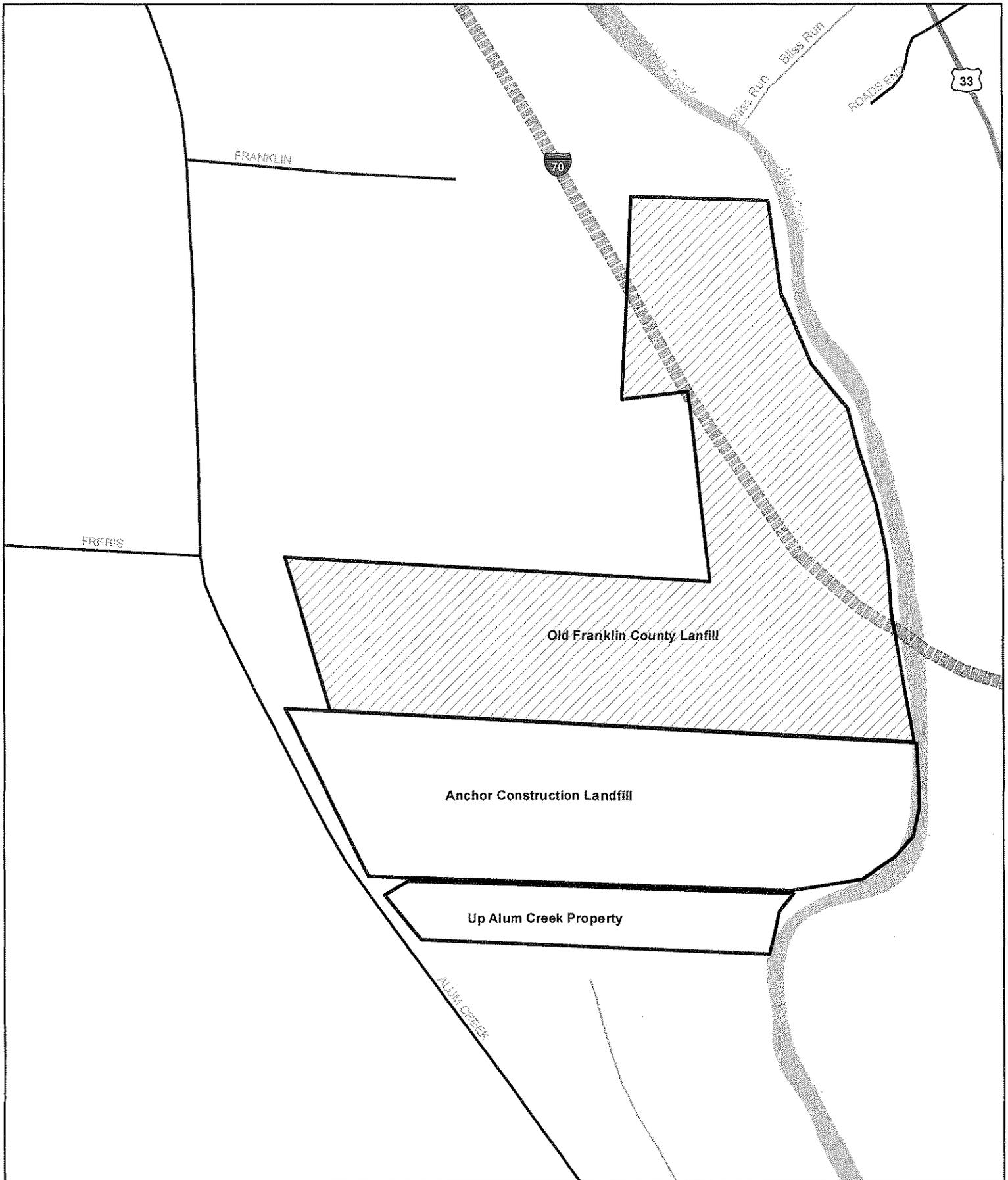
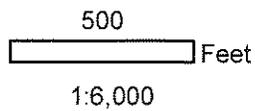


Figure 3
 Extent of the Old Franklin County Landfill 1963
 Integrity Drive South Drum Dump Site Assessment



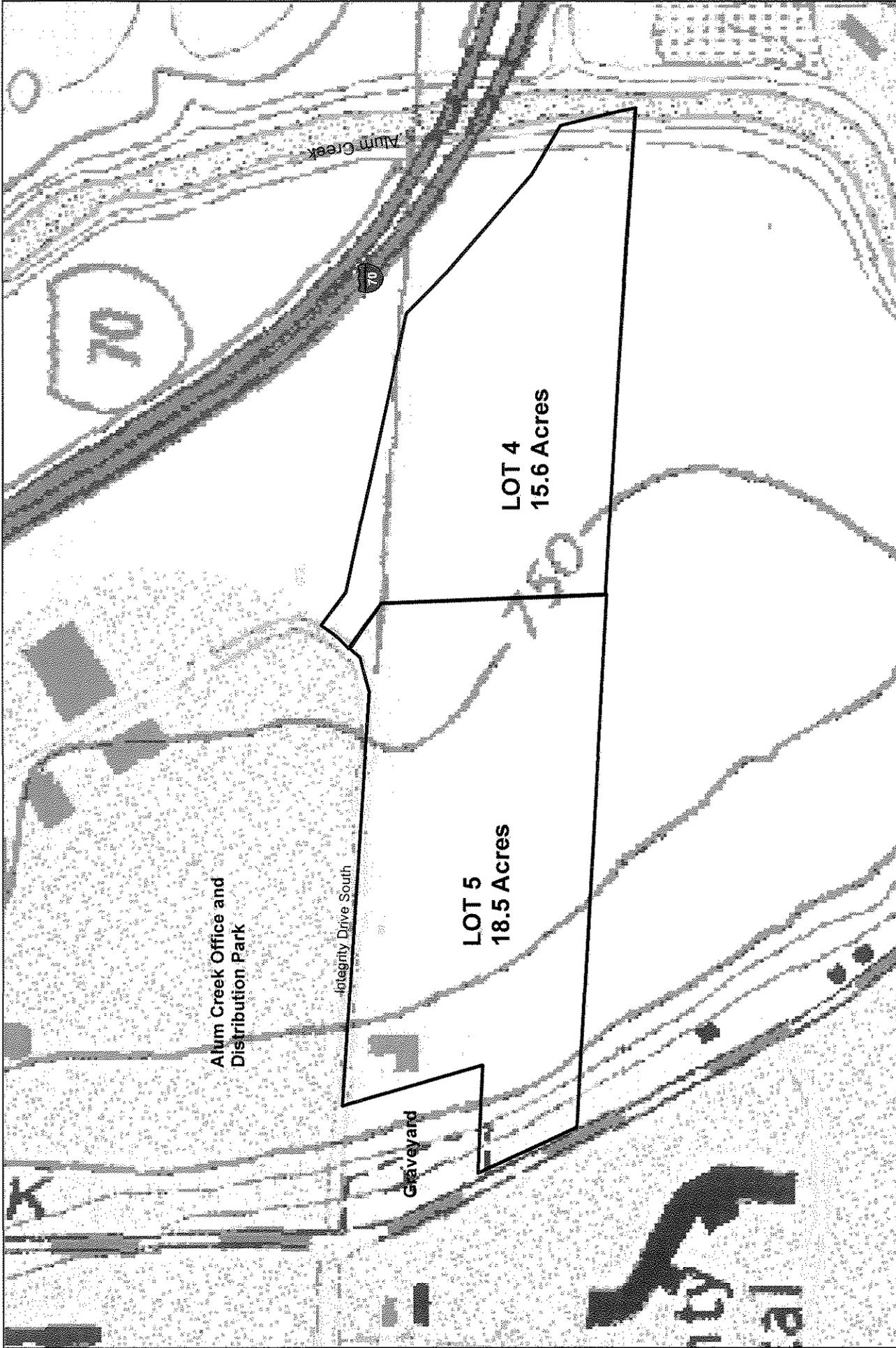
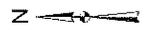


Figure 4
 Lots #4 and #5 of the George B. Bentz Property
 Integrity Drive South Drum Dump Site Assessment

