



## **Fourth Quarter 2015 Progress Report 59**

GM CET – Bedford Facility

105 GM Drive

Bedford, Indiana

EPA ID# IND006036099

AOC Docket No. RCRA-05-2014-0011

General Motors, LLC



**Global Environmental  
Compliance & Sustainability**

January 15, 2016

Reference No. 013968

Mr. Peter Ramanauskas  
Project Manager for IND 0060306099  
Waste, Pesticide and Toxins Division  
U.S. EPA Region 5  
77 West Jackson Blvd. (DW-8J)  
Chicago, IL 60604-3590

Dear Mr. Ramanauskas:

Re: RCRA Corrective Action Administrative Order on Consent (AOC)  
Progress Report 59, Fourth Quarter 2015  
GM CET – Bedford Facility, IND 006036099, Docket No. RCRA 05-2014-0011  
Bedford, Indiana

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Please find enclosed the Progress Report 59 (Fourth Quarter 2015) for the Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) project at the GM Castings, Engines, and Transmissions (CET; formerly Powertrain) Bedford Facility (Facility) at 105 GM Drive Bedford, Indiana, and select surrounding properties (Site). This report is being submitted in accordance with the Administrative Order on Consent, effective August 4, 2014 (United States Environmental Protection Agency (U.S. EPA) Docket No. RCRA 05-2014-011).

The next RCRA quarterly progress report covering the first Quarter of 2016 will be submitted on or before April 15, 2016.

Should you have any questions regarding this document, please do not hesitate to contact me at (313) 510-4328.

Yours truly,

General Motors LLC

Cheryl R. Hiatt  
Project Manager

PG/aj/158  
Encl.

c.c.: See Attached Distribution List

Mr. Ramanauskas  
January 15, 2016

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***GM Bedford Distribution List***

Peter Ramanauskas	U.S. EPA, Region 5
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## 1. Introduction

This Progress Report is submitted by General Motors LLC (GM) in accordance with the GM Bedford Castings, Engines, Transmissions (CET) Facility Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent (AOC – United States Environmental Protection Agency [U.S. EPA] Docket No. RCRA 05-2014-0011), executed on August 4, 2014. This report covers the period of the fourth calendar quarter of 2015 for the RCRA Corrective Action (CA) Project at the GM Castings, Engines, and Transmissions (CET; formerly Powertrain) – Bedford Facility (Facility) and select surrounding properties (Site), Bedford, Indiana.

Note that Conestoga-Rovers & Associates (CRA) became GHD effective July 1, 2015. GHD is referenced as CRA for events that occurred prior to July 1, 2015.

The next RCRA progress report covering the first quarter of 2016 will be submitted on or before April 15, 2016.

## 2. List of Completed Activities

The following activities took place and the following documents were prepared and distributed during this quarter:

- Results for samples collected from Spring 018 during the quarter are presented in Table 2.1. Sample results for the monthly sampling were previously emailed to U.S. EPA and IDEM as they became available. As of the end of December 2015 sampling, the 12-month rolling average concentration of PCBs in the Spring 018 discharge is 0.17 micrograms per liter ( $\mu\text{g/L}$ ). Regular monthly sampling was conducted on October 14, November 11 and December 9, 2015. All samples collected during the fourth quarter were non-detect for PCBs. No opportunistic samples (samples collected after in excess of 1" of rain within a calendar day) were collected during the Fourth Quarter 2015.
- The 300 gpm design capacity (Site Source Control [SSC]) and 2,000 gpm design capacity water treatment plants (WTPs) collected and treated 3,088,000 gallons of water this past quarter. An estimated 0.07 pounds of PCBs were removed during the fourth quarter of 2015 through collection and treatment of the groundwater and an estimated 0.61 pounds of PCBs in the twelve months inclusive of July 2014. A summary of the volumes and sample results used for this calculation is provided in Table 2.2.
- Concrete filling of Pool #2 upstream of the confluence with Tributary 3 and Spring 018 is delayed pending the issuance of a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) AOC being prepared to allow GM LLC to conduct remaining creek work in the Spring 018 area. Following the execution of the AOC, the filling will be scheduled as the weather allows.
  - U.S. EPA provided comments on the CERCLA AOC on November 4, 2015.
- The fourth quarter 2015 Environmental Indicator (EI) CA750 monitoring of static groundwater levels was conducted on November 2, 2015. Groundwater quality sampling was conducted November 2 through 5, 2015.

