ACTION MEMORANDUM

FOR

FTMM-14 CARVEOUT (GOSSELIN AREA OF PARCEL 71)

FORT MONMOUTH, OCEANPORT, MONMOUTH COUNTY, NEW JERSEY

BRAC 05 Facility
Contract W912DY-09-D-0062
Task Order: 0012, Project No. 369857

Submitted To:

U.S. Army Corps of Engineers

New York District and

U.S. Army Engineering and Support Center

Huntsville, Alabama

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PARSONS

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Revision No. 0
November 2019

ACTION MEMORANDUM

FOR

FTMM-14 CARVEOUT (GOSSELIN AREA OF PARCEL 71)
FORT MONMOUTH, NEW JERSEY

APPROVAL

This Action Memorandum presents the selected removal action for contaminated soil at FTMM-14 Carveout (Gosselin Area of Parcel 71) located at Fort Monmouth in Oceanport, Monmouth County, New Jersey. The U.S. Army is the lead agency at Fort Monmouth under the Defense Environmental Restoration Program, 10 U.S.C. § 2701, and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 et seq., as amended (CERCLA). This Action Memorandum is consistent with CERCLA, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. This Action Memorandum will be incorporated into the Administrative Record file for Fort Monmouth, which is available for public review at the Eastern Branch of the Monmouth County Library, 1001 Route 35, Shrewsbury, New Jersey 07702. This document, presenting the proposed removal action with a present worth cost of approximately $60,000, is approved by the undersigned.

Thomas E. Lederle

14 Nov 2019
Date

Thomas E. Lederle
Chief, BRAC Division
Department of the Army Assistant Chief of Staff Installation Management

1.0 STATEMENT OF BASIS AND PURPOSE

This Action Memorandum describes the selected Time Critical Removal Action (TCRA) of soil contaminated with polychlorinated biphenyls (PCBs) at FTMM-14 Carveout (Gosselin Area of Parcel 71) at Fort Monmouth, New Jersey. The purpose of this Action Memorandum is to document the U.S. Army's decision to undertake the TCRA.

This Action Memorandum was developed in accordance with: the Defense Environmental Restoration Program (DERP), (10 United States Code (U.S.C.) Section 2701); the Comprehensive Environmental Response, Compensation, and Liability Act, (42 U.S.C. §§ 9601 et seq.), as amended (CERCLA); and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 300. The U.S. Army is the lead agency for Fort Monmouth in accordance with CERCLA and Executive Order 12580. The U.S. Army makes remedial decisions for Fort Monmouth in consultation with the New Jersey Department of Environmental Protection (NJDEP), the state support agency.

2.0 SITE CONDITIONS AND BACKGROUND

The location of the Gosselin Area is shown on **Figure 1**. A description of the Gosselin Area is provided in Section 2.1. Previous investigation activities are summarized in Section 2.2; investigative results are summarized in Section 2.3.

2.1 Site Setting and History

The Main Post (MP) of FTMM was established in 1917 as Camp Little Silver. The name of the Camp was changed shortly thereafter to Camp Alfred Vail. The initial mission of the Camp was to train Signal Corps operators for service in World War I. After the war, Camp Alfred Vail was designated as the site of the Signal Corps School. In 1925, the facility became a permanent post, and its name was changed to Fort Monmouth (FTMM). The primary mission of FTMM was to provide command, administrative, and logistical support for Headquarters, U.S. Fort Monmouth Communications and Electronics Command (CECOM) (Shaw, 2012).

The Gosselin Area is located south of the residential area along Gosselin Avenue, and north-northwest of the FTMM-14 landfill (**Figure 2**). An approximately 60-ft by 60-ft area was evaluated in 2009 for possible future use. The construction plans subsequently changed and this area was never used.

2.2 Summary of Investigation Activities

Nine soil borings (1A through 9A) were drilled and sampled in May 2009 within the Gosselin Area and analyzed for PCBs (Figure 2). Soil samples were collected from three depth intervals at each boring: 0 to 0.5, 0.5 to 1, and either 1 to 1.5 or 1.5 to 2 feet (ft) below ground surface (bgs). Total PCBs were detected in excess of the current NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 0.2 mg/kg (note that reference to "current" comparison criteria within this Action Memorandum refers to the criteria in effect at the time this document was prepared). Aroclor-1260 was the only PCB congener detected with concentrations ranging from not detected to 2.4 mg/kg. The RDCSRS exceedances were found in samples from each of the nine borings and only in the near surface (0 to 0.5 and 0.5 to 1 ft bgs) sample depths.

A November 2009 Work Plan was prepared by the Army and submitted to NJDEP for concurrence prior to conducting additional near-surface soil sampling with full-suite analysis, including PCBs, in the FTMM-14 area south of the Gosselin Avenue housing. Additional soil sampling proposed in the November 2009 Work Plan was conducted in January through May 2010. Analytical results from the January through May 2010 sampling did not confirm the presence of PCBs in soil reported in the May 2009 sampling (U.S. Army, 2019).

In July 2019 a total of nine primary soil borings (GOSS-SB-01 through GOSS-SB-09) were advanced at the same locations as the nine historical soil borings to verify the nature and extent of PCