

**TRAFFIC CONTROL PLAN
for
PORTAGE CREEK AREA
TIME CRITICAL REMOVAL ACTION**

**Kalamazoo County
Kalamazoo, Michigan**

Prepared for:

USEPA Region 5
Emergency Response Branch
77 West Jackson
Chicago, IL 60604
and
The City of Kalamazoo
Kalamazoo, MI 49001

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1. INTRODUCTION

Environmental Quality Management, Inc. (EQ) has been tasked with performing a time-critical-removal action (TCRA) to remove polychlorinated biphenyl (PCB) contaminated sediments from targeted locations over a 1.8-mile section of Portage Creek. The Portage Creek Area Site (Site) is a portion of the Allied Paper/Portage Creek/Kalamazoo River Superfund Site. This Site located in Kalamazoo County, Michigan, is pervasively contaminated with PCBs as a result of historic waste practices associated with several paper mills. The Site was listed on the National Priorities List (NPL) on August 30, 1990.

1.1 Purpose

Implementation of the TCRA will require significant use of trucks to facilitate site operations and thus increase truck traffic in the sediment removal action areas. The purpose of this traffic control plan (TCP) is to minimize the impact of site-associated truck traffic on the local traffic patterns to maintain public safety. The focus of this traffic plan will be the movement of contaminated sediment in over-the-road transport trucks to and from the primary staging area at the John Street TCRA support area at the intersection of E. Crosstown Parkway and John Street. The traffic plan will be amended at a later time, if the primary staging area is relocated to a to-be-determined (TBD) location as work progresses downstream.

Site activities will employ various-sized dump trucks and/or tractor trailers, construction worker vehicles, delivery vehicles, and visitor vehicles. During removal activities, it is anticipated that an average of 20 to 25 (up to a maximum of 35) truck loads of dewatered soil and sediment material will be hauled daily from the project area to the off-site licensed disposal facilities. A combination of off-road trucks and equipment and over-the-road haul vehicles will be used to carry out the various transport-related tasks. The off-road vehicles will travel only within the active construction site, while the over-the-road trucks will be used to haul materials on public roads.

A pre-construction survey of existing road conditions will be performed prior to the start of contaminated sediment removal operations. Survey documentation will be maintained in the site project files located at EQ's command post at the John Street TCRA support area. Dry runs will be performed as necessary on all primary and alternate routes between the project area and the off-site disposal facilities to identify potential problem areas or areas of significant traffic congestion.

Construction traffic will be directed for travel to and from the project area along established truck routes. These routes will provide efficient travel routes for construction vehicles while minimizing the impact on local traffic. Warning signs and traffic controls may be employed (consistent with the 2003 U.S. Department of Transportation - Federal Highway Administration



[USDOT-FHWA] *Manual on Uniform Traffic Control Devices* and local/state regulations) to alert local traffic to trucks entering and leaving the project area via local roads. Also, local law enforcement agencies and highway departments will be consulted and notified of the construction schedule and designated truck routes. During peak periods, the timing of construction traffic may be adjusted to avoid increased congestion and conflicts with local traffic patterns. There will be no lane closures to create exclusive truck traffic lanes.

The following sections of this TCP provide details on the potential impacts and mitigation approach. The goals of implementing the measures described in this TCP are to prevent injuries to workers, passengers, and pedestrians; prevent damage to motor vehicles and/or other equipment; and prevent damage to third-party property.

1.2 Organization of the Plan

This plan is organized to satisfy public safety and aesthetic concerns of the City of Kalamazoo related to the increase in truck traffic from shipping contaminated sediments from the project site and other site-related traffic. Section 1 of the plan presents the purpose and organization of the plan; Section 2 presents the location and description of the site; Section 3 describes on-site/off-site traffic control procedures; Section 4 presents fugitive dust control activities; Section 5 outlines mitigation procedures to control the tracking of soils off site and onto city roadways; Section 6 presents the traffic routes to access the sediment removal areas; Section 7 presents health and safety plan references; Section 8 presents key personnel roles, responsibilities and contact information; Section 9 presents emergency contact information; and Section 10 presents contingency plan measures for traffic situations and traffic related spill response measures.

1.3 Cross Referencing of Plans

The Traffic Control Plan supplements two other plans also required under this contract: the Work Plan and the Soil Erosion and Sedimentation Control Plan. The Soil Erosion and Sedimentation Control Plan supplements both the Work Plan and the Traffic Control Plan through the management and inspection of erosion and erosion control measures at the site.



2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

The Site is located in the City of Kalamazoo, Michigan, beginning at East Cork Street and flowing northward approximately 3 miles to the confluence of the Kalamazoo River. Activities associated with this removal action are anticipated to occur in segments along a 1.8-mile stretch of Portage Creek. Work activities will move downstream primarily between Reed Avenue to East Walnut Street bridge, South Pitcher Street bridge to the railroad crossing west of Rochester Street, and the bend in Portage Creek east of Rochester Street to the confluence with the Kalamazoo River (Figure 1, Site Location).

2.2 Site Description

This section summarizes specific aspects of the design of the Portage Creek Area TCRA related to the development of this TCP. A comprehensive description of the project is provided in the Work Plan for the Portage Creek Area Time-Critical Removal Action. The section of Portage Creek targeted for action has been divided into 10 distinct removal areas (Figure 2, Sediment Removal Areas). The areas targeted for removal will be referred to as SA1-A, SA1-B, SA1-C, SA3-A, SA5-A, SA5-C, Axtell Creek, SA5-D, SA6, and SA7. It is anticipated that the work will span two to four construction seasons subject to funding allocations and the available working budget. Therefore, as detailed in this overview the phases will be divided based on approximate equal removal volumes for completion of distinct removal areas. The phases may be split over multiple construction seasons if available budget and working conditions permit completion of individual removal areas.

Phase 1 Overview

Construction activities can begin when the final design has been completed and approved by USEPA and the necessary property access is obtained. This phase will include the preparation of the John Street TCRA support area for site operations, and pre-removal preparation of SA5, SA6, and SA7. Traffic associated with preparation of the John Street TCRA support area includes but is not limited to:

- Mobilization of heavy equipment to perform clearing and grubbing of the support area and access for removal operations at SA5, SA6, and SA7.
- Mobilization of heavy equipment for construction of site improvements needed for site operations.
- Mobilization and spotting of office trailers and storage containers.