500 Feet
 1:4,000





Legend
franklin_2foot_contours

275 Feet
1:3,500

Figure 5
Topography and Drainage
Integrity Drive South Drum Dump Site Assessment

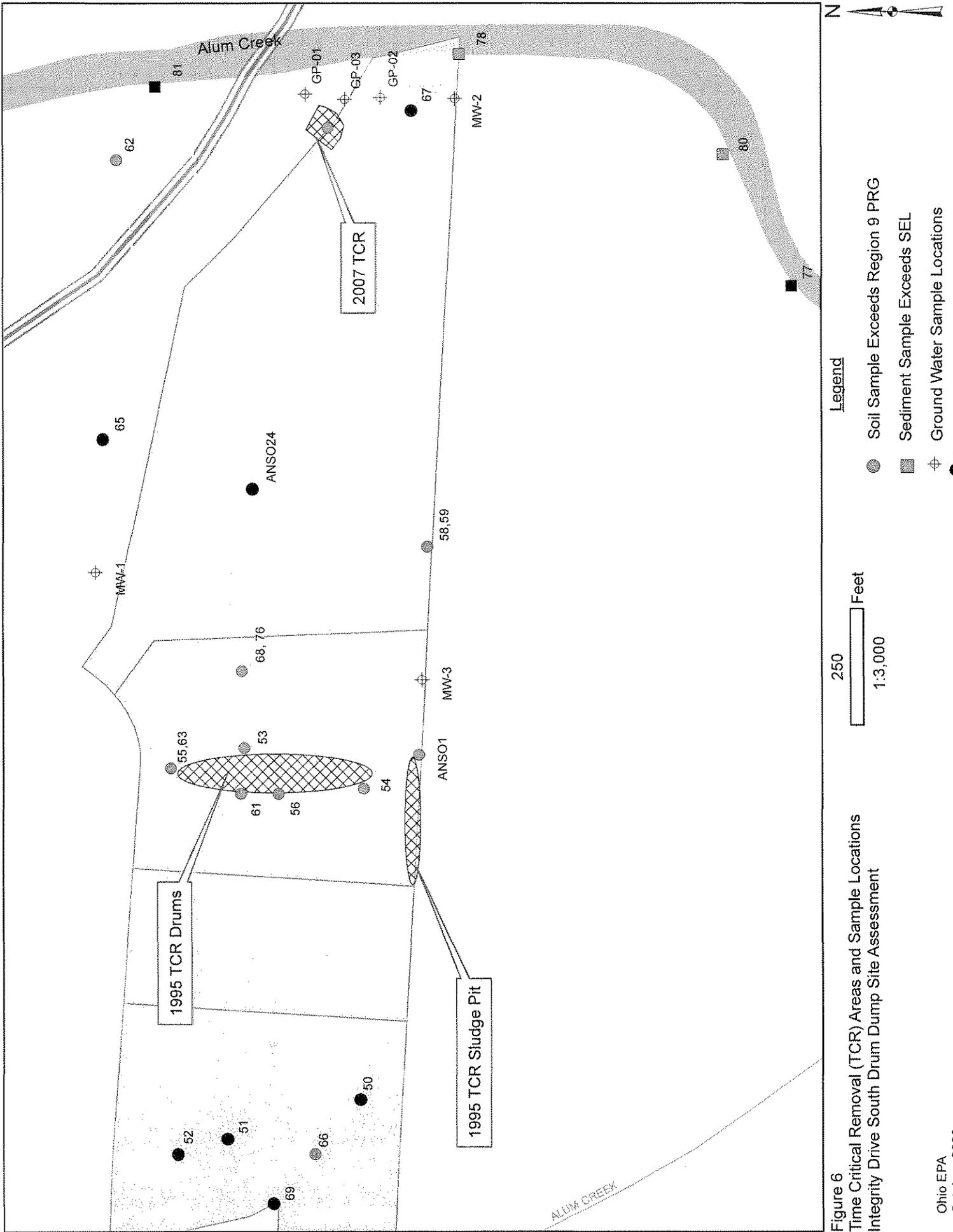


Figure 6
 Time Critical Removal (TCR) Areas and Sample Locations
 Integrity Drive South Drum Dump Site Assessment

