

July 12, 2019

Peter Ramanauskas  
U.S. EPA Region 5  
77 West Jackson Blvd.  
Chicago, Illinois 60604-3590

Dear Mr. Ramanauskas:

Re: RCRA Corrective Action Administrative Order on Consent (AOC)  
Progress Report 73, Second Quarter 2019  
GM GPS – Bedford Facility, ID 006036099, Docket No. RCRA 05 2017 0011  
Bedford, Indiana

This Progress Report is submitted by General Motors LLC (GM) in accordance with the GM Bedford Global Propulsion Systems (GPS) 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 second calendar quarter of 2019 for the RCRA Corrective Action (CA) Project at the GM GPS – Bedford Facility (Facility) and select surrounding properties (Site), Bedford, Indiana.

The next RCRA progress report covering the third quarter of 2019 will be submitted on or before October 15, 2019.

## **1. List of Completed Activities**

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

1. The Spring 018 semi-annual sample was collected on June 5, 2019. U.S. EPA agreed to GM's request to move the semi-annual sampling event to June in an email dated June 3, 2019. Results are presented in Table 1. The sample was non-detect for polychlorinated biphenyls (PCBs). The 12-month rolling average concentration of (PCBs) in the Spring 018 is 0.10 micrograms per liter ( $\mu\text{g/L}$ ). GM stated in the June 12, 2019, Annual Agency Meeting that it would prepare a completion report for the Spring 018 activities.
2. The Groundwater Treatment Plant (GWTP) collected and treated approximately 14,760,125 gallons of water from the Pilot Trench, Vault sumps, and wet wells during the second quarter of 2019. An estimated 0.16 pounds of PCBs were removed during the quarter through collection and treatment of the groundwater. A summary of the volumes and sample results



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used for this calculation is provided in Table 2. Monthly discharge monitoring reports have been submitted to the State of Indiana in conformance with the National Pollutant Discharge Elimination System (NPDES) Permit Number IN0064424. Hamtramck Environmental Services (HES) has assumed daily operation of the GWTP from GHD, effective Monday, March 4, 2019.

3. The East Plant Area Vault Annual Report covering the Calendar Year of 2018 was submitted to U.S. EPA on June 11, 2019.
4. Quarterly EI CA750 static groundwater monitoring was completed during the week of May 13, 2019. Monthly Pilot Trench monitoring occurred on June 4, 2019.
5. Responses to additional comments from U.S. EPA (dated April 9, 2019) were submitted on May 14, 2019, and approval by the U.S. EPA was received the same day.
6. In response to a question raised during the conference call on April 18, 2019, GHD sent an email on April 19 providing the location of wells in the AOI-8 area where oil was recovered manually. U.S. EPA requested clarification on the difference between LNAPL and DNAPL on April 22, 2019. Responses were submitted on May 7, 2019.
7. On May 5, 2019, U.S. EPA was notified that Veolia's Port Arthur, Texas incinerator had temporarily stopped accepting waste due to regularly scheduled maintenance activities. The facility has since resumed accepting waste. Waste from the AOI-8 oil collection activities are incinerated at this location.
8. A dry sock was inserted at CH-5A on April 1, 2019. Attempts to remove the sock in late April were delayed due to ongoing rain, then halted when GM was informed that Veolia's Port Arthur facility temporarily stopped accepting waste in order to conduct annual maintenance. No oil removal or disposal activities were reported at AOI-8 in May and June 2019. The disposal facility has resumed accepting waste and AOI-8 oil collection has resumed.
9. Response to U.S. EPA's additional comments on the RCRA Facility Investigation Report (RFI) were submitted to U.S. EPA on May 14, 2019. A conference call was held with U.S. EPA on June 3, 2019 to review the responses to comments.
10. A request to thin spread soil cuttings from the Pilot Trench monitoring well installations was submitted to U.S. EPA on May 21, 2019. U.S. EPA requested additional information. Additional information was submitted to U.S. EPA on June 28, 2019. U.S. EPA responded by email on the same date.
11. On June 18, 2019, GM requested U.S. EPA approval to streamline the EI CA750 report. U.S. EPA agreed the report could be streamlined. An outline of the revised report structure was submitted on June 28, 2019. U.S. EPA requested additional information be included in the report in U.S. EPA's email on the same date.
12. Monthly conference calls/meetings were held with U.S. EPA and IDEM on April 18 and May 16, 2019 to discuss items related to the project.
13. U.S. EPA and GM held conference calls on May 13 and May 15, 2019, to discuss matters related to the Parcel 22 septic system. The May 15 conference call included Brenda Cummins of the Lawrence County Health Department.



