



VIA ELECTRONIC MAIL

October 31, 2019

John Hopkins
Remedial Project Manager
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Mail Code – 3LD10
Philadelphia, PA 19103-2029

**Subject: Quarterly Progress Report No. 12
Former Kop-Flex Facility Site, Hanover, Maryland
USEPA ID No. MDD043373935
Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA**

Dear John:

On behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co., WSP USA, Inc. (WSP) is submitting this quarterly progress report describing the remedial and groundwater monitoring activities conducted in the third quarter of calendar year 2019 (July 1 through September 30) as part of the corrective measures implementation at the former Kop-Flex, Inc. facility property located at 7555 Harmans Road (Site) in Hanover, Maryland. The Site is identical to the area described as the “Facility” in the Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA (Consent Order) for the Site. The report also describes the activities planned for the fourth quarter of calendar year 2019 (October 1 through December 31).

This progress report is being submitted to the U.S. Environmental Protection Agency (EPA) pursuant to Section VI.C.3 of the Consent Order. Please note that, in addition to performing the work conducted under the Consent Order, EMERSUB 16 continues to fulfill its remedial obligations under the October 2015 Response Action Plan (RAP) approved by the Maryland Department of the Environment (MDE) Voluntary Cleanup Program, and that EMERSUB 16 copies EPA on all submittals required under that program.

If you have any questions, please do not hesitate to contact us at 703-709-6500.

Kind regards,

Robert E. Johnson
Senior Technical Manager
Water & Environment

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Encl.

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cc: Mr. Stephen Clarke, EMERSUB 16 LLC
Ms. Richelle Hanson, Maryland Department of the Environment
Mr. Raymond Goins, Trammell Crow Company



CERTIFICATION

I certify that the information contained in or accompanying this quarterly progress report is true, accurate, and complete.

As to those portions of this quarterly progress report for which I cannot personally verify their accuracy, I certify under penalty of law that this quarterly report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature:

A handwritten signature in blue ink, appearing to read 'Stephen L. Clarke', written over a horizontal line.

Name:

Stephen L. Clarke

Title:

President of EMERSUB 16, LLC

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Quarterly Progress Report No. 12

Former Kop-Flex Facility Site

July 2019 through September 2019

Site Name: Former Kop-Flex Facility
Site Address: 7555 Harmans Road
Hanover, Maryland 21076

Consultant: WSP USA Inc.
Address: 13530 Dulles Technology Drive, Suite 300
Herndon, Virginia 20171
Phone No.: (703) 709-6500

Project Coordinator: Eric Johnson
Alternate: Lisa Kelly

1.0 ACTIVITIES COMPLETED DURING JULY 2019 – SEPTEMBER 2019 REPORTING PERIOD

1.1 HYDRAULIC CONTAINMENT SYSTEM OPERATION

- The hydraulic containment system (System) operated continuously from July 1, 2019 to September 24, 2019, except for brief (1 to 2-day) shut-downs in late August and mid-September to conduct upgrades to the programmable System controls and maintenance to various System components, and a 2-day period in early August due to a false high-pressure alarm in the influent pipeline to the flow equalization tank. While in operation, a total of approximately 8.20 million gallons of impacted groundwater was extracted by the recovery wells and treated by the System, with the combined withdrawal rate ranging from 68-69 gallons per minute.
- During system operation, water samples were collected for chemical analysis in July (influent) and July through September (effluent) to monitor and evaluate VOC concentrations in the untreated and treated water. The total concentration of VOCs and 1,4-dioxane for the System influent was 460 micrograms per liter ($\mu\text{g/l}$), which is consistent with the concentrations in the January 2019 and April 2019 samples. The extracted groundwater continued to have higher concentrations of chlorinated ethanes and ethenes (310 $\mu\text{g/l}$) compared to 1,4-dioxane (150 $\mu\text{g/l}$). Analysis of the treated water (i.e., effluent) indicated non-detect concentrations of chlorinated VOCs and non-detect to very low concentrations of 1,4-dioxane. The reduction in 1,4-dioxane concentrations compared to samples collected in the 1st and 2nd quarters of 2019 was due to an increase in the resin regeneration frequency, which was initiated in late June. As of the end of September 2019, a total of 274 pounds of chlorinated VOCs and 114 pounds of 1,4-dioxane had been recovered from the aquifer system.

Monthly effluent samples were collected for chemical analysis in accordance with State Discharge Permit Number 15-DP-3442 and National Pollutant Discharge Elimination System (NPDES) Permit MD 0069094 issued by the MDE (Discharge Permit). The analytical results for the VOCs and other monitoring parameters indicated compliance with the effluent limitations specified in the Discharge Permit.