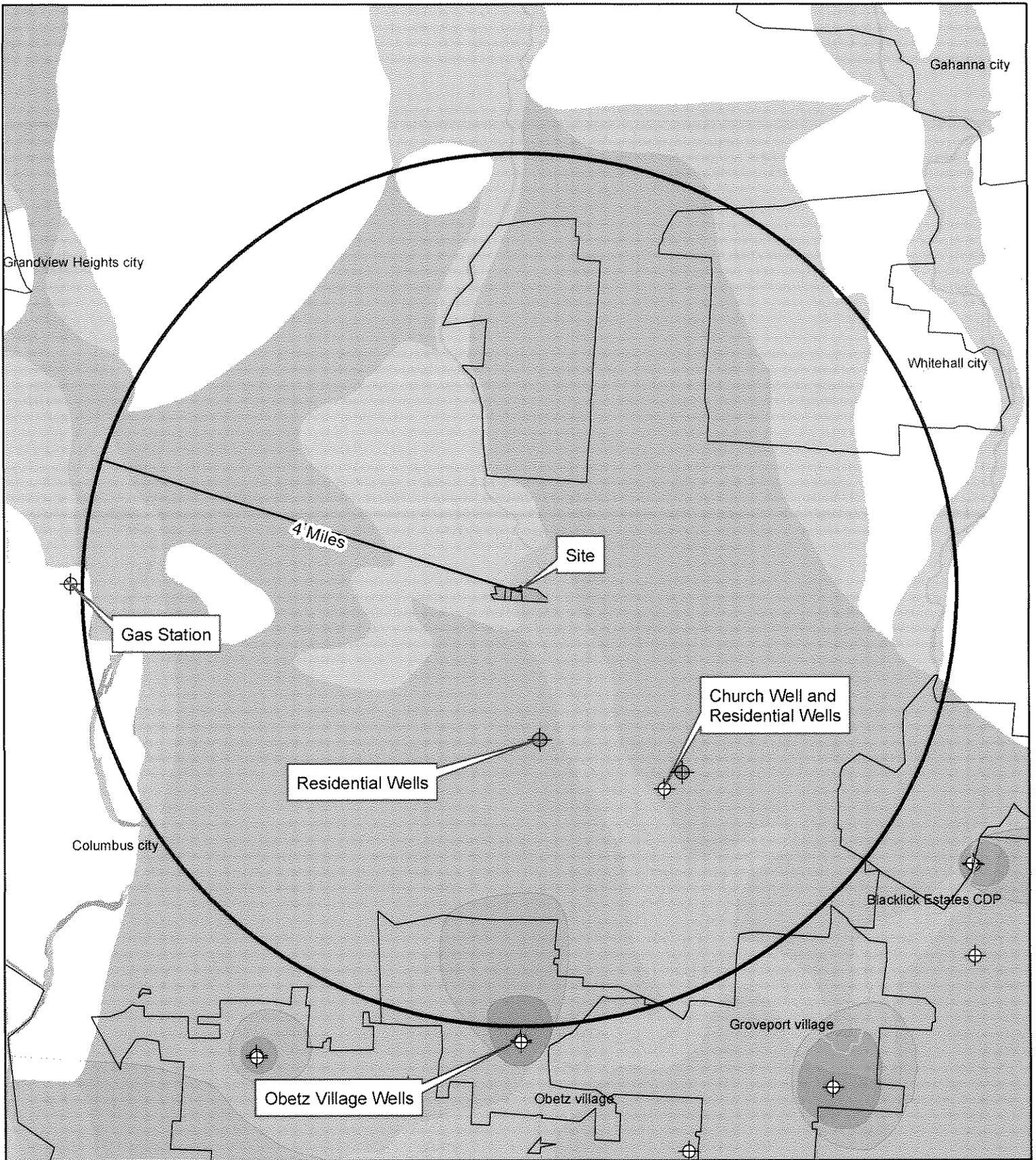


Figure 7
 Ground Water Pathway Analysis
 Integrity Drive South Drum Dump Site Assessment