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14. Responses to comments on the revised draft Bedford QAPP were submitted to U.S. EPA on June 20, 2019. Additional comments were submitted by U.S. EPA to GM on June 24, 2019. Responses were sent on June 27, 2019. U.S. EPA provided additional comments on June 27, 2019. GM reviewed the comments with U.S. EPA by telephone on June 28, 2019. The Final QAPP, incorporating responses to all comments, was submitted to U.S. EPA on July 2, 2019.
15. K&K Fence installed the balance of the perimeter fence around the East Plant Cover System. Construction of the perimeter fence was completed during May 2019.
16. Semi-annual monitoring of the East Plant, West Plant and Vault cover systems for the first half of 2019 was completed on April 24, 2019. Photographic log and inspection sheets of the inspection are in Appendix A.
17. On-site tailgate meetings for the reporting period were held daily, during field activities, to discuss safety and project scope.
18. RCRA Quarterly Progress Report #72, covering the first quarter of 2019, was submitted to the U.S. EPA and IDEM on April 12, 2019.
19. The Annual Agency Meeting was held on June 12, 2019, in Bedford, Indiana. A copy of the presentation was distributed on June 20, 2019.
20. A Public Meeting was held on June 12, 2019, in Bedford, Indiana. The local Bedford radio station reporter covered the event, which was also attended by two members of the public. During the meeting, it was discussed that public meetings will be need-based considering the significance of upcoming activities.
21. The memorandum summarizing the additional soil sampling completed at Incremental Sampling Decision Units WP10 and EP05 was submitted on June 28, 2019. U.S. EPA provided comments by email dated July 1, 2019. Responses were provided on July 1 and 3, 2019.

Although not included in the RCRA CA activities, GM continues to work with U.S. EPA and IDEM for the prescriptive removal of PCB-impacted soil at Parcels 400, 430 and 431. The following activities took place and the following documents were prepared and distributed during this quarter related to this work:

1. Responses to additional comments on the Parcel 400 Request for Removal 40 CRF 761.61(c) were submitted to U.S. EPA on May 16, 2019.
2. U.S. EPA requested additional information related to the Parcel 430-431 Request for Removal 40 CRF 761.61(c) on June 25, 2019. Responses were submitted on July 3, 2019.
3. Access agreements and copies of the Request for Removal 40 CRF 761.61(c) were provided to the residents in June 2019. The Parcel 430-431 property owner signed the access agreements.

## **2. Summaries of Problems and Planned Resolutions**

GM continues to work to improve communications between the Stormwater Treatment Plant PLC and GWTP PLC. Conference calls have been held to evaluate the planned upgrades and an on-site meeting is scheduled for July 17, 2019.



**G E N E R A L M O T O R S**

### **3. Community Relations**

A public meeting was held on June 12, 2019, to update the public on the status of the clean-up efforts. Presentations for public meetings are posted on the GM website at: [www.bedfordpowertraincorrectiveaction.com](http://www.bedfordpowertraincorrectiveaction.com).

### **4. Changes in Personnel During the Reporting Period**

There have been no changes in key project personnel during the reporting period.

### **5. Projected Work for the Next Reporting Period**

Work anticipated for the next reporting period includes:

1. Continue OMM for the GWTP.
2. Continue GWTP discharge reporting under the NPDES permit.
3. Attempt to remove and replace inoperative groundwater pump from Groundwater Underdrain System of TSCA vault.
4. Collect quarterly groundwater static levels.
5. Collect NAPL from the AOI-8 area wells.
6. Repair cover system as needed.
7. Prepare for and conduct the dye trace study.
8. Submit finalized Pilot Trench Construction Report.
9. Submit the Final Draft Pilot Trench Performance Monitoring Plan based on the outstanding comments from U.S. EPA, Clarifier Sampling Memo, CA EI750 semi-annual report for the first half of 2019, and Phase II Design Report.
10. Submit finalized RFI Report.
11. Dispose of the pilot trench well installation cuttings. Cuttings from the July/August 2018 event will be sent off-site for disposal. Cuttings from the March/April 2019 event will be thin spread near the GWTP.
12. Submit the Spring 018 Completion Report.
13. Submit a summary memorandum to report results of the First Half 2019 EI CA750 sampling event.
14. Submit a summary memorandum to report results of the video inspection of the cleanouts.
15. Finalize access agreements with Parcel 400, 430 and 431 property owners.
16. Conduct monthly meetings with U.S. EPA.

### **6. Copies of Inspection Reports and Laboratory/Monitoring Data**

Analytical data have been, and will continue to be, submitted to U.S. EPA as the validated data becomes available. As noted above, Spring 018 results are provided in Table 1.



Please feel free to call me at 313-506-9465 if you have any questions concerning this information or otherwise regarding the Bedford GM LLC Project.

Sincerely,



Ed Peterson  
Project Manager, Eco-Restorers  
GM Sustainable Workplaces

JV/aj/184

Encl.

cc: Daniel Haag; U.S. EPA  
Chris Myer; IDEM  
Ed Peterson; General Motors  
Ryan McDuffee; General Motors  
John Maher; General Motors  
Lisa Couver; General Motors  
Katie Kamm; GHD  
Julie Luzwick; GHD  
Bill Steinmann; GHD  
Francis Ramacciotti; GHD  
Glenn Turchan; GHD  
Paul Gallaway; GHD



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Table 1

**Spring 018 Sampling Results - Second Quarter 2019**  
**GM GPS Bedford Facility**  
**Bedford, Indiana**

<b>Area</b>		<b>P015</b>
<b>Sample Location:</b>		<b>Spring 018C</b>
<b>Sample Identification:</b>		<b>SW-015-060519-GS-41013</b>
<b>Sample Date:</b>		<b>6/5/2019</b>
	<b>Units</b>	
<b>PCBs</b>		
Aroclor-1016 (PCB-1016)	ug/L	0.19 U
Aroclor-1221 (PCB-1221)	ug/L	0.19 U
Aroclor-1232 (PCB-1232)	ug/L	0.19 U
Aroclor-1242 (PCB-1242)	ug/L	0.19 U
Aroclor-1248 (PCB-1248)	ug/L	0.19 U
Aroclor-1254 (PCB-1254)	ug/L	0.19 U
Aroclor-1260 (PCB-1260)	ug/L	0.19 U
Total PCBs	ug/L	ND
<b>General Chemistry</b>		
Total suspended solids (TSS)	ug/L	4200

## Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

ND - Non-Detect for total PCBs

Table 2

**GWTP PCB Mass Removal Estimate  
GM Bedford GPS Facility  
Bedford, Indiana**

	<b>Groundwater Treatment Plant (GWTP) Treated Volume (gallon)</b>	<b>PCB Influent Concentration (µg/L)</b>	<b>Mass PCB Treated (pound)</b>
July 2018 <sup>1</sup>	1,205,563	1.55	0.016
August 2018 <sup>1</sup>	1,029,510	1.75	0.015
September 2018	2,765,584	1.6	0.037
October 2018 <sup>1</sup>	1,240,147	1.9	0.020
November 2018 <sup>1</sup>	3,806,472	1.55	0.049
December 2018	4,226,766	1.29	0.046
January 2019	5,467,881	0.71	0.032
February 2019	5,393,116	ND	0.000
March 2019	4,916,870	0.92	0.038
April 2019	5,547,708	1.5	0.069
May 2019	3,670,000	1.3	0.040
June 2019	5,542,417	1.2	0.056
Total Estimated Volume of Water Treated, Second Quarter 2019 (gallons)			14,760,125
Total Estimated Mass of PCB Treated, Second Quarter 2019 (pounds)			0.16
Total Estimated Mass of PCB Treated, Since July 2018 (pounds)			0.42

## Notes:

<sup>1</sup> PCB concentration based on an average of parent and duplicate sample