- Bench-scale testing of approaches to chemically remove the organic substances fouling the treatment resin was completed by the treatment system vendor, Emerging Compound Treatment Technologies (ECT²) in early September 2019. Based on evaluation of the test results, the selected cleaning procedure would involve removing the treatment resin from the vessels and circulating the material through a heated caustic solution. The cleaned resin material would then be placed back into the vessels and the System returned to normal operation. WSP is working with ECT² and its subcontractor to complete the planning and scheduling for the resin cleaning.
- During the week of September 9th, the property owner – Harmans Road Associates (HRA) LLC – contacted EMERSUB 16 and WSP regarding a concern raised by the county involving the operation of a storm water management area (SWMA) in the northwestern portion of the Site (Figure 1). Based on evaluation of the available information, the property owner suggested the



ponding of water in the SWMA could be related to the combined discharge of System effluent and storm water drainage to the same manhole, identified as MH 4 in Figure 1, before being conveyed to the stream out-fall. WSP decided to temporarily cease treated water discharged to manhole MH 4 on September 24, 2019, to assess the water level response in the SWMA and gain a better understanding of the situation concerning the water flows into the shared manhole. Based on the findings from the initial assessment conducted by both WSP and HRA, the property owner requested the continued cessation of treated water discharge to manhole MH 4 to allow them to further evaluate the SWMA. WSP apprised MDE of the system operational status via an electronic mail communication on October 2, 2019. In addition, the property owner requested the pipe discharging the treated effluent to manhole MH 4 be extended into the large diameter (24-inch) out-fall pipeline before the resumption of System operation.

1.2 GROUNDWATER MONITORING

- As indicated in the Groundwater Monitoring Plan for the response action, groundwater level monitoring to evaluate the head distribution in response to remedial pumping is to be conducted on a semi-annual basis, with the next measurement event scheduled for November 2019. No conditions occurred that warranted the collection of an additional round(s) of water level data from the unconfined (surficial) or semi-confined portions of the Lower Patapsco aquifer during the reporting period.
- Long-term groundwater monitoring to assess contaminant mass removal and changes in VOC concentrations in the Lower Patapsco aquifer is also conducted semi-annually at the Site. The next sampling of the groundwater recovery wells and onsite monitoring wells will also be performed during November 2019.

2.0 PLANNED ONSITE ACTIVITIES FOR THE FOURTH QUARTER OF 2019

- Pursuant to the property owner's request, install an extension to the discharge piping in manhole MH 4. (This piping work was completed the week of October 7, 2019.) After installing the pipe extension, resume operation and maintenance activities for the hydraulic containment system and collect operational data for inclusion in the 2019 Operation, Maintenance, and Monitoring Report, as required under Section 14.2 of the 2015 RAP.
- Conduct the necessary effluent monitoring and monthly reporting pursuant to the Discharge Permit, and submit the semi-annual status report for compliance with the chronic copper and zinc concentrations in the treated effluent in November 2019.
- Perform *ex-situ* cleaning of the specialty resin using a heated caustic solution to remove the organic foulants and restore the adsorption capacity of the material for 1,4-dioxane.
- Collect a synoptic round of water level measurements in mid-November 2019, and evaluate the data to assess the aquifer response to remedial pumping and capture of the VOC plumes in the unconfined and semi-confined portions of the aquifer.
- Conduct semi-annual sampling of the monitoring wells and recovery well discharge pursuant to the approved Groundwater Monitoring Plan in mid-November 2019.
- Pursuant to the Consent Order, complete an inspection of the conditions in the new buildings to assess the integrity of the engineering controls implemented during property redevelopment – retention of the former concrete floor slab in the western portion of the south building and sub-slab venting systems in both buildings.
- Submit the annual update of the corrective measures cost estimate to EPA in accordance with the Consent Order.