1
 Miles
 1:72,000

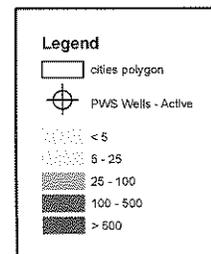




Figure 8
 Natural Heritage/Surface Water Analysis
 Integrity Drive South Drum Dump Site Assessment

4,000
 Feet
 1:48,000

Legend

-  OEPA.wetlands_ODNR
-  DSW.end_threat_fed
-  DSW.end_threat_state



Figure 9
 Soil Pathway Analysis
 Distance Rings and Population
 Integrity Drive South Drum Dump Site Assessment

1
 Miles

Radius	Population
0.25	211
0.5	1118
1.0	5797
2.0	29649
3.0	102814
4.0	258344

Tables

Table 1

Integrity Drive Integrated Assessment
Soil Analytical Results

Analyte	PRG	Sample Number and Results (mg/kg)													
		SO53	SO54	SO55	SO56	SO58	SO59	SO61	SO62	SO63	SO66	SO68	SO76		
VOCs															
Trichloroethene	0.57	ND	610			48									
Toluene	5000	15J	61000			770									
Ethylbenzene	5.7		6200												
total Xylenes	600		37000	170	1500										
Chloroform	0.3				5.7										
SVOCs															
Benzo (a) Anthracene	0.15								48		9.3	7.3	15		
Benzo (b) fluoranthene	0.15								31		15	11	20		
Butylbenzylphthalate	260					22000									
Benzo (a) pyrene	0.015		280						35		7.8	6.5	13		
Inorganics															
Arsenic	0.39		501						246		305				
Lead	400	4300	16000	30400	6870	7090	5260	14300							
PRG: US EPA Region 9 Preliminary Remediation Goals, Residential Land Use (2008)															
BLANK: Analyte concentration below the PRG at that location															

Table 2

Integrity Drive Integrated Assessment
Sediment Analytical Results

Analyte	Standard (mg/kg)						Sample Number						
	HH PRG	ESL	SEL	SE77	SE78	SE80	SE81	SE83	SE80	SE78	SE80	SE81	SE83
Anthracene	17000	0.0572	11.1	1	7	3.8	0.31	20					
Benzo (g,h,l) perylene	NA	0.17	9.6	1.6	ND	ND	ND	ND					
Indeno 1,2,3-cd pyrene	0.15	0.2	9.6	2.7	16	21	0.71	47					
Pyrene	1700	0.195	25.5	ND	43	62	1.4	98					
Fluoroanthene	2300	0.423	30.6	ND	56	31	1.4	98					
Phenanthrene	NA	0.204	28.5	0.042	40	20	0.87	92					
Bis (2-Ethylhexyl) Phthalate	35	NA	NA	1.5	3.9	33	0.17	0.18					
Benzo (a) Anthracene	0.15	0.108	44.4	39	14	13	0.53	29					
Benzo (b) fluoranthene	0.15	10.4	NA	0.49	ND	ND	ND	ND					
Benzo (k) fluoranthene	1.5	0.24	40.2	ND	47	57	2.2	160					
Chrysene	15	0.166	13.8	ND	26	40	0.79	55					
Benzo (a) pyrene	0.015	0.15	34.2	ND	ND	ND	ND	150					
Dibenz (a,h) anthracene	0.015	0.033	3.9	1.2	ND	ND	ND	7					
HH PRG: Human Health Screening Standard: Region 9 US EPA Residential Soil Standards (2008)													
SEL: Severe Effect Level for Benthic Organisms (Persuad, 1993)													
ESL: US EPA Region 5, RCRA Ecological Screening Levels													
ND: Not Detected													
NA: Not Available													