# Appendix A



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

Date of Inspection: \_\_\_\_\_ Weather: \_\_\_\_\_  
Inspector: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

TABLE D.1

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GM CET BEDFORD FACILITY  
BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
	<b>Transect EV3</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect EV4</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect EV5</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
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ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
<b>Transect EV6</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
<b>Transect EV7</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
<b>Transect EV8</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
Transect EV9	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
Transect WV1	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
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ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>HARD SURFACE COVER SYSTEMS</b>						
	<b>Transect EA1</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
	<b>Transect EA2</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
	<b>Transect WA1</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
<b>ACCESS ROAD</b>						
	<b>ACCESS ROAD</b>	- EROSION				
		- OBSTRUCTIONS/DEBRIS				
		- POTHOLES				
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC				

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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>SWALE/DRAINAGE DITCHES</b>						
	<b>Transect ES1</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES2</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES3</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
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<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES4</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES5</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES6</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES7</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES8</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES9</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
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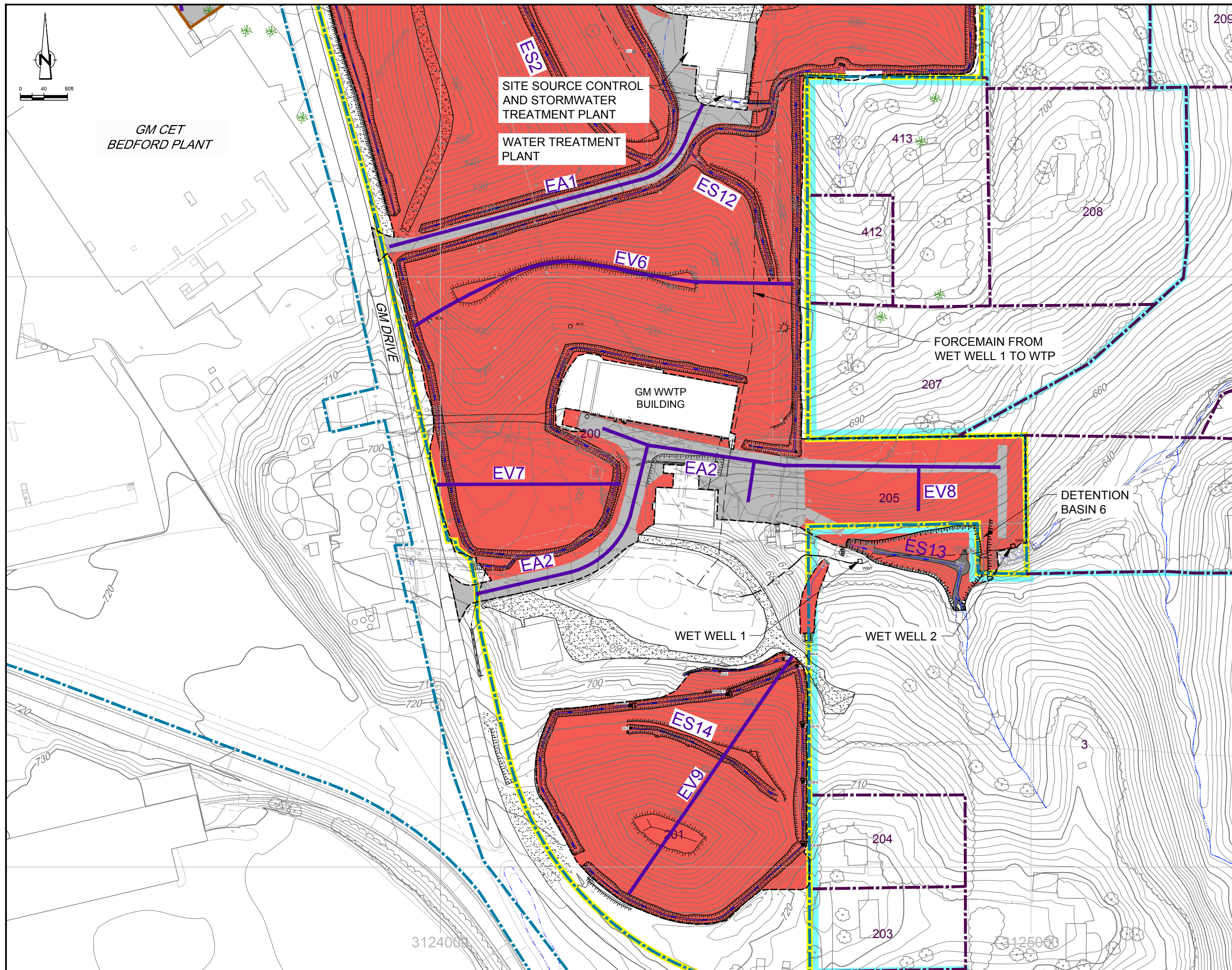
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES10</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES11</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES12</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES13</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES13</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				



**LEGEND**

- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- EXISTING FENCE LINE
- EXISTING RAILROAD TRACKS
- EXISTING DIRT ROADS
- EXISTING ROADS / PAVED AREAS
- EXISTING ELECTRICAL POWER LINE
- EXISTING FORCEMAIN TO TREATMENT FACILITY
- EXISTING OVERHEAD ELECTRICAL POWER LINE
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- 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
- VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
- LEAK DETECTION SYSTEM SUMP
- 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.

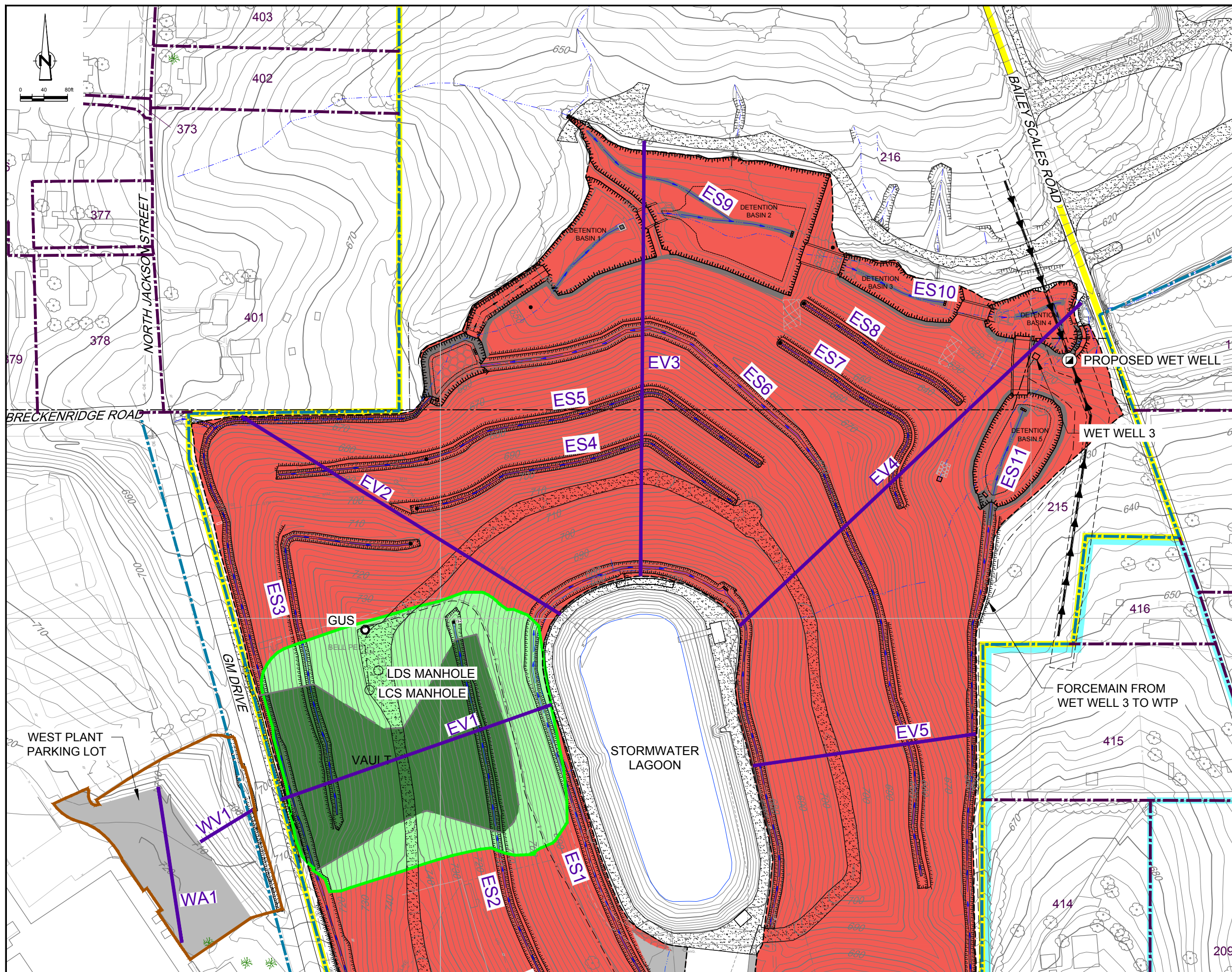
**GM CET BEDFORD FACILITY  
BEDFORD, INDIANA**