- The Pilot Perimeter Groundwater Collection Trench Study (Pilot Trench) was submitted to the U.S. EPA and IDEM on December 2, 2014.
  - SES completed the installation of the temporary construction water WTP.
    - The influent and effluent lines were completed in October 2015 including system backwash and leak testing.
    - Batch testing of the treated effluent water from the SES temporary WTP was initiated on November 2015. Table 2.3 presents a summary of the sample results from the batch testing including effluent results.
  - SES has completed rock cutting for the Pilot Trench this quarter. The trench was backfilled with rock cuttings as the trenching was completed to stabilize the trench and prevent any health and safety incidents. SES has started removing the cuttings and installing the trench collection system on the northern leg of the Pilot Trench.
  - Material from under the East Plant Area Cover System that was stockpiled has been disposed of at Twin Bridges landfill.
- Construction of the new Groundwater Treatment Plant (GWTP) was substantially completed this quarter. The GWTP will treat water from the Pilot Trench (and other sections of the Groundwater Trench to be designed and installed in the future). Commissioning of the plant is pending completion of the Pilot Trench and receipt of the NPDES Permit.
- The AOI 8 Groundwater Source Collection System Interim Measure was submitted to the U.S. EPA and IDEM on December 31, 2014.
  - Approval of the plan with additional U.S. EPA Comments were received on July 1, 2015.
  - Responses will be submitted in the first quarter 2016.
- Formal monitoring of the East Plant, West Plant and Vault cover systems for the Fourth Quarter was completed on December 16, 2015.
  - Comments on the East Plant Cover System Report were received from U.S. EPA on July 17, 2015. GHD is currently preparing responses for GM to review.
- Parcel 400 sampling plan was approved with modifications by the U.S. EPA.
  - An additional delineation sampling plan was completed in October 2015.
  - Additional delineation drilling/sampling will be completed in the first quarter of 2016.
- Public and Community Liaison Panel meetings were held on December 9, 2015, to provide an update of the project and address questions and concerns from local residents. The Bedford Times Mail published an article on the meeting on December 11, 2015.
- GM, U.S. EPA, IDEM and GHD held a meeting in Bedford and via WebEx to summarize the RCRA Facility Investigation Report which was submitted on September 30, 2015.
- Conference calls were held with U.S. EPA and IDEM on October 1, 16, 28, and November 19, 2015, to discuss items related to the project.
- With the resumption of daily construction activities related to the construction of a new groundwater treatment plant and construction of the Pilot Trench, on-Site construction meetings for the reporting period have been held informally daily and formally as needed. Formal

construction meetings during this quarter were held on October 7, 14, 21, 28, November 11, 18, 24, and December 2 and 9, 2015.

- The RCRA/CERCLA Quarterly Progress Report #58, covering the third quarter of 2015, was submitted to the U.S. EPA and IDEM on October 15, 2015.

### 3. Summaries of all Problems and Planned Resolutions Heading Title

Additional concrete sealing is planned for a swallet identified upgradient of Spring 018 in what is known as Pool 2. This work will be scheduled, weather pending, upon completion of the CERCLA AOC. It is thought that a further reduction in surface water infiltration to the epikarst supplying Spring 018 will provide further stabilization of the PCB detections at the spring. Monthly monitoring continues.

### 4. Summaries of all Changes Made in the Corrective Action (CA) During the Reporting Period

There were no changes made in the CA during the reporting period.

### 5. Community Relations

The telephone number for public contact is 812-277-8956 (Katie Kamm, GHD, formerly Conestoga-Rovers & Associates [CRA]). Individual meetings can be arranged to discuss project progress with residents as requested.

CLP and public meetings were held at the CRA trailers to update the CLP and public on the status of the clean-up efforts on December 9, 2015. The next neighborhood/public meeting and CLP meetings are tentatively scheduled for June 2016. Presentations for past meetings are posted on the GM website at:

[www.bedfordpowertraincorrectiveaction.com](http://www.bedfordpowertraincorrectiveaction.com)

The document repository continues to be located at the Bedford Public Library, with relevant project related documents available on compact disc (CD) in PDF format. Information will be updated periodically, as new documents become available. All data located in the Library repository can also be found on the aforementioned website.

### 6. Changes in Personnel During the Reporting Period

GHD oversight and SES personnel for on-going maintenance operations (e.g., stormwater and SSC water treatment, wet wells, Vault sumps etc.) and construction (e.g., Pilot Trench, GWTP) remain unchanged. Staffing levels are expected to be reduced by the end of the next quarter as the Pilot Trench installation and GWTP commissioning is completed.