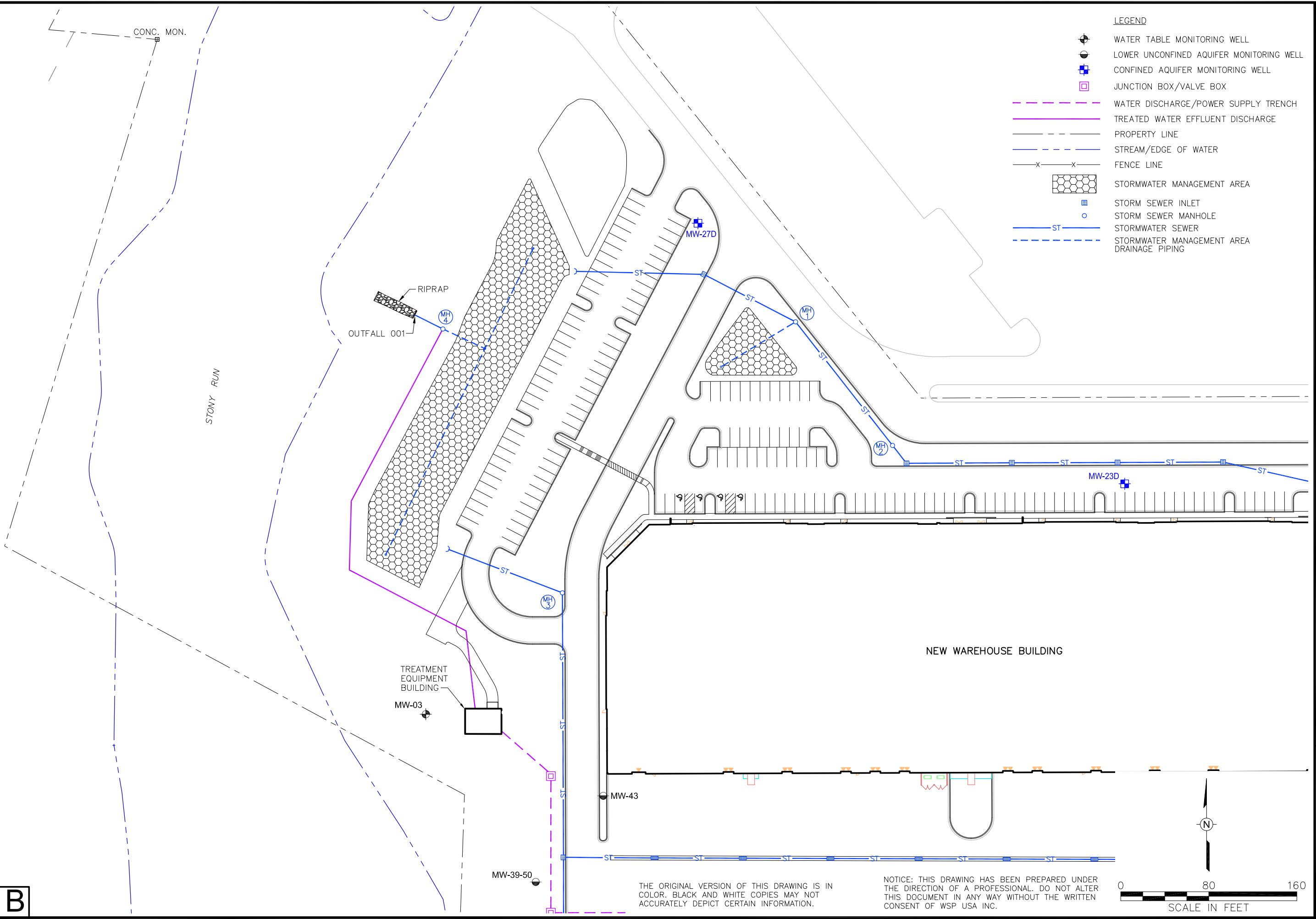
3.0 KEY PERSONNEL/FACILITY CHANGES

In late August, the EPA Project Manager, Erich Weissbart, informed EMERSUB 16 and WSP that he was transitioning toward retirement by the end of October 2019 and would no longer be involved in the oversight of the corrective action activities. Mr. Weissbart indicated that John Hopkins would serve as the new EPA Project Manager for the Site.

FIGURE

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- LEGEND**
- WATER TABLE MONITORING WELL
 - LOWER UNCONFINED AQUIFER MONITORING WELL
 - CONFINED AQUIFER MONITORING WELL
 - JUNCTION BOX/VALVE BOX
 - WATER DISCHARGE/POWER SUPPLY TRENCH
 - TREATED WATER EFFLUENT DISCHARGE
 - PROPERTY LINE
 - STREAM/EDGE OF WATER
 - FENCE LINE
 - STORMWATER MANAGEMENT AREA
 - STORM SEWER INLET
 - STORM SEWER MANHOLE
 - STORMWATER SEWER
 - STORMWATER MANAGEMENT AREA DRAINAGE PIPING

Drawn By: EGC
 Checked:
 Approved: RY 10/25/2019
 DWG Name: 314V1545.010-036

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSON
 ST. LOUIS, MISSOURI

Figure 1
 NORTHWEST PORTION OF SITE SHOWING
 HYDRAULIC CONTAINMENT SYSTEM AND
 STORMWATER MANAGEMENT AREAS

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