INTERIM OPERATIONS, MAINTENANCE AND MONITORING PLAN  
EAST PLANT COVER SYSTEM

**EAST PLANT COVER SYSTEM INSPECTIONS  
SOUTHERN SECTION**

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: October 2016
Scale: 1:80	Project N°: 13968-00	Report N°: 402
		Drawing N°: figure D.2



**LEGEND**

- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- EXISTING FENCE LINE
- EXISTING RAILROAD TRACKS
- EXISTING DIRT ROADS
- EXISTING ROADS / PAVED AREAS
- EXISTING ELECTRICAL POWER LINE
- EXISTING FORCEMAIN TO TREATMENT FACILITY
- EXISTING OVERHEAD ELECTRICAL POWER LINE
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- EXISTING STORM SEWER
- WEST PLANT COVER LIMIT
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- 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
- VAULT GROUNDWATER UNDERDRAIN SYSTEM SUMP
- LEAK DETECTION SYSTEM SUMP
- 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: October 2016	
Scale: 1:80	Project N <sup>o</sup> : 13968-00	Report N <sup>o</sup> : 402	Drawing N <sup>o</sup> : figure D.1



Photo 1: Vegetation at ES6 facing southeast at EV5



## Cover System Inspection Second Quarter 2019



Photo 2: Vegetation at ES6 along EV4 facing southeast



## Cover System Inspection Second Quarter 2019



Photo 3: EV3 East Plant Cover facing south towards stormwater pond



## Cover System Inspection Second Quarter 2019



Photo 4: Sapling growth along EV3 at ES6 facing north



## Cover System Inspection Second Quarter 2019





Photo 5: Vegetation along ES2 East Plant Cover area facing west



## Cover System Inspection Second Quarter 2019



Photo 6: EV2 East Plant Cover area facing southeast



## Cover System Inspection Second Quarter 2019



Photo 7: Vegetation along EV2 facing northwest



## Cover System Inspection Second Quarter 2019



Photo 8: Vegetation at ES1 along EV1 facing north



## Cover System Inspection Second Quarter 2019



Photo 9: Vegetation at EV1 East Plant Cover area facing north



## Cover System Inspection Second Quarter 2019



Photo 10: Vegetation at ES2 near EA1 facing southwest



## Cover System Inspection Second Quarter 2019



Photo 11: South end of ES2 cover area facing east towards stormwater treatment plant



## Cover System Inspection Second Quarter 2019



Photo 12: Vegetation at EV6 facing north



## Cover System Inspection Second Quarter 2019





Photo 13: EV6 near EA1 East Plant Area Cover facing east



## Cover System Inspection Second Quarter 2019



Photo 14: Vegetation along EV6 facing west



## Cover System Inspection Second Quarter 2019



Photo 15: Vegetative growth at ES14 East Plant Area facing northwest



## Cover System Inspection Second Quarter 2019



Photo 16: Vegetation growth along EV9 near ES14 facing north



## Cover System Inspection Second Quarter 2019



Photo 17: Burrowing and vegetation found near EV9 facing east



## Cover System Inspection Second Quarter 2019



Photo 18: Vegetation growth near south end of EV9 facing southwest



## Cover System Inspection Second Quarter 2019