## 7. Projected Work For The Next Reporting Period

Work anticipated for the next reporting period includes:

- Continuing evaluation of the Stormwater Pond dredging (Area of Interest [AOI] 10). Dredging anticipated to be conducted in 2016.
- Completing the commissioning of the groundwater treatment plant
- Completing the installation of the Pilot Trench.
- Completing outstanding responses to comments on documentation and/or finalize reports for the following:
  - Vault Post-Closure Plan.
  - Vault Construction Certification Report.
  - Unsampled Areas Soil Sampling Work Plan.
  - Construction Certification Report for the West Plant Area IM.
  - AOI 8 Groundwater Source Collection System IM.
  - East Plant Area Cover System Construction Certification Report.
- Completing delineation of the remaining  $\geq 50$  mg/kg PCBs soil on Parcels 400, 430 and 431.
- Continuing monitoring Spring 018 on a monthly basis.
- Submitting the EI CA750 Second Half 2015 Results Memorandum.
- Completing the first quarter EI CA750 static groundwater levels and first half 2016 groundwater sampling.
- Finalizing the proposed CERCLA Administrative Order on Consent for Removal Action.

## 8. Copies of Daily Reports, Inspection Reports, Laboratory/Monitoring Data

Table 2.1 presents the quarterly results from Spring 018 sampling. Table 2.2 presents the estimated PCB mass removal for the site source control systems for the past 12 months. Table 2.3 presents the quarterly results from the batch testing of treated effluent water from the SES temporary WWTP.

Appendix A includes the field monitoring forms for the cover system inspections and a photograph log:

1. Weeds or clover growth was noted at most Transects in the East Plant Area but not on the West Plant Area. This is also typically accompanied by some bare patches as well.
2. Mole holes were identified over much of the East Plant cover system. GHD has contacted the liner companies and the moles do not burrow deep enough to damage the liner and so the vegetation will continue to be monitored, however, there is no immediate risk to the Cover.
3. Possible evidence of a burrowing animal was identified near EV6. A pest control company and/or Indiana Department of Natural Resources (IDNR) will be consulted on identifying, and



subsequently relocating the animal(s), if necessary. Soil and vegetation repairs will be made as necessary.

4. Light erosion was identified along EV4, and in ES6. This area will be re-seeded in the spring.
5. SES completed repairs to rip-rap the channel on EV7. Some additional erosion of the rip-rap has occurred that will be repaired in the next quarter.
6. There are some erosion ruts along the east side of GM Drive, outside the cover system area adjacent to power poles. This does not appear to be due to any on-Site RCRA activities, but could have an impact on the liner system in the ditch. Work is still to be conducted on power poles in this area by the utility company. Repairs will not be addressed until after this work is completed.
7. Minor cracks are present along some of the seams in the asphalt cover system. The cracks do not extend the full depth of the asphalt thickness. SES is seeking a contractor that can meet GMs safety requirements to complete the asphalt repairs. Resealing of the asphalt will be completed in the spring when construction of the groundwater treatment plant and Pilot Trench are complete.
8. The Facility repaired two fire hydrants along the far west side of the paved West Plant cover system. The Facility's contractor excavated the soils surrounding the hydrant, repaired the hydrant, backfilled, and SES/O'Mara Paving made the necessary repairs to the asphalt. There are signs of differential settlement under the repaved area as the new asphalt has sunk slightly. SES will hire an asphalt contractor to look at this area for recommended repairs.

Additional packages of analytical data have been, and will continue to be submitted to U.S. EPA as the validated data becomes available.

Table 2.1

**Spring 018 Sampling Results - October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P015	P015	P015
Sample Location:		Spring 018C	Spring 018C	Spring 018C
Sample Identification:		SW-015-101415-RR-40278	SW-015-111115-GS-40318	SW-015-120915-GS-40347
Sample Date:		10/14/2015	11/11/2015	12/9/2015
Sample Type:				
	Units			
<b>PCBs</b>				
		0.19 U	0.19 U	0.19 U
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	ND	ND	ND
Total PCBs	ug/L			
<b>Wet</b>				
Total suspended solids (TSS)	ug/L	1000 U	2000	4700

## Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

Twelve month average as of December 15, 2015 - 0.17 µg/L PCBs

Table 2.2

**300 gpm Design Capacity Water Treatment System PCB Mass Removal Estimate  
GM Bedford CET Facility  
Bedford, Indiana**

	<b>300 gpm Design Capacity System Treated Volume (gallon)</b>	<b>PCB Influent Concentration (µg/L)</b>	<b>Mass PCB Treated (pound)</b>
October 2014	1,359,936	4.9	0.056
November 2014	1,198,730	3.5	0.04
December 2014	2,340,508	1.6	0.031
January 2015	1,439,400	1	0.012
February 2015	464,672	7.8	0.030
March 2015	3,193,494	5.7	0.152
April 2015	2,510,870	2.3	0.048
May 2015	1,000,860	10	0.084
June 2015	1,603,546	3.3	0.044
July 2015	1,582,640	1.6	0.021
August 2015	1,026,256	1.3	0.011
September 2015	530,080	5.1	0.023
October 2015	347,000	5.6	0.016
November 2015	1,196,000	4.8	0.048
December 2015	1,545,000	ND (0.19U) <sup>1</sup>	0.001
Total Estimated Volume of Water Treated, Third Quarter 2015 (gallons)			3,088,000
Total Estimated Mass of PCB Treated, Third Quarter 2015 (pounds)			0.07
Total Estimated Mass of PCB Treated, Since October 2014 (pounds)			0.61