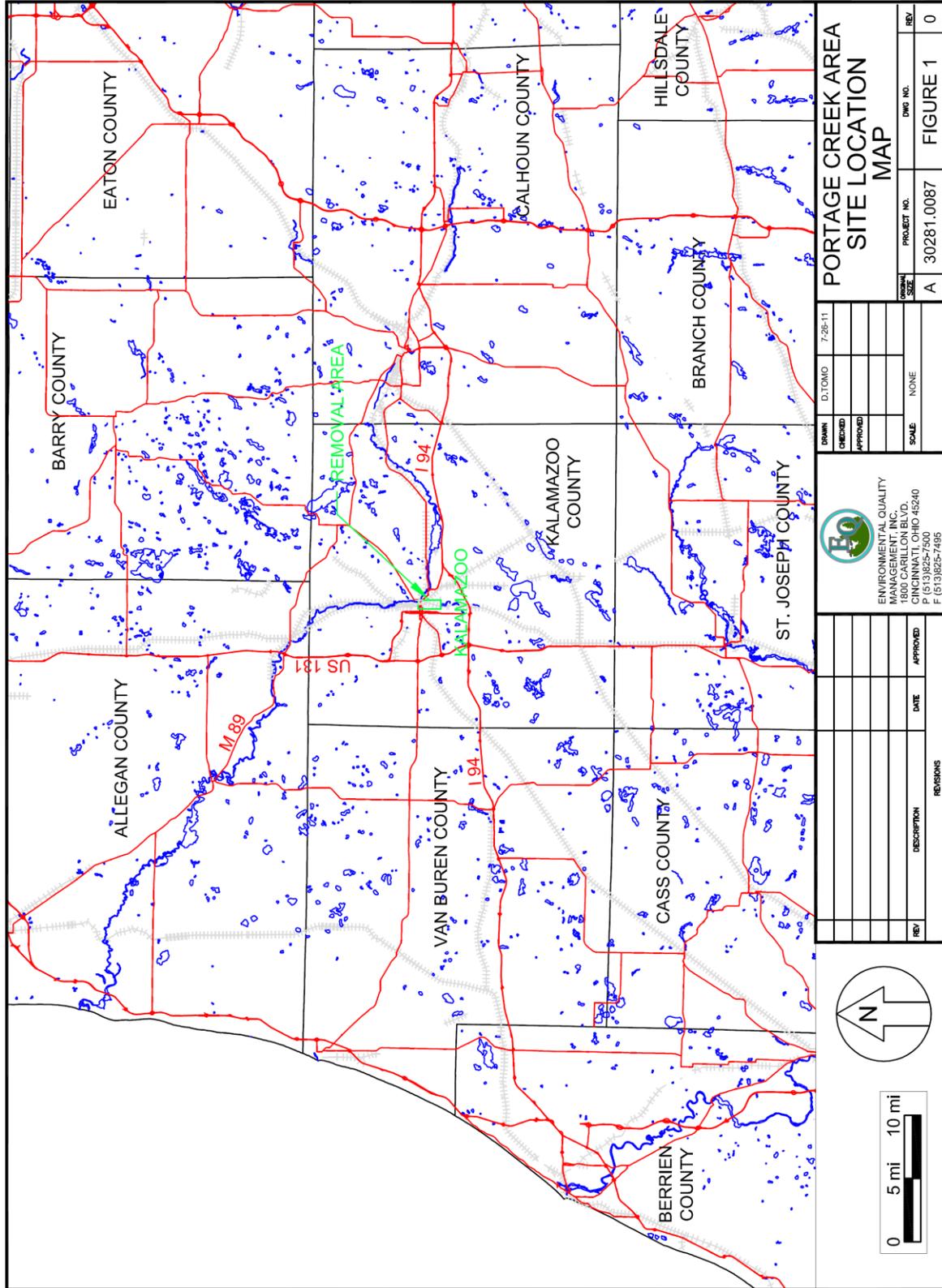


Figure 1. Site Location



Figure 2. Sediment Removal Areas



- Mobilization of site materials to include sand, gravel, stone, and various geotextile products to construct parking, laydown areas, haul roads, and sediment dewatering/staging pad.
- Mobilization of waste water treatment system components.

The support area will be accessed via E. Crosstown Parkway by turning south onto John Street, and then turning east into the support area property. In addition, EQ will prepare access for the SA7 removal operations that will include mobilization of heavy equipment and construction of an access road from the entrance off Reed Avenue. It is estimated that preparation activities in Removal Areas SA5, SA6, and SA7 will begin in late summer 2011 and continue into the spring of 2012. Excavation of SA7 is expected to be completed in Fall 2011, and will result in the removal of an estimated 826 cubic yards (cy) consisting of approximately 131 cy of TSCA sediment waste and 695 cy of Subtitle D sediment waste. EQ expects to ship sediment waste from SA7 directly to the respective landfills.

Phase 2 Overview

To avoid the challenges (including safety hazards) associated with winter work in southwest Michigan, excavation work will be shut down over the winter months and resume in the spring of 2012, dependent on water levels within the creek. Phase 2 will include excavation within Removal Areas SA6, SA5-D, SA5-C, and Axtell Creek. Phase 2 is expected to be completed in the second construction season during the spring and summer of 2012. Excavation of SA6, SA5-D, SA5-C, and Axtell Creek will result in a combined removal of an estimated 9,746 cy consisting of approximately 3,696 cy of TSCA sediment waste and 6,050 cy of Subtitle D sediment waste. Sediment removal from SA6 will require the transfer of sediments to the John Street TCRA support area staging pad at the E. Crosstown Parkway and John Street location. SA6 sediments will be transported by over-the-road dump trucks to the John Street TCRA support area staging pad prior to shipping off site for final disposal. Sediment removed from the SA5-D and SA5-C areas will be transferred via off-road dump trucks to the primary staging pad on site-constructed haul roads in and around Upjohn Park. Final disposal shipments will be made from the John Street TCRA support area staging pad to respective disposal facilities over truck routes established in this TCP.

Phase 3 Overview

Phase 3 will include excavation within Removal Areas SA5-A, SA3-A, SA1-C, and SA1-B. Phase 3 is expected to be completed in the third construction season during the spring and summer of 2013. Excavation of SA5-A, SA3-A, SA1-B, and SA1-C will result in a combined removal of an estimated 3,986 cy consisting of approximately 624 cy of TSCA sediment waste and 3,362 cy of Subtitle D sediment waste.

Phase 4 Overview

Phase 4 will include excavation within Removal Area SA1-A. Phase 4 is expected to be completed in the fourth construction season during the spring and summer of 2014. Excavation of SA1-A will result in a combined removal of an estimated 1,930 cy consisting of approximately 414 cy of TSCA sediment waste and 1,516 cy of Subtitle D sediment waste.



Sediment waste to be removed from this area will be transferred to the John Street staging pad before shipment to the final disposal facility.



3. TRAFFIC CONTROL

EQ will differentiate between on-site and off-site traffic control by where the traffic event takes place. Traffic is considered on site if traveling on temporary constructed roadways, staging areas, or parking lots. Project-related traffic on public roadways will be subject to off-site traffic control policies and procedures. EQ expects on-site traffic to consist of but not be limited to:

- EPA, MDEQ, and Design Engineering Firm inspection vehicles.
- Visitors' vehicles.
- EQ and subcontractor management and service vehicles.
- Delivery vehicles that will bring sand, stone, geotextiles, heavy equipment, solidification materials, fuel, and other site supplies.
- Security patrols.

EQ expects off-site traffic to consist of but not be limited to:

- EPA, MDEQ, and Design Engineering Firm inspection vehicles and visitors traveling between staging areas to inspect work.
- EQ and subcontractor management and service vehicles traveling between staging areas to inspect, support, and/or perform work.
- Off-site disposal vehicles taking sediment waste from the staging areas to the landfill.
- Delivery vehicles bringing items to support site operations that will consist of sand, stone, geotextiles, heavy equipment, solidification materials, fuel, and other site supplies.
- Security patrols.

Many of the vehicles used on site will also travel to/from the site on public roadways. On-site traffic will not affect the community as greatly as off-site traffic; however, control practices and procedures will be discussed for each to benefit overall site safety.

3.1 On-site Traffic Controls

On-site traffic control measures include the following:

- When operating vehicles and heavy equipment, safety devices such as seat belts will be worn.
- Signage will be used to notify motorists on public roads when approaching staging area entry drives. The signs will be posted at 250 feet from each drive entrance. The signs will state "Trucks entering Roadway."



- Flagmen wearing safety reflective vests will assist delivery drivers when vehicles are being backed on site to deliver heavy equipment or site supplies. They will direct traffic using 2-sided signs saying “stop” and “slow.” This will minimize disruption to traffic flow.
- When constructing temporary haul roads, staging pads, and parking areas, a top cover of gravel will be applied to keep dirt from being tracked off site onto public roads and to minimize dust disturbed by moving traffic.
- Site vehicles will maintain speeds of less than 15 mph when traveling on temporary constructed roadways, staging areas, and in parking lots.
- No one in a vehicle or on foot will approach “within the work radius” of site heavy equipment without establishing visual or verbal communication with the equipment operator.
- Staging Area entry gates are to be in the closed position when no truck traffic activity is ongoing. Staging area gates will be locked during non-working hours.

3.2 Off-Site Traffic Control Measures

Off-site traffic control measures include the following:

- All vehicle operators will be instructed to follow posted speed limits, wear safety belts, maintain safe following distance between vehicles, use turn signals, and yield the right of way to pedestrians when traveling public roads around the site work areas.
- Off-site disposal vehicles will have their loads covered and their tires pressure washed before entering the public roadway from each staging area.
- Loads will be secured and inspected when transferring equipment and materials from one work area to another over public roadways.
- No site-related vehicle traffic, with the exception of security patrols and site management, will approach the site ½ hour before commencement of work and will depart within ½ hour of completion of the workday. Normal excavation work hours will be from 7:00 a.m. to 6:00 p.m. Monday through Friday.

3.3 Off-site Land Disposal Facilities

As part of the Portage Creek Area TCRA activities to be conducted in 2011 and 2012, all waste, including excavated sediment and soil, will be transported to one of two off-site licensed disposal facilities. Additional disposal facilities also may be identified for use during the 2013 and 2014 construction seasons if necessary. The Traffic Control Plan will be amended if additional disposal facilities are to be used.