Table 3

Integrity Drive South Drum Dump at Alum Creek
Ground Water Sampling Results

Analyte	MCL	Sample Number			
		GP-01	GP-02	GP-02D	GP-03
Volatile Organics (ug/l)					
Vinyl Chloride	2	0.766	ND	ND	ND
Chlorobenzene	NL	ND	1.02	1.07	4.89
Benzene	5	ND	ND	ND	0.825
1,2 dichlorobenzene	60	ND	ND	ND	0.556
1,4 dichlorobenzene	75	ND	ND	ND	1.17
Semi-volatile Organics (ug/l)					
bis(2-ethylhexyl)phthalate	NL	ND	ND	3.98	25.1
Inorganics (mg/l)					
Antimony	0.006	0.000635	0.000442	0.000387	0.000688
Barium	2	0.877	3.18	4.06	3.08
Selenium	0.05	ND	ND	0.006	ND
Thallium	0.002	0.000359	0.000165	0.000337	0.000286
Nickel	NL	0.00672	0.00571	0.00809	ND
Zinc	NL	0.0135	0.0151	ND	0.00639
Cyanide	0.2	ND	ND	0.00508	ND
ND: Not Detected					
NL: Not Listed					
MCL: Maximum Contaminant Level for Drinking Water (OAC 3745-81)					

Photographs

October 9, 2008



Figure 1: Alum Creek Greenway Trail. Looking west at bridge over Alum Creek.



Figure 2: Alum Creek Greenway Trail. Looking west at time critical removal area.



Figure 3: Alum Creek Greenway Trail. Looking south at time critical removal area.



Figure 4: Integrity Drive Drum Dump. Looking west at drainage ditch south of 170.

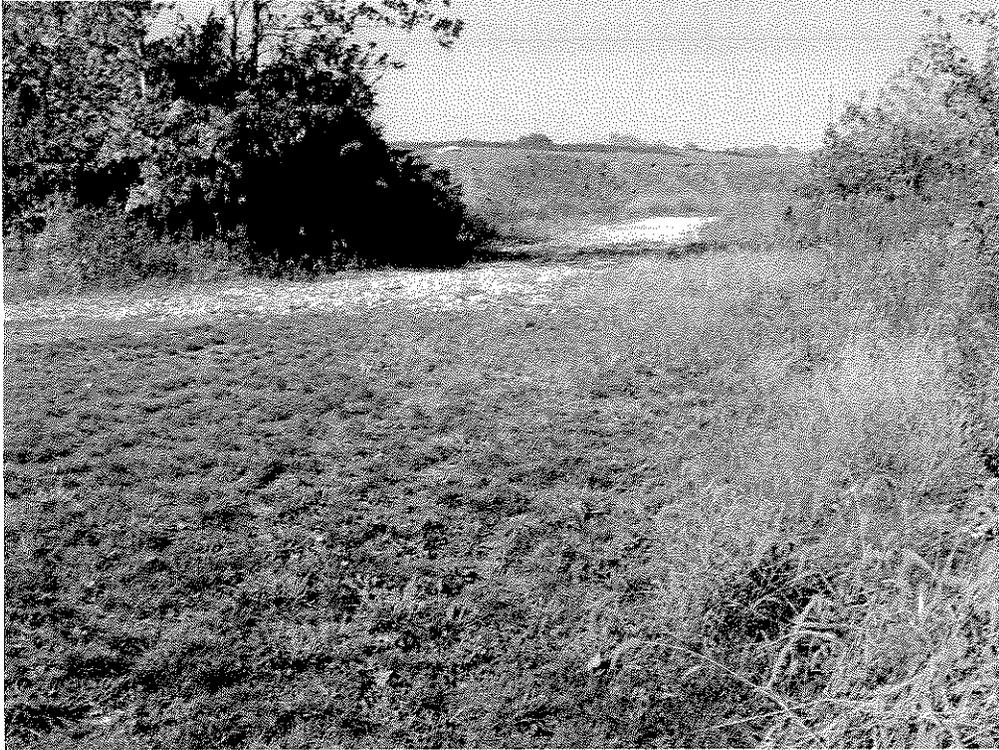


Figure 5: Integrity Drive Drum Dump. Looking west at OSR soil stockpile on site.