## Note:

1. Used half of the detection limit value at the associated limit to calculate the mass PCB treated.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		System Influent	System Influent	System Influent	System Influent	System Influent
Sample Identification:		WW-216-102915-PB-40286	WW-216-102915-PB-40287	WW-216-102915-PB-40292	WW-216-102915-PB-40298	WW-216-110515-PB-40304
Sample Date:		10/29/2015	10/29/2015	10/29/2015	10/29/2015	11/5/2015
Sample Type:			Duplicate			
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.20 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		System Influent	System Influent	System Influent	System Influent	System Influent
Sample Identification:		WW-216-110615-PB-40310	WW-216-110915-PB-40315	WW-216-111115-PB-40324	WW-216-112415-PB-40332	WW-216-120115-PB-40339
Sample Date:		11/6/2015	11/9/2015	11/11/2015	11/24/2015	12/1/2015
Sample Type:						
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015  
GM CET Bedford Facility  
Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		System Influent	Sand Filter #1 Effluent	Sand Filter #1 Effluent	Sand Filter #1 Effluent	Sand Filter #1 Effluent
Sample Identification:		WW-216-120815-PB-40346	WW-216-102915-PB-40285	WW-216-102915-PB-40297	WW-216-110515-PB-40303	WW-216-110615-PB-40309
Sample Date:		12/8/2015	10/29/2015	10/29/2015	11/5/2015	11/6/2015
Sample Type:						
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015  
GM CET Bedford Facility  
Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Sand Filter #1 Effluent	Sand Filter #1 Effluent	Sand Filter #1 Effluent	Sand Filter #1 Effluent	Sand Filter #1 Effluent
Sample Identification:		WW-216-110915-PB-40314	WW-216-111115-PB-40323	WW-216-112415-PB-40330	WW-216-112415-PB-40331	WW-216-120115-PB-40338
Sample Date:		11/9/2015	11/11/2015	11/24/2015	11/24/2015	12/1/2015
Sample Type:					Duplicate	
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Sand Filter #1 Effluent	Sand Filter #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent
Sample Identification:		WW-216-120815-PB-40345	WW-216-102915-PB-40291	WW-216-102915-PB-40283	WW-216-102915-PB-40289	WW-216-102915-PB-40294
Sample Date:		12/8/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015
Sample Type:						
	<b>Units</b>					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.



Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent
Sample Identification:		WW-216-110515-PB-40301	WW-216-110615-PB-40306	WW-216-110615-PB-40307	WW-216-110915-PB-40312	WW-216-111115-PB-40321
Sample Date:		11/5/2015	11/6/2015	11/6/2015	11/9/2015	11/11/2015
Sample Type:				Duplicate		
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #2 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent
Sample Identification:		WW-216-112415-PB-40328	WW-216-120115-PB-40336	WW-216-120815-PB-40343	WW-216-102915-PB-40284	WW-216-102915-PB-40290
Sample Date:		11/24/2015	12/1/2015	12/8/2015	10/29/2015	10/29/2015
Sample Type:						
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015  
GM CET Bedford Facility  
Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent
Sample Identification:		WW-216-102915-PB-40295	WW-216-102915-PB-40296	WW-216-110515-PB-40302	WW-216-110615-PB-40308	WW-216-110915-PB-40313
Sample Date:		10/29/2015	10/29/2015	11/5/2015	11/6/2015	11/9/2015
Sample Type:			Duplicate			
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Carbon Unit #1 Effluent	Effluent Post Bag Filter
Sample Identification:		WW-216-111115-PB-40322	WW-216-112415-PB-40329	WW-216-120115-PB-40337	WW-216-120815-PB-40344	WW-216-102915-PB-40282
Sample Date:		11/11/2015	11/24/2015	12/1/2015	12/8/2015	10/29/2015
Sample Type:						
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.19 U	0.20 U	0.20 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015  
GM CET Bedford Facility  
Bedford, Indiana**

Area		P216	P216	P216	P216	P216
Sample Location:		Effluent Post Bag Filter	Effluent Post Bag Filter	Effluent Post Bag Filter	Effluent Post Bag Filter	Effluent Post Bag Filter
Sample Identification:		WW-216-102915-PB-40288	WW-216-102915-PB-40293	WW-216-110515-PB-40300	WW-216-110615-PB-40305	WW-216-110915-PB-40311
Sample Date:		10/29/2015	10/29/2015	11/5/2015	11/6/2015	11/9/2015
Sample Type:						
	Units					
<b>Polychlorinated biphenyl (PCBs)</b>						
Aroclor-1016 (PCB-1016)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