Sediments and soils with <50 mg/kg PCB contamination from all removal areas and other non-impacted waste materials will be transported to one of the following licensed non-hazardous waste disposal facilities:

C&C Landfill (an Allied Waste Services facility)

14800 P Drive North
Marshall, MI 49068
Phone: 269.781.9742

Ottawa County Farms Landfill

15550 68th Avenue
Coopersville, Michigan 49404
Phone: 616.837.8195

Sediment and soil materials generated during the project with >50 mg/kg PCB contamination will need to be handled under TSCA. When TSCA-regulated materials are encountered, that material will be transported to the following TSCA waste disposal facility:

Wayne Disposal (an Environmental Quality Company facility)

49250 North 1-94 Service Drive
Belleville, MI 48111
Phone: 800.592.5489

EQ will provide street sweeping services, as needed, should tracking of mud and dirt onto public roadways occur.



4. DIRT AND DUST CONTROL

In addition to the safety concerns that additional traffic flow into the community causes, site-related traffic has the potential to create fugitive dust and track dirt onto public roadways. Tracking mud onto public roadways has the potential to cause public vehicles to get dirty and impair a driver's vision if the windshield is impacted. In addition as the dirt dries out on the roadways, it turns into dust that (when airborne) is an inhalation nuisance, impairs vision, and could be left on adjacent structures. Many of the site controls previously mentioned will specifically address these issues, but are reiterated below and included with other practices that will be administered.

4.1 Dirt Tracking Control

Dirt tracking controls include:

- Temporary haul roads on site will be constructed with a top surface of gravel that helps tires to dislodge mud from their treads as they travel the road. Roadbeds will be elevated above the existing land surface to keep vehicles from traversing through the mud whenever possible. In addition, geotextiles will be provided to keep site vehicles and equipment up and out of the mud as much as possible.
- Vehicles accessing the site where gravel road surfaces are not present will have their tires brushed off as needed to keep from tracking dirt onto public road surfaces.
- Off-site disposal vehicles will have their tires pressure washed at a decontamination station within the staging area subsequent to loading and prior to departing onto public roadways.

4.2 Fugitive Dust Control

Fugitive dust control includes:

- A dust-suppression truck will be provided to water site roads on an as-needed basis to keep dust generated from the site road traffic from migrating off site. An air monitoring program will be implemented to ensure the effectiveness of dust control. Solidification material and stockpiles of excavated sediment will be covered with tarps and/or plastic sheeting when there is the potential for these areas to contribute to dusty conditions.



5. PUBLIC ROADWAY PROTECTION

In addition to the other site controls described, the structural integrity of the public roadways will be protected to the greatest extent possible. To accomplish this, EQ will document pre-existing conditions, monitor conditions during the project execution, and document post-project conditions. If work practices appear harmful to the public roadways, they will be reviewed and modified as needed to protect the roadways.

- EQ will survey the pre-existing condition of each haul route to and from designated staging areas. This will be done using a video camera equipped with a date stamp. The videotape will be reviewed, and any pre-existing damage will be documented on a copy of the haul route maps from this plan. Copies of the tape will be provided to EPA and made available to the City of Kalamazoo upon request.
- A bi-monthly inspection will be performed to monitor conditions during the project. Changes in work practices, maintenance, and/or repairs will be evaluated by EQ, EPA, and the City of Kalamazoo based on inspection results. An inspection form will be created and kept on file at the job site to document bi-monthly inspections.
- A post-project survey tape will be made to document road conditions after project completion. Copies of the tape will be provided to EPA and made available to the City of Kalamazoo upon request.
- Engineering controls such as applying plywood to road surfaces when offloading tracked equipment onto roadways or moving tracked equipment across roadways will be utilized to the fullest extent possible.
- Before equipment is shipped off site or moves over roadways to other locations on site, it will be cleaned with a high-pressure washer.



6. EXCAVATION AREAS TRAFFIC FLOW PLAN

The traffic plan for the individual excavation areas is presented below in the order work is expected to proceed.

6.1 SA7

SA7 is a flood plain area that will be accessed by road from Reed Avenue. EQ anticipates shipping contaminated soil directly from the flood plain to respective landfills for Subtitle D and TSCA waste sediment disposal. First, EQ will excavate SA7 subtitle D contaminated sediments from this removal area and then excavate TSCA-contaminated sediment from the north end of the excavation to the south end of the excavation area. To accomplish load-out for disposal, EQ will construct an access road/pathway suitable for material transfer with crawler carrier trucks (tracked dump trucks). The crawler carrier trucks will bring contaminated soil to the southern edge of the forested wetland and dump material on a pad for transfer to over-the-road trucks for direct shipment to respective landfills.

EQ intends to ship waste in semi-dump trailers. Trailers will be backed onto a vacant lot used for access to SA7. Trucks will be backed up to the load-out pad where an excavator will load contaminated soil into the dump trailers. Once loaded, truck trailers will be brushed free of any soil accumulated on the outside of the trailer from the loading process. Truck trailer tarps will be placed over the load and the trucks will pull forward onto a truck wash station for tire cleaning. Manifest shipping documents will be completed, and the trucks will be sent to the respective landfill following the route prescribed below to get onto the highway (Figure 3, SA 7 Waste Transport Route(s) to Disposal Facilities):

1. Turn left (east) onto Reed Avenue.
2. Travel to the intersection of Reed Avenue and Portage Road.
3. Turn left onto Portage Road (north).
4. Proceed down Portage Road to the intersection with E. Crosstown Parkway.
5. Turn right onto E. Crosstown Parkway (northeast).
6. Travel eastbound on E. Crosstown Parkway to King Highway (Bus. 94).
7. Trucks traveling to the Environmental Quality Company in Bellville, Michigan (TSCA Soil) or to the C&C Landfill in Marshall Michigan (Subtitle D Soil) will continue on King Highway (Business 94) southeast to I-94 eastbound.
8. Trucks proceeding to Ottawa County Farms in Coopersville, Michigan (Subtitle D Soil) will continue on King Highway (Business 94) southeast to Sprinkle Road, turn south onto Sprinkle Road, and then onto I-94 westbound.