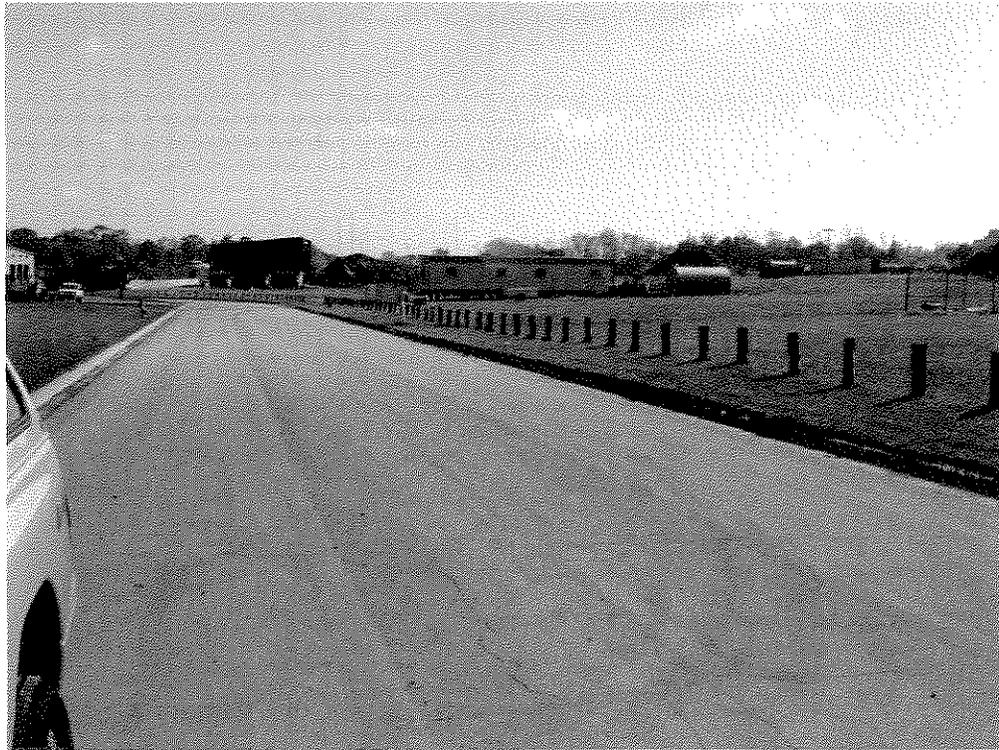


Figure 6: Integrity Drive Drum Dump. Looking east at OSR facility on Integrity Drive.

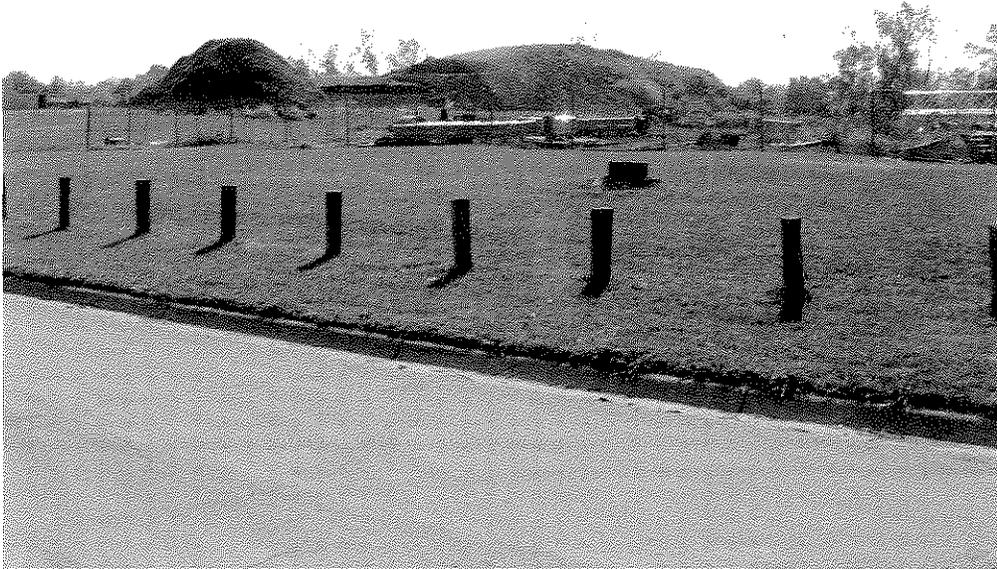


Figure 7: Integrity Drive Drum Dump. Looking south at soil stockpiles.