Table 2.3

**SES WWTP Batch Sampling Results – October/November/December 2015**  
**GM CET Bedford Facility**  
**Bedford, Indiana**

Area		P216	P216	P216	P216
Sample Location:		Effluent Post Bag Filter	Effluent Post Bag Filter	Effluent Post Bag Filter	Effluent Post Bag Filter
Sample Identification:		WW-216-111115-PB-40320	WW-216-112415-PB-40327	WW-216-120115-PB-40335	WW-216-120815-PB-40342
Sample Date:		11/11/2015	11/24/2015	12/1/2015	12/8/2015
Sample Type:					
	Units				
<b>Polychlorinated biphenyl (PCBs)</b>					
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.20 U	0.19 U	0.19 U
Total PCBs	ug/L	ND	ND	ND	ND

## Notes:

U - Not detected at the associated reporting limit.

**Appendix A**  
**Fourth Quarter 2015 Cover System Inspection:**  
**Field Logs, Transect Figures,**  
**and Photograph Log**

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

Date of Inspection: 12-16-15 Weather: OVERCAST + RAIN  
 Inspector: G. Seng / M. Curtis Temperature: 45°

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>VEGETATED SOIL COVER SYSTEM</b>					
<u>Transect EV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole Holes	
	- ROOTING OF TREES				
<u>Transect EV2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				



COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>					
<u>Transect EV3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect EV4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION	✓		light erosion	
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect EV5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>					
Transect EV6	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		Ground Hog Holes	
	- ROOTING OF TREES				
Transect EV7	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION		✓	rip rap rock	October sevenson repaired
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
Transect EV8	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>					
<u>Transect EV9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect WV1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EXPOSURE OF LINER				
	- EROSION				
	- LOCALIZED SETTLEMENT/SLUMPING				
	- PONDING OF WATER/DRAINAGE				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				

TABLE D.1

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>HARD SURFACE COVER SYSTEMS</b>					
<u>Transect EA1</u>	- QUALITY OF ASPHALT COVER				
	- PRESENCE OF CRACKING OR DISCOLORATION	✓		fill cracks, sealcoat	
<u>Transect EA2</u>	- QUALITY OF ASPHALT COVER				
	- PRESENCE OF CRACKING OR DISCOLORATION	✓		sealcoat + fill cracks	
<u>Transect WA1</u>	- QUALITY OF ASPHALT COVER				
	- PRESENCE OF CRACKING OR DISCOLORATION	✓		sealcoat; fill cracks	
<b>ACCESS ROAD</b>					
<u>ACCESS ROAD</u>	- EROSION	✓		fill with gravel	
	- OBSTRUCTIONS/DEBRIS				
	- POTHOLES	✓		fill with gravel	
	- DAMAGE CAUSED BY VEHICULAR TRAFFIC	✓		fill with gravel	

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>SWALE/DRAINAGE DITCHES</b>					
<u>Transect ES1</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES2</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES3</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>					
<u>Transect ES4</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES5</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES6</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION	✓		light erosion	
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>					
<u>Transect ES7</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES8</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES9</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