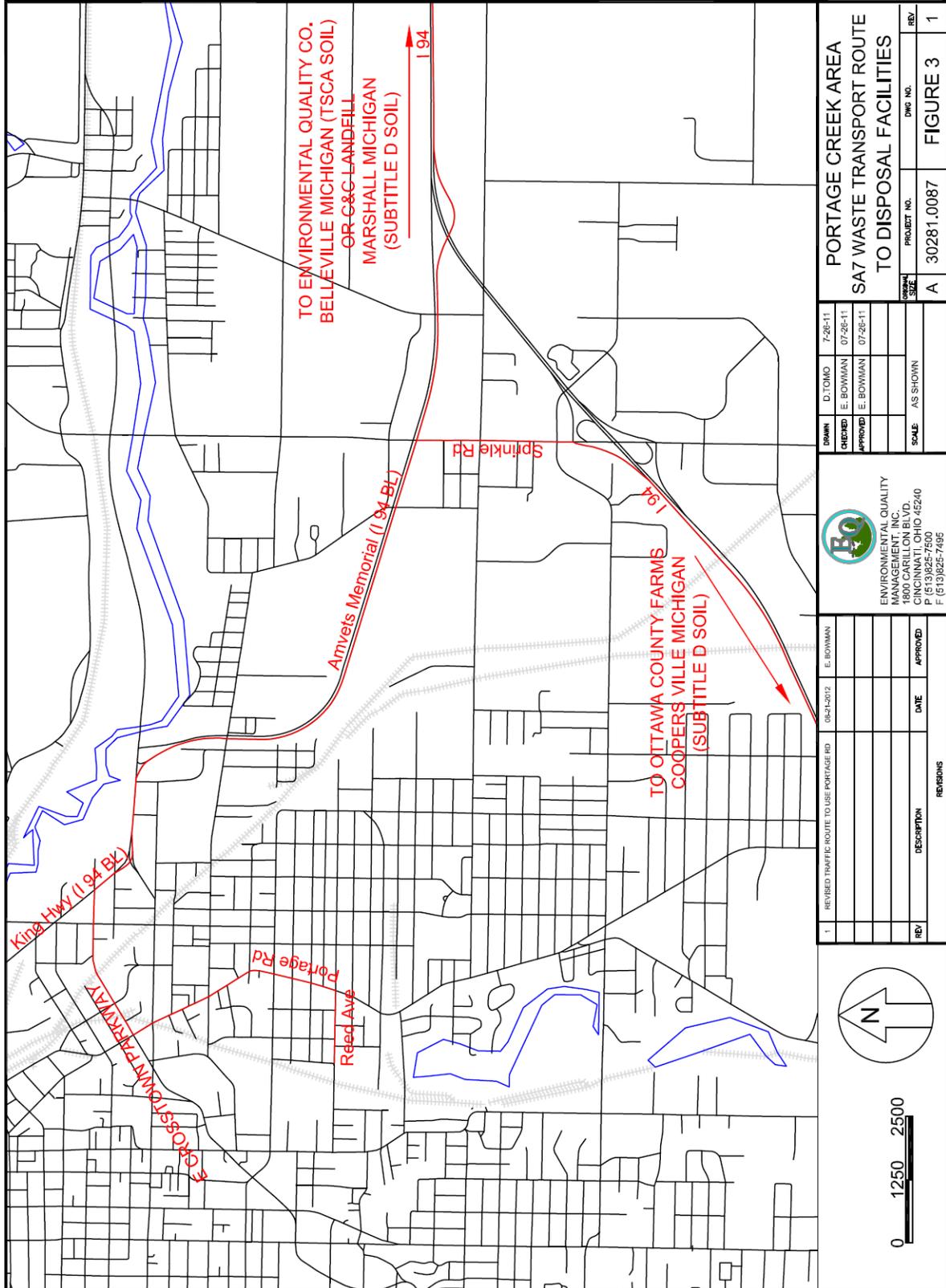


Figure 3. SA 7 Waste Transport Route(s) to Disposal Facilities



6.2 SA6

SA6 is the creek section between the Stockbridge Avenue bridge and the Lake Street Avenue bridge adjacent to the Kalamazoo Public Services facility located just west of the creek. This area will be accessed from a construction entrance and access road constructed adjacent to the west side of the creek on Kalamazoo Public Services Property from Stockbridge Avenue. All site-related traffic will enter and exit from this temporary access road. EQ anticipates shipping contaminated soil from the SA6 Area to the John Street TCRA support area staging pad after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment will be used to load trucks at the work areas adjacent to the creek.

EQ will use tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA6 trucks will be turned around at a designated area and redirected off the site down the same temporary access road used to enter the site. Before departing, SA6 trucks will go through a tire wash station located in the green belt south of the public services perimeter fence in the southeast corner of the property. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 4, SA 6 Waste Transport Route(s) to TCRA Area):

1. Turn right (west) onto Stockbridge Avenue.
2. Travel to the intersection of Stockbridge Avenue and Burdick Street.
3. Turn right onto Burdick Street (north).
4. Proceed down Burdick Street to the intersection with E. Crosstown Parkway.
5. Turn right onto E. Crosstown Parkway (northeast).
6. Travel eastbound on E. Crosstown Parkway to John Street.
7. Turn right onto John Street and turn left into the TCRA support area.
8. Follow the site access road to dump the sediment onto the staging pad.
9. Proceed to the tire wash station located on the northwest corner of the staging pad.
10. Return to the SA6 area along the same route, but travel in the reverse direction.

EQ anticipates shipping sediment waste from SA6, SA5-D, Axtell Creek, and SA5-C from the John St. TCRA support area to their respective TSCA/Subtitle D landfills. Sediment waste shipped from the John St. TCRA support area will follow the route described below (Figure 5, TCRA Waste Transport Route(s) to Disposal Facilities):

1. Exit the property subsequent to loading, tarping, manifest completion, and completing tire wash by turning right onto John Street.
2. Proceed to the intersection of John Street and E. Crosstown Parkway, and turn right onto E. Crosstown Parkway.