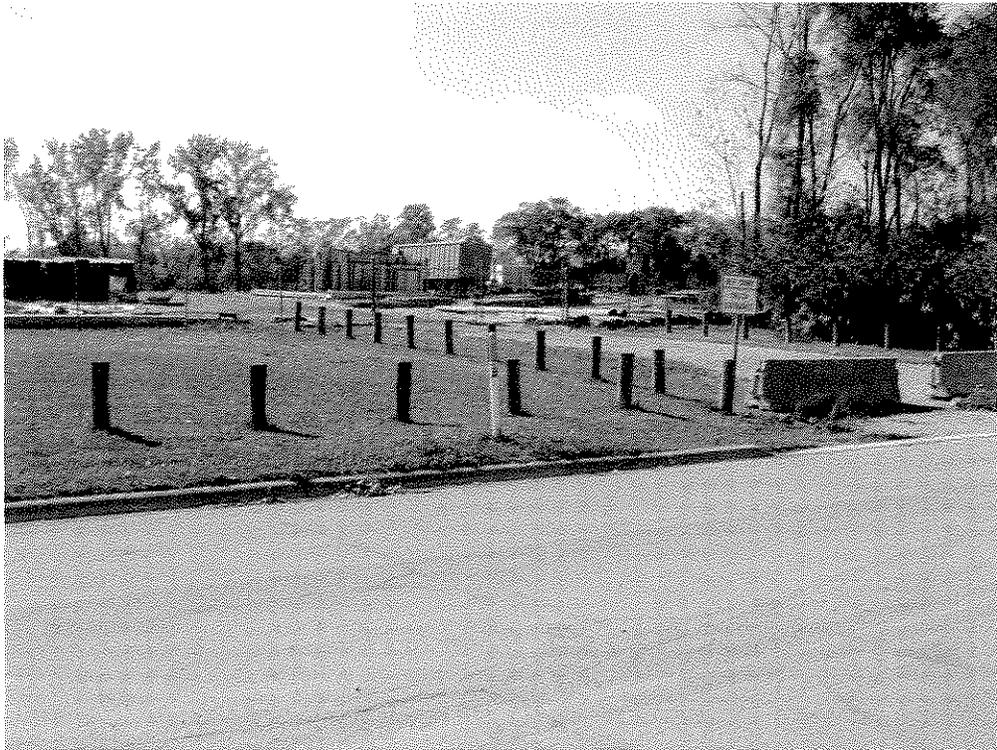


Figure 8: Integrity Dr. Drum Dump. Looking northwest at MP Dory Property.

Site Assessment Worksheet

RECOMMENDATION OPTIONS WORKSHEET

Site Name: Integrity Drive South Drum Dump Worksheet Completion Date: 10/29/08

Threshold Criteria		Recommendations											
		Inter-/Intra-Program Referral		No Further Action				State Cleanup Program	State Author./Enforce. Action	Fed. Site Assess. Program	Federal Removal Action Program		
Does DERR have authority?		No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a potential/actual release?			Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there potential/actual harm?			Yes*		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a viable PRP?						-	-	No	Yes	-	Yes	-	-
Does CERCLA have authority?						-	-	Yes	Yes	-	-	Yes	Yes
Has a VAP NFA with CNS been requested?							Yes	-	-	-	No	No	-
Is it in the VAP-MOA track?							-	Yes	-	-	No	No	-
Mark an X if all of the replies in the column are circled			X								X	X	X

* "Low" potential or actual harm.

Operating Facility	X	Site is being used to process PCS and stockpile treated top soil and mulch. Several feet of top soil covers 60% of the site. The northern part of the site is occupied by MP Dory, a construction contractor.
Potential Risk:	X	Potential for contact with hazardous substances has been reduced due to the land use, TCRs and stockpiled soil.
Other:		