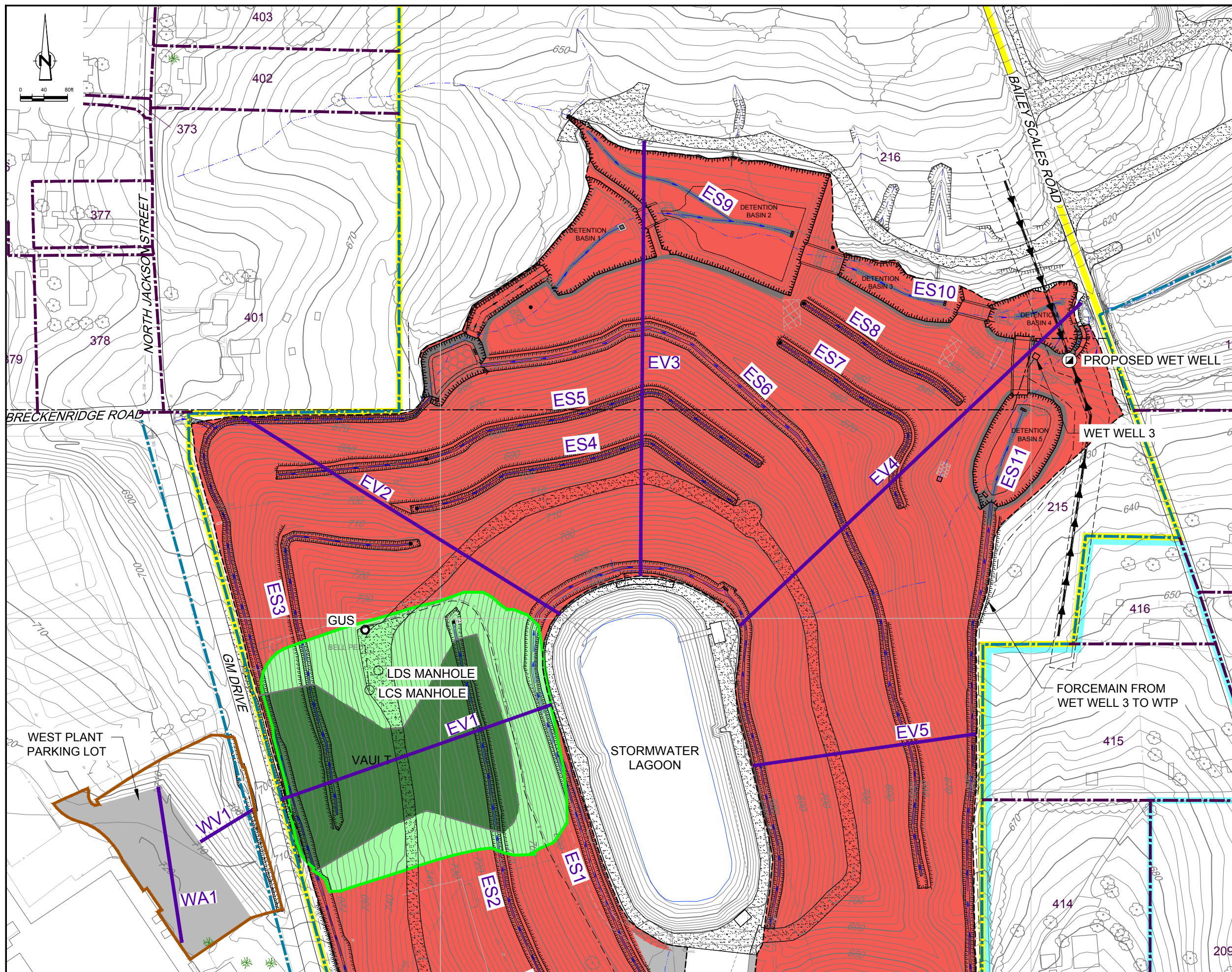
ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>					
<u>Transect ES10</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES11</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
<u>Transect ES12</u>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				



TABLE D.1

COVER SYSTEMS INSPECTION LOG  
 CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
 GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED		
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>					
Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS	✓		mole holes	
	- ROOTING OF TREES				
Transect ES13	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS	✓		heavy weed growth some bare spots	
	- EROSION				
	- OBSTRUCTIONS				
	- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
	- SIGNS OF BURROWING BY ANIMALS				
	- ROOTING OF TREES				



- LEGEND**
- 810 — EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
  - EXISTING VEGETATION
  - EXISTING BUILDINGS
  - EXISTING FENCE LINE
  - EXISTING RAILROAD TRACKS
  - EXISTING DIRT ROADS
  - EXISTING ROADS / PAVED AREAS
  - E — EXISTING ELECTRICAL POWER LINE
  - F — EXISTING FORCEMAIN TO TREATMENT FACILITY
  - OE — EXISTING OVERHEAD ELECTRICAL POWER LINE
  - APPROXIMATE SURFACE WATER LOCATION
  - APPROXIMATE GM PROPERTY BOUNDARY
  - APPROXIMATE PROPERTY BOUNDARY
  - STM — EXISTING STORM SEWER
  - WEST PLANT COVER LIMIT
  - VAULT LIMIT
  - EAST PLANT COVER LIMIT
  - DRAINAGE DITCH
  - ASPHALT PAVEMENT AREA
  - LOW FLOW CHANNEL
  - EAST PLANT AREA
  - GM LLC OWNED RESIDENTIAL
  - EAST PLANT COVER SYSTEM
  - FINAL VAULT COVER SYSTEM AT SURFACE
  - FINAL VAULT COVER SYSTEM BURIED BY EAST PLANT AREA COVER SYSTEM
  - GRAVEL BED
  - PAVED COVER SURFACE
  - PROPOSED PILOT TRENCH
  - GUS VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
  - LDS LEAK DETECTION SYSTEM SUMP
  - LCS LEACHATE COLLECTION SYSTEM SUMP
  - TRANSECT