Figure 4. Waste Transport Route from SA 6 to TCRA Area

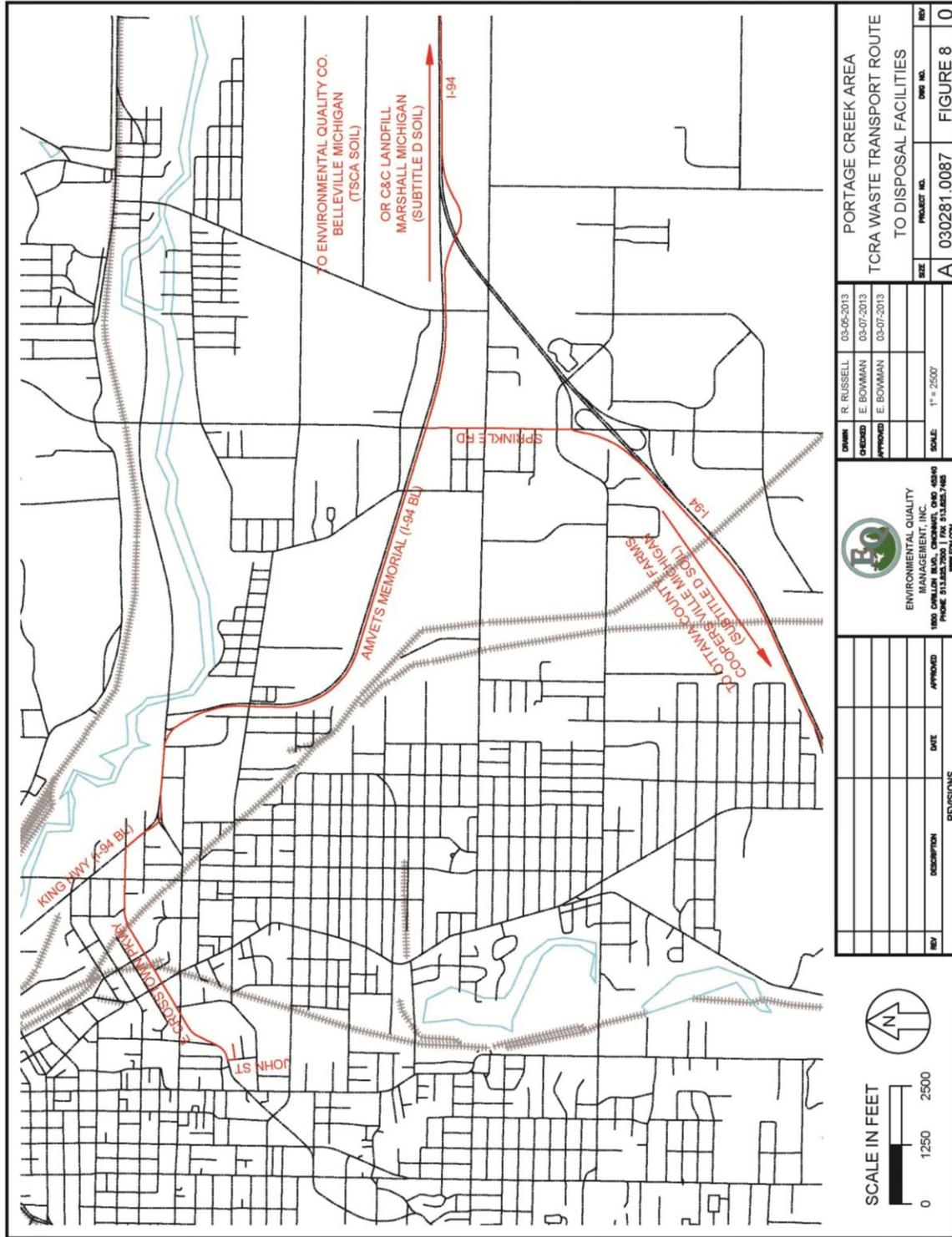


Figure 5. TCRA Waste Transport Route to Disposal Facility

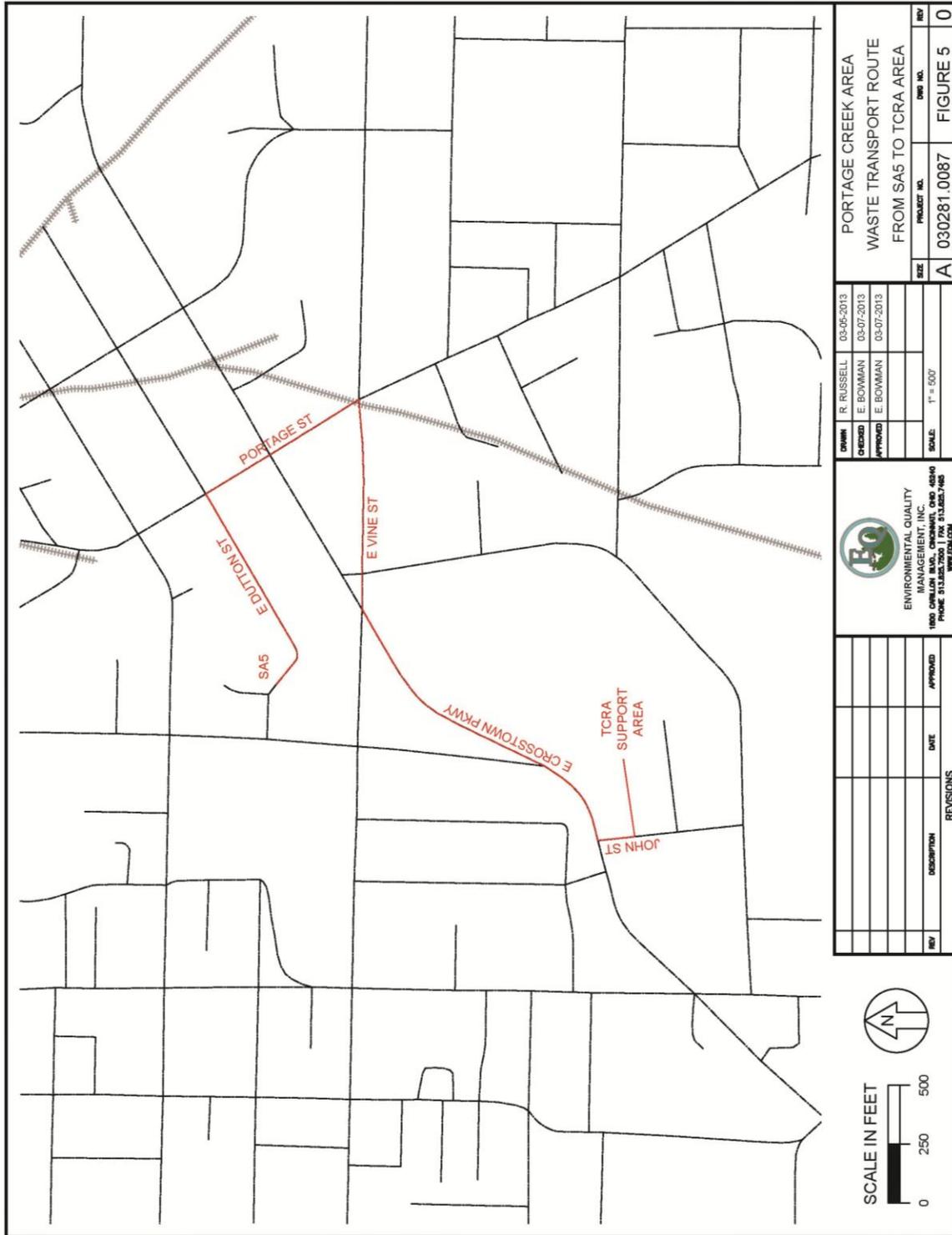


Figure 6. Waste Transport Route from SA5 to TCRA Area

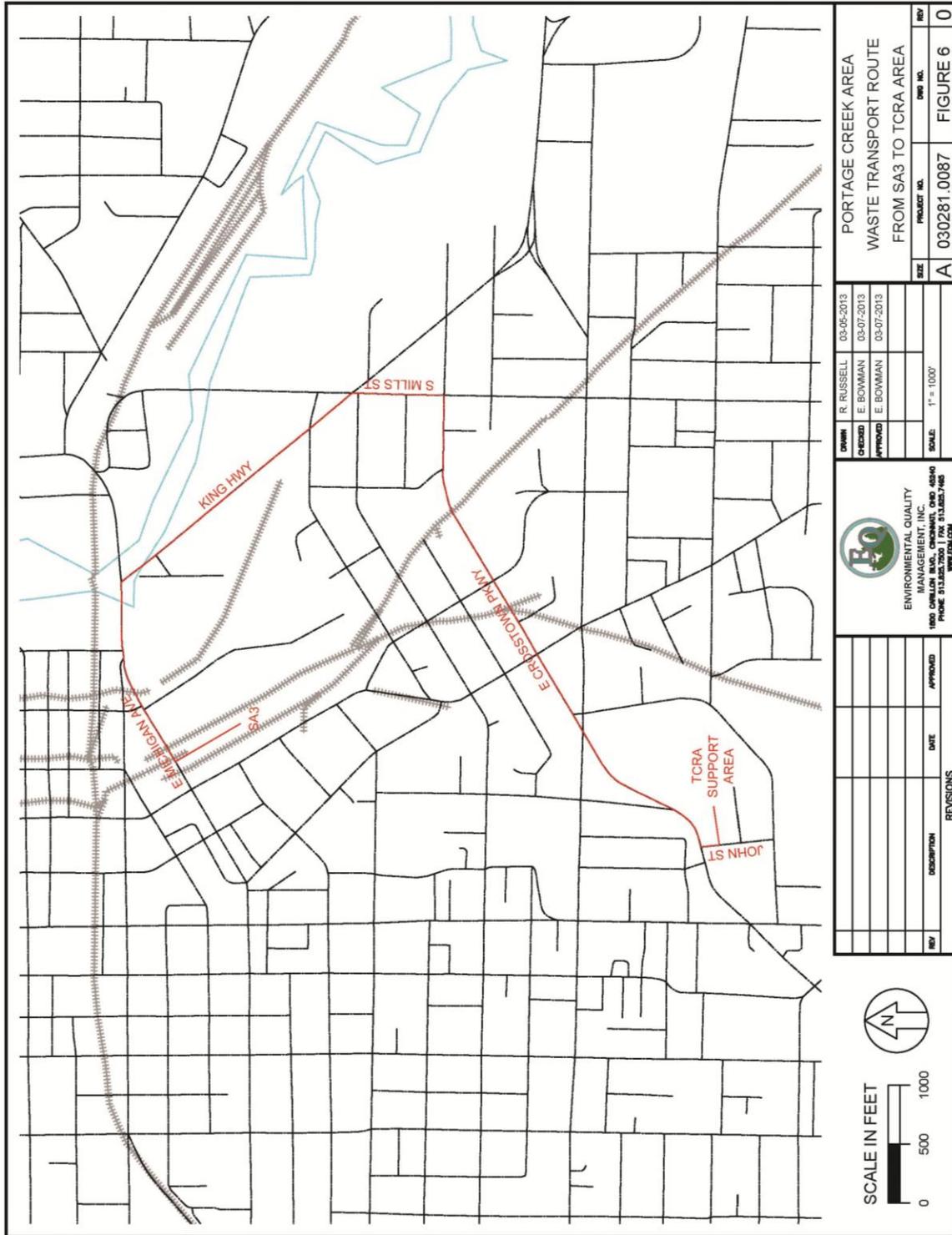
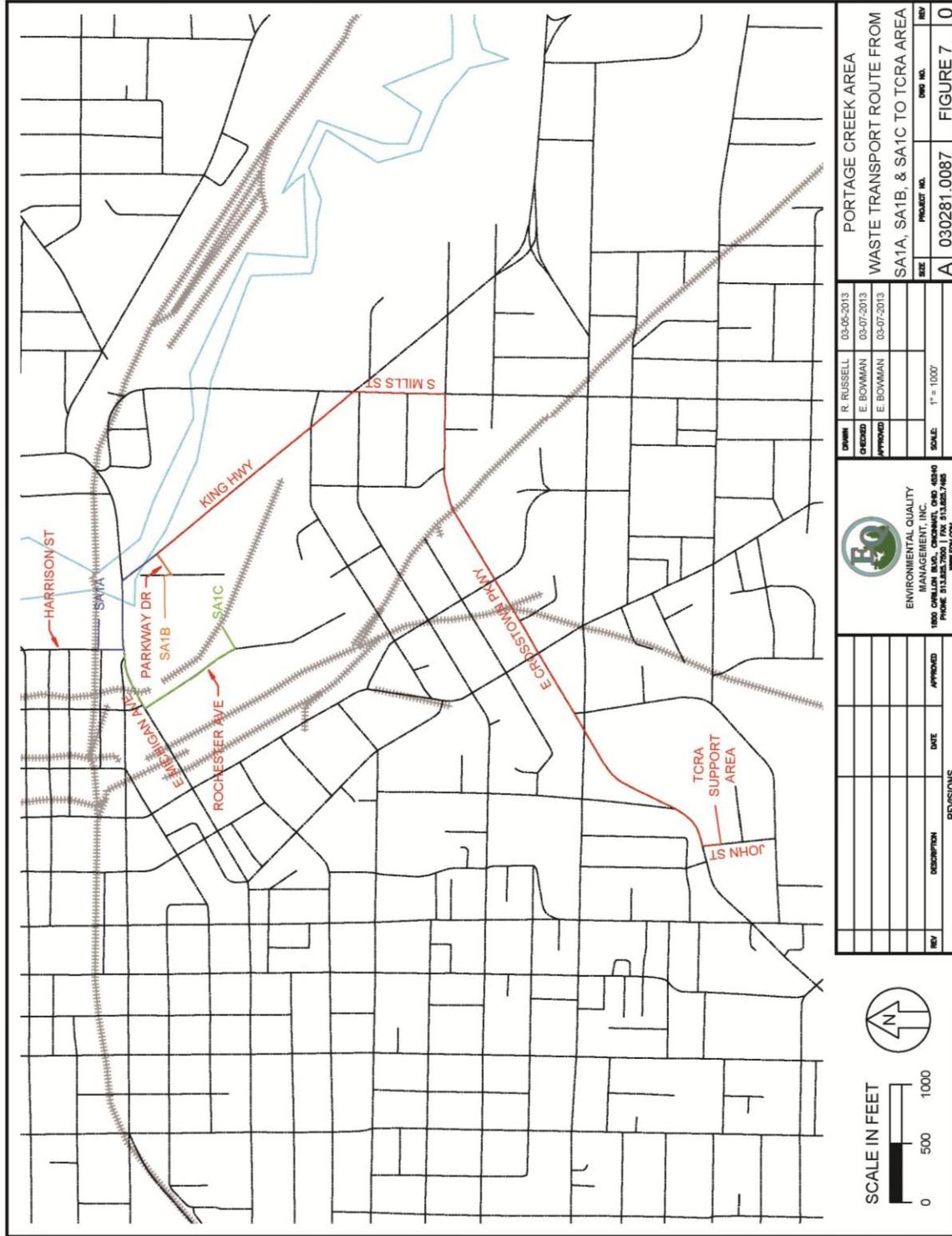


Figure 7. Waste Transport Route from SA3 to TCRA Area



REV	DESCRIPTION	DATE	APPROVED

 ENVIRONMENTAL QUALITY MANAGEMENT, INC. 1850 GARDEN BLVD., CLEVELAND, OHIO 44130 PHONE: (216) 231-7168 WWW.EQM.COM		DRAWN: R. RUSSELL 03-05-2013 CHECKED: E. BOWMAN 03-07-2013 APPROVED: E. BOWMAN 03-07-2013 SCALE: 1" = 1000'	PORTAGE CREEK AREA WASTE TRANSPORT ROUTE FROM SA1A, SA1B, & SA1C TO TCRA AREA
PROJECT NO.	030281.0087	DWG. NO.	FIGURE 7
SIZE	A	REV.	0

Figure 8 Waste Transport Route from SA1A, SA1B, and SA1C to TCRA Area



3. Travel eastbound on E. Crosstown Parkway to King Highway (Bus. 94). Trucks traveling to the Environmental Quality Company in Bellville, Michigan (TSCA Soil) or to the C&C Landfill in Marshall Michigan (Subtitle D Soil) will continue on King Highway (Business 94) southeast to I-94 eastbound.
4. Trucks proceeding to Ottawa County Farms in Coopersville, Michigan (Subtitle D Soil) will continue on King Highway (Business 94) southeast to Sprinkle Road and turn south onto Sprinkle Road, and then onto I-94 westbound.
5. Trucks returning to the site for additional loads will follow the exit route in the reverse direction.

6.3 SA5

SA5 consists of the following creek channel segments:

- SA5-D extends from the Lake Street Bridge north to E. Crosstown Parkway.
- Axtell Creek extends east from E. Crosstown Parkway to the confluence with Portage Creek.
- SA5-C extends north from E. Crosstown Parkway to East Vine Street.
- SA5-A extends northeast from East Dutton Street Bridge to the Walnut Street Bridge.

SA5 and Axtell Creek

EQ will construct an access road along the east side of Portage Creek to facilitate contaminated sediment removal and transfer SA5-D and SA5-C sediment to the John Street TCRA support area staging pad. EQ will also construct an access road along the south side of Axtell Creek for the same purpose. EQ will install a temporary bridge across SA5-D upstream from the confluence with Axtell Creek and Portage Creek to facilitate transfer of removed sediments to the staging pad. Sediments will be transported in off-road dump trucks to the south side of the pad and dumped for additional solidification/dewatering and eventual load-out for disposal. Sediments will be shipped from the staging pad as previously described (Figure 6, Waste Transport Route(s) to TCRA Area).

Curb cuts will be installed along E. Crosstown Parkway and Lake Street, on the east side of Portage Creek at both the north and south sides of SA5-D and only the south side of SA5-C in Upjohn Park.

EQ will transport backfill from King Highway (Business 94), west on E. Crosstown Parkway to the John Street TCRA support area. The backfill will then be loaded onto off-road dump trucks (ORDTs) for delivery to the creek grid for placement. The semis will exit the John Street TCRA support area, and proceed east on E. Crosstown Parkway to King Highway (Business 94).

SA5-C

A curb cut will be installed along E. Crosstown Parkway, on the east side of Portage Creek, at the south end of SA5-C in Upjohn Park. The same access road and temporary bridge utilized for



SA5-D will be used by EQ for transport to SA5-C from the John Street TCRA support area, except trucks will cross E. Crosstown Parkway via the curb cuts. The ORDTs will enter on the south end of SA5-C, travel north along the edge of Portage Creek, dump their load of backfill, then return to exit SA5-C at the same curb cut. (Figure 6, SA 5 Waste Transport Route(s) to TCRA Area).

SA5-A

SA5-A is the creek section between the E. Dutton Street and the East Walnut Street bridges adjacent to a parking area and maintenance building owned by Bronson Methodist Hospital located just east of the creek. This area will be accessed from an existing lot entrance located at the south end of the property just east of the E. Dutton Street Bridge. All site-related traffic will enter and exit from this existing gate. EQ anticipates shipping contaminated soil from the SA5-A area to the John Street TCRA support area staging pad after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment will be used to load trucks at the work areas adjacent to the creek.

EQ will use tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA5-A trucks will be turned around in the parking area and redirected off the site via the same lot entrance. Before departing, SA5-A trucks will go through a tire wash station located in the staging area toward the south end of the property. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 6, SA 5 Waste Transport Route(s) to TCRA Area):

1. Turn left (east) onto E. Dutton Street.
2. Travel to the intersection of E. Dutton Street and Portage Street.
3. Turn right onto Portage Street (south).
4. Proceed down Portage Street to the intersection with E. Vine Street.
5. Turn right onto E. Vine Street (west).
6. Continue westbound on E. Crosstown Parkway to John Street.
7. Turn left onto John Street and turn left into the TCRA support area.
8. Follow the site access road to dump the sediment onto the staging pad.
9. Proceed to the tire wash station located on the northwest corner of the staging pad.

Trucks will return to the SA5-A area along the same route, but travel in the reverse direction.

The E. Dutton Street Bridge will be closed to vehicular traffic during the excavation as a safety measure and to facilitate staging of bypass pumping equipment. A bridge closure and traffic re-routing plan was developed by EPA and submitted to the City of Kalamazoo. Although the bridge will be closed to vehicle traffic, pedestrian traffic will be maintained on the south sidewalk of the bridge to facilitate access by staff from parking lots located east of the bridge to the hospital building entrance on Jasper Street.



6.4 SA3

SA3-A

SA3-A is the creek section between the S. Pitcher Street Bridge and the railroad crossing bridge west of Rochester Street. This area will be primarily accessed from E. Michigan Avenue just east of a public parking lot located east of S. Pitcher Street (north entrance). Most all site-related traffic will enter and exit via the north entrance. EQ will also utilize another entrance to the area from the south located east of the railroad crossing on Gibson Street just east of S. Pitcher Street (south entrance). The south entrance will be utilized to deliver site supplies and equipment to support the creek bypass and isolation pumping systems.

EQ anticipates shipping contaminated soil from the SA3-A area to the John Street TCRA support area staging pad after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment will be used to load trucks at the work areas adjacent to the creek.