- TRANSECT LABELING**
- E EAST PLANT COVER
  - V VEGETATIVE COVER
  - A ASPHALT COVER
  - W WEST PLANT COVER
  - S SWALE

**SCALE VERIFICATION**  
 THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

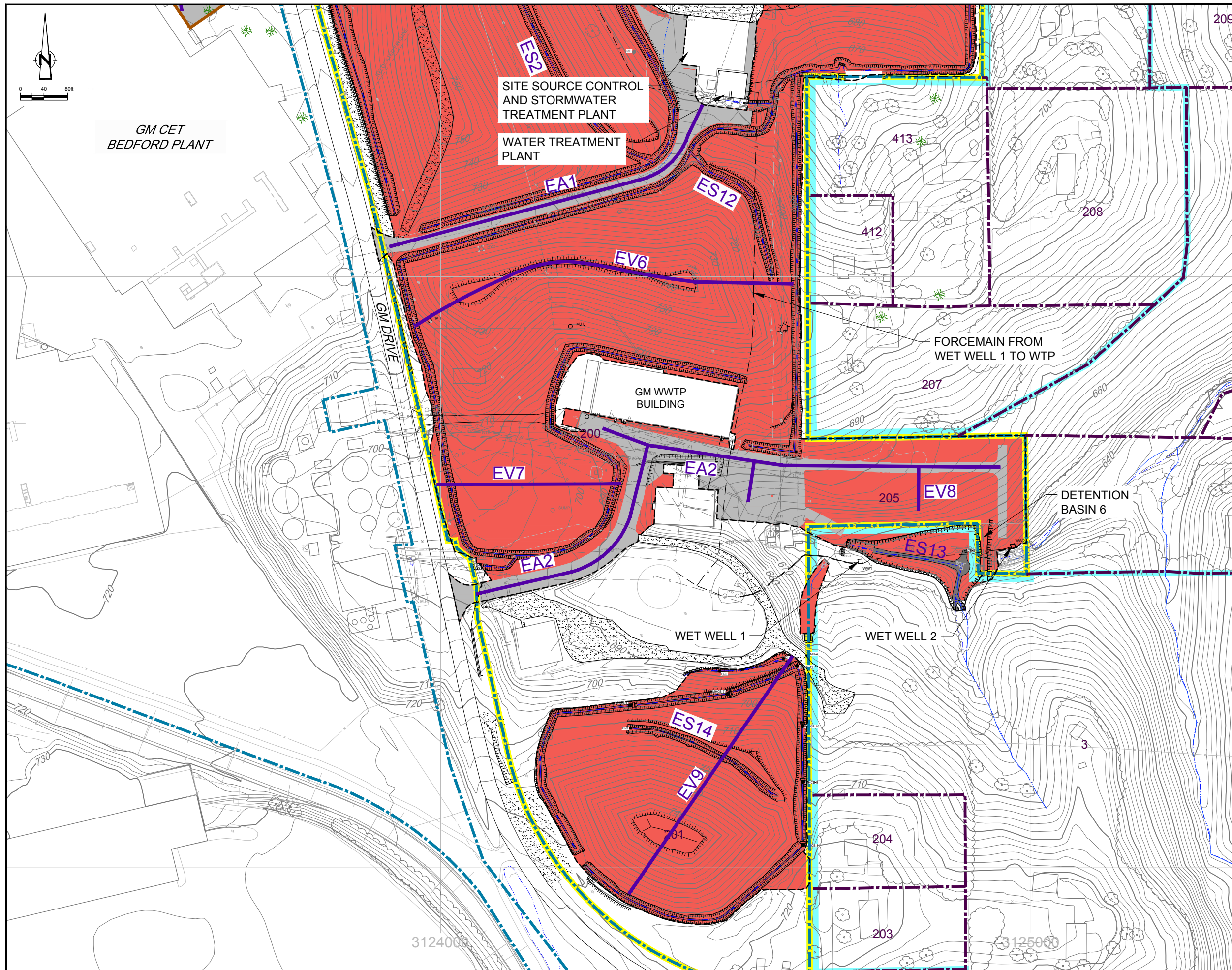
**GM CET BEDFORD FACILITY  
 BEDFORD, INDIANA**

INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN  
 EAST PLANT COVER SYSTEM  
**EAST PLANT COVER SYSTEM INSPECTIONS  
 NORTHERN SECTION AND WEST PLANT  
 COVER SYSTEM INSPECTIONS**



Source Reference:  
 BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001  
 AND CRA SURVEYS 2002 TO 2008

Project Manager: J.M.	Reviewed By: P.G.	Date: FEBRUARY 2015
Scale: 1:80	Project N°: 13968-00	Report N°: 350
		Drawing N°: figure D.1



**LEGEND**

- 810 — EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- ☁ EXISTING VEGETATION
- ▭ EXISTING BUILDINGS
- - - EXISTING FENCE LINE
- +—+—+— EXISTING RAILROAD TRACKS
- - - - EXISTING DIRT ROADS
- +—+—+— EXISTING ROADS / PAVED AREAS
- - - E - EXISTING ELECTRICAL POWER LINE
- - - F - EXISTING FORCEMAIN TO TREATMENT FACILITY
- - - OE - EXISTING OVERHEAD ELECTRICAL POWER LINE
- - - - - APPROXIMATE SURFACE WATER LOCATION
- +—+—+— (Blue) APPROXIMATE GM PROPERTY BOUNDARY
- +—+—+— (Purple) APPROXIMATE PROPERTY BOUNDARY
- - - STM - EXISTING STORM SEWER
- (Orange) WEST PLANT COVER LIMIT
- (Green) VAULT LIMIT
- - - (Black) EAST PLANT COVER LIMIT
- - - (Black) DRAINAGE DITCH
- ▨ (Grey) ASPHALT PAVEMENT AREA
- - - (Black) LOW FLOW CHANNEL
- ▨ (Yellow) EAST PLANT AREA
- ▨ (Cyan) GM LLC OWNED RESIDENTIAL
- ▨ (Red) EAST PLANT COVER SYSTEM
- ▨ (Dark Green) FINAL VAULT COVER SYSTEM AT SURFACE
- ▨ (Light Green) FINAL VAULT COVER SYSTEM BURIED BY EAST PLANT AREA COVER SYSTEM
- ▨ (Stippled) GRAVEL BED
- ▨ (Dotted) PAVED COVER SURFACE
- - - (Black) PROPOSED PILOT TRENCH
- (Black) GUS
- (White) LDS
- (White) LCS
- (Purple) TRANSECT

**TRANSECT LABELING**

- E EAST PLANT COVER
- V VEGETATIVE COVER
- A ASPHALT COVER
- W WEST PLANT COVER
- S SWALE

**SCALE VERIFICATION**

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

**GM CET BEDFORD FACILITY  
BEDFORD, INDIANA**

INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN  
EAST PLANT COVER SYSTEM

**EAST PLANT COVER SYSTEM INSPECTIONS  
SOUTHERN SECTION**

**CRA CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:  
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001  
AND CRA SURVEYS 2002 TO 2008

Project Manager: J.M.	Reviewed By: P.G.	Date: FEBRUARY 2015
Scale: 1:80	Project N°: 13968-00	Report N°: 350
		Drawing N°: figure D.2



Photo 1: EV1 Vault cover facing northwest.



Photo 2: EV1 Vault cover facing North.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 3: EV1 Vault cover facing East.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 4: EV2 East Plant Area cover facing northwest.



Photo 5: EV3 East Plant Area cover facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 6: EV4 East Plant Area cover facing northeast.



Photo 7: EV4 East Plant Area cover facing southwest.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 8: EV5 East Plant Area cover facing northeast.



## Cover System Inspection 4<sup>th</sup> Quarter 2015





Photo 9: EV6 East Plant Area cover facing east.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 10: EV6 erosion rut repairs outside cap limit.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 11: EV6 East Plant Area cover facing southeast.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 12: EV6 evidence of possible animal burrowing.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 13: EV7 East Plant Area cover facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 14: EV8 East Plant Area cover (Parcel 205) facing east.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 15: EV8 East Plant Area cover (Parcel 205) facing south.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 16: EV9 East Plant Area cover facing east.



## Cover System Inspection 4<sup>th</sup> Quarter 2015





Photo 17: EV9 East Plant Area cover facing south.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 18: EV9 East Plant Area cover facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 19: EV9 patchy vegetation.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 20: ES1 and ES2 drainage swale facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 21: ES3 channel facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 22: ES4 drainage swale facing west.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 23: ES5 drainage swale facing west.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 24: ES5 drainage swale facing northeast.



Photo 25: ES6 facing northeast.



## Cover System Inspection 4<sup>th</sup> Quarter 2015





Photo 26: ES6 drainage swale east of the Stormwater Pond facing north.



Photo 27: ES6 drainage swale facing east, repaired channel erosion.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 28: ES8 and ES10 facing west across detention basin 3.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 29: ES11 detention basin #5 facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 30: ES13 detention basin 6 facing west.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 31: ES14 drainage swale facing east.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 32: ES14 drainage swale facing northeast.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 33: EA2 crack near WWTP aeration basin facing north.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 34: EA2 facing north, cracks in asphalt west of Parcel 205.



## Cover System Inspection 4<sup>th</sup> Quarter 2015





Photo 35: EA2 facing west, cracks in asphalt west of Parcel 205.



## Cover System Inspection 4<sup>th</sup> Quarter 2015



Photo 36: WV1 West Plant Area cover facing northwest.



## Cover System Inspection 4<sup>th</sup> Quarter 2015

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