EQ will use tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA3-A trucks will be turned around in a gravel staging area north of the creek and redirected off the site via the north entrance. Before departing, SA3-A trucks will go through a tire wash station located in the staging area prior to exiting via the access road to the north entrance. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 7, SA 3 Waste Transport Route(s) to TCRA Area):

1. Turn right (east) on E. Michigan Avenue.
2. Proceed to the intersection of E. Michigan Avenue and King Highway.
3. Turn right (south) on King Highway.
4. Proceed to the intersection of King Highway and Mill Street.
5. Turn right (south) on Mill Street.
6. Proceed down Mill Street to the intersection with E. Crosstown Parkway.
7. Turn right onto E. Crosstown Parkway (west).
8. Continue westbound on E. Crosstown Parkway to John Street.
9. Turn left onto John Street and turn left into the TCRA support area.
10. Follow the site access road to dump the sediment onto the staging pad.
11. Proceed to the tire wash station located on the northwest corner of the staging pad.

Trucks will return to the SA3-A area from the John Street TCRA support area using E. Crosstown Parkway (east) to Portage Street (north), continuing on South Town to S. Pitcher Street (north) to E. Michigan Avenue (east) to the north entrance. Due to high-volume traffic on E. Michigan Avenue, EQ anticipates staging a flagger on E. Michigan Avenue at the north



entrance during contaminated sediment shipping and backfill aggregate receiving to assist trucks in entering/exiting the site.

6.5 SA1

SA1-C

SA1-C is the creek section between Rochester Street and a railroad crossing bridge that enters a private commercial property on the east side of the creek. This area will be accessed primarily from Rochester Street which, although vacated by the City, is owned by individual property owners who have provided access consent to EPA. Most all site-related traffic will enter and exit via this entrance, which provides access to the SA1-C staging area. EQ may also utilize another entrance to the area from the southeast located on a private commercial property. The southeast access may be utilized to deliver equipment to support the creek bypass and isolation pumping systems.

EQ anticipates shipping contaminated soil from the SA1-C area to the John Street TCRA support area staging pad after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment will be used to load trucks at the work areas adjacent to the creek.

EQ will use tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA1-C trucks will be turned around in a gravel staging area north of the creek and redirected off the site via Rochester Street. Before departing, SA1-C trucks will go through a tire wash station located in the staging area prior to exiting via Rochester Street. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 8, SA 1 Waste Transport Route(s) to TCRA Area):

1. Exit the staging area gate proceeding north on Rochester Street.
2. Turn right (east) on E. Michigan Avenue.
3. Proceed to the intersection of E. Michigan Avenue and King Highway.
4. Turn right (south) on King Highway.
5. Proceed to the intersection of King Highway and Mill Street.
6. Turn right (south) on Mill Street.
7. Proceed down Mill Street to the intersection with E. Crosstown Parkway.
8. Turn right onto E. Crosstown Parkway (west).
9. Continue westbound on E. Crosstown Parkway to John Street.
10. Turn left onto John Street and turn left into the TCRA support area.
11. Follow the site access road to dump the sediment onto the staging pad.
12. Proceed to the tire wash station located on the northwest corner of the staging pad.



Trucks will return to the SA1-C staging area from the John Street TCRA support area using E. Crosstown Parkway (east) to Portage Street (north), continuing on South Town to S. Pitcher Street (north) to E. Michigan Avenue (east) to Rochester Street. Due to high volume traffic on E. Michigan Avenue, EQ anticipates staging a flagger on E. Michigan Avenue at Rochester Street during contaminated sediment shipping and backfill aggregate receiving to assist trucks in entering/exiting the site.

SA1-B

SA1-B is a small creek section between a railroad crossing that enters a private commercial property and the E. Michigan Avenue bridge. This area will be accessed from Parkway Drive and a lot behind a private commercial property whose owner has provided access consent to EPA. All site-related traffic will enter and exit via this entrance, which provides access to the SA1-B staging area.

EQ anticipates shipping contaminated soil from the SA1-B area to the John Street TCRA support area staging pad via a large vacuum tanker truck and/or after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment may be used to load trucks at the work areas adjacent to the creek.

EQ may use a large vacuum tanker truck and/or tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA1-B trucks will be turned around in a paved staging area behind the private commercial property east of the creek and redirected off the site via Parkway Drive. Before departing, SA1-B trucks will go through a tire wash station located in the staging area prior to exiting via Parkway Drive. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 8, SA 1 Waste Transport Route(s) to TCRA Area):

1. Exit the staging area proceeding northeast on Parkway Drive.
2. Turn right (south) on King Highway.
3. Proceed to the intersection of King Highway and Mill Street.
4. Turn right (south) on Mill Street.
5. Proceed down Mill Street to the intersection with E. Crosstown Parkway.
6. Turn right onto E. Crosstown Parkway (west).
7. Continue westbound on E. Crosstown Parkway to John Street.
8. Turn left onto John Street and turn left into the TCRA support area.
9. Follow the site access road to dump the sediment onto the staging pad.
10. Proceed to the tire wash station located on the northwest corner of the staging pad.

Trucks will return to the SA1-B area along the same route, but travel in the reverse direction.

**SA1-A**

SA1-A is a creek section between the E. Michigan Avenue Bridge and the confluence with the Kalamazoo River. This area will be accessed from two private commercial properties from Harrison Street on the west bank. All site-related traffic will enter and exit via parking lots adjacent to these properties, which provide access to the SA1-A staging area.

EQ anticipates shipping contaminated soil from the SA1-A area to the John Street TCRA support area staging pad via a large vacuum tanker truck and/or after adding sufficient solidification media to the sediment to allow transfer trucks to haul over city roads without releasing water and/or wet sediment from the dump box. Excavation equipment may be used to load trucks at the work areas adjacent to the creek.

EQ may use a large vacuum tanker truck and/or tandem/tri-axle dump trucks equipped with tarp load covers to transfer material to the John Street TCRA support area staging pad. SA1-A trucks will be turned around in a staging area behind the private commercial properties west of the creek and redirected off the site via Harrison Street. Before departing, SA1-A trucks will go through a tire wash station located in the staging area prior to exiting via Harrison Street. The transfer trucks will proceed to the John Street TCRA support area staging pad by following the route described below (Figure 8, SA 1 Waste Transport Route(s) to TCRA Area):

1. Exit the staging area and turn right (north) on Harrison Street.
2. Proceed to the intersection of Harrison Street and Gull Street.
3. Turn right (northeast) on Gull Street.
4. Proceed to the intersection of Gull Street and Bridge Street.
5. Turn right (east) on Bridge Street.
6. Proceed to the intersection of Bridge Street and Riverview Drive.
7. Turn right (south) on Riverview Drive.
8. Proceed to the intersection of Riverview Drive and King Highway.
9. Turn left (south) on King Highway.
10. Proceed to the intersection of King Highway and Mill Street.
11. Turn right (south) on Mill Street.
12. Proceed to the intersection of Mill Street and E. Crosstown Parkway.
13. Turn right onto E. Crosstown Parkway (west).
14. Continue westbound on E. Crosstown Parkway to John Street.
15. Turn left onto John Street and turn left into the TCRA support area.
16. Follow the site access road to dump the sediment onto the staging pad.
17. Proceed to the tire wash station located on the northwest corner of the staging pad.



Trucks will return to the SA1-A area via E. Crosstown Parkway (east), to Mill Street (north), to King Highway (north), to E. Michigan Avenue (west), to Harrison Street (north), to the staging area.



7. HEALTH AND SAFETY PROCEDURES

Health and safety procedures are presented in the *Health and Safety Plan Portage Creek Area Site* (HASP) and its associated addenda, and all project personnel are required to be familiar with its contents. The objective of the HASP and addenda is to provide a mechanism for establishing safe work practices while conducting the Portage Creek Area TCRA activities. The safety organization, procedures, and protective equipment have been established based on an analysis of potential physical, chemical, and biological hazards. Specific hazard control methodologies have been evaluated and selected to minimize the potential for injury, illness, or other hazardous incidents listed in Section 3 of the HASP. Section 5 presents personal protective equipment (PPE) requirements. Section 8 of the HASP discusses project hazards and controls. A copy of the HASP and its associated addenda will be available at the EQ Project Office during the Portage Creek Area TCRA activities.

**8. ROLES AND RESPONSIBILITIES**

The roles of EQ personnel and transporters are outlined in Section 8.1, and Table 1 (below) includes a summary of key project personnel and contacts.

Table 1. Key Personnel

Role	Name	Address/Contact Information
EQ Personnel		
Project/Response Manager	Eric Bowman	Phone: 513-265-8875 Email: ebowman@eqm.com
Deputy Response Manager	Mark Douglas	Phone: 513-309-3062 Email: mdouglas@eqm.com
Field Administrative Assistant	Ann Miller	Phone: 513-858-2698 Email: amiller@eqm.com
General Foreman	Gary Butcher	Phone: 513-532-2120 Email: gbutcher@eqm.com
US EPA On-Scene Coordinators		
Lead On-Scene Coordinator	Craig Thomas	Phone: 312-802-9637 Email: thomas.craig@epa.gov
Deputy On-Scene Coordinator	Paul Ruesch	Phone: 312-919-4382 Email: Ruesch.Paul@epa.gov
Deputy On-Scene Coordinator	Andrew Maguire	Phone: 312-758-8672 Email: maguire.andrew@epa.gov
MDEQ		
Regional Office	Ken Leannin	Phone: Email:
City of Kalamazoo		
Traffic Engineer	James Hoekstra	Phone: 269-337-8612 Email: hoekstraj@kalamazoocity.org
Principal Contact	Debbie Jung	Phone: 269-337-8927 Email: jungd@kalamazoocity.org



8.1 EQ Personnel

8.1.1 Response Manager/Deputy Response Manager

The Response Manager/Deputy Response Manager (RM) is responsible for verifying that Portage Creek Area TCRA project activities are completed in accordance with the requirements of this TCP. The RM is responsible for confirming that the proper equipment, materials, and qualified personnel are present to fully implement the TCP requirements. It is also the responsibility of the RM to perform the following duties:

- Consult with the City of Kalamazoo Traffic Engineer on traffic-related issues.
- Verify that all incidents and near-misses are thoroughly investigated and reported to EQ within 24 hours.
- Approve, in writing, addenda or modifications to this TCP.
- Suspend work or modify work practices, as necessary, for personal safety, protection of property, and regulatory compliance.
- RM is responsible for implementing this TCP and communicating requirements to project personnel.
- RM is also responsible for discussing issues associated with the established work plan or procedures and impacts related to conditions within the project area so that those changes may be addressed as appropriate in this TCP.
- Maintain documentation for all waste material hauled off site.
- Post the telephone numbers of local public representatives in the project trailer and notify those officials (as appropriate) of the nature of the traffic-related project operations.
- Conduct traffic orientation training and meetings.
- Review transportation activities with respect to compliance with this TCP.
- Maintain required TCP documents and records.

8.2 Transporters

Transportation of excavated sediment and soil will be conducted by various trucking firms. All truck drivers transporting sediment and soil off site will be fully licensed and insured and in compliance with USDOT requirements.

**9. EMERGENCY CONTACT INFORMATION**

Table 2 presents specific emergency contact information.

Table 2. Emergency Contacts

Agency	Telephone No.
Emergency Services	
Fire	911 (if possible, indicate nearest highway marker or exit name or number)
Police	911 (if possible, indicate nearest highway marker or exit name or number)
Ambulance	911 (if possible, indicate nearest highway marker or exit name or number)
Hazardous Waste Disposal Facility	
Wayne Disposal (EQ 24-hour Dispatch)	Phone: 800.839.3975
Regulatory Contacts	
Regional Duty Officer, Emergency Response Branch, Region 5	Phone: 312.353.2318
Pollution Emergency Alerting System (PEAS)	Phone: 800.292.4706 (within Michigan) Phone: 517.373.7660 (outside of Michigan)
USEPA OSC: Craig Thomas	312.802.9637
USEPA OSC: Paul Ruesch	312-919-4382
USEPA OSC: Andrew Maguire	312-758-8672
National Response Center	800.424.8802
EQ Staff	
RM-Eric Bowman	Phone: 513-265-8875
DRM-Mark Douglas	Phone: 513-309-3062
FAA- Ann Miller	Phone: 513-858-2698
GF- Gary Butcher	Phone: 513-532-2120



10. CONTINGENCY PLAN

10.1 Primary and Alternate Routes

If the primary transport route to one of the disposal facilities is unavailable or becomes excessively congested (i.e., due to outside construction or temporary road/lane closures), an alternative route will be used. EQ will notify the USEPA, MDEQ, and the City of Kalamazoo representatives if an alternate route is used or if truck traffic is rerouted. In addition, due to unforeseen circumstances such as extended road closures or road construction activities, access routes may need to be modified during construction. If at any time the access routes require modifications, EQ will discuss the modifications with the USEPA, MDEQ, and the City of Kalamazoo prior to implementation. Associated modifications to this TCP will be made as necessary in these situations.

Significant hazards during transportation include traveling on congested surface streets, travel through populated areas, sharp turning radii at some of the surface street intersections, and weather-related impacts. To minimize these hazards, all efforts will be made to conduct transportation activities during regular business hours, transporters will be aware of all local traffic patterns, and (if necessary and where possible) temporary traffic lights or other traffic-control measures will be placed in strategic locations to improve the flow of traffic and assist transporters in making sharp turns.

10.2 Contaminated Soil/Sediment Spills

If a spill of impacted material occurs, the steps to be taken include:

- Notify the RM, who will contact the OSCs (identified in Table 2).
- Workers responding to a spill shall be trained Hazardous Materials Site Workers (HAZWOPER) wearing appropriate PPE.
- Document the location of the spill in the Site Log Book.
- Determine whether or not the contaminated material is entering a waterway (i.e., river, stream, storm sewer inlet, etc.). If it is, block the flow of material.
- Remove the contaminated material as soon as possible and containerize it. Depending on the size of the spill, brooms and shovels or larger equipment such as excavators and loaders may be required. If possible, the material will be loaded into the truck from which the spill originated.
- If the spill cannot be removed immediately, mark the area where the spill occurred with chalk, degradable spray paint, or caution tape. Secure the spill site from entry by unauthorized personnel by roping off the area and posting warning signs.



- If the spill occurred on an impervious surface, cover the spill area with polyethylene or plastic tarpaulin or moisten with a fine mist to prevent the material from becoming airborne unless it can be removed immediately. Remove bulk material and place it into a container. Sweep the area with a broom and place collected material into a container.
- If possible, dispose of the spilled material at the appropriate off-site disposal facility with the material being transported for disposal.

10.3 Oil (Fuel, Diesel Fuel, and/or Hydraulic Fluid) Spills

If a spill of oil exceeding 10 gallons occurs, the following steps will be taken:

- Notify the RM, who will then contact the OSCs (identified in Table 2).
- Workers responding to a spill shall be HAZWOPER trained and wear appropriate PPE.
- Workers will notify the regulatory agencies listed in Table 2, if determined necessary by the RM and OSC.
- Document the location of the spill in the Site Log Book.
- Perform a visual assessment of the situation and determine preliminary response actions, and alert facility personnel in the area of the spill or release. The RM will then issue evacuation orders, if evacuation is warranted. Attempts to control or stop the release will be made by the HAZWOPER-trained responders, who will also attempt to minimize the spread of contamination onto the ground surface or water.
- Determine whether or not the fuel is entering a waterway (i.e., river, stream, storm sewer inlet, etc.). If it is, block the flow of free product.
- After the spill or release has been controlled and contained, the spill will be cleaned up. All spilled materials and response equipment will be properly containerized and disposed of following resolution of the spill or release incident.
- If the spill cannot be removed immediately, mark the area where the spill occurred with degradable spray paint and caution tape. Secure the spill site from entry by unauthorized personnel by roping off the area and posting warning signs.
- If the spill occurred on a pervious surface, remove soil until visual observations and photoionization detector (PID) readings indicate there is no contamination. Contaminated soil should be containerized and disposed of at an approved disposal facility in accordance with all applicable state and federal regulations.
- If the spill occurred on an impervious surface, surround the spill with a dike using absorbent material to prevent further spreading. Use absorbent material to remove visible traces of fuel. Place contaminated absorbent material in a sealable, leak-proof container and label the container by identifying the fuel for disposal.
- Dispose of the spilled material in properly labeled containers for off-site transport to an approved disposal facility in accordance with all applicable state and federal regulations.
- Sampling and analysis of soil samples may be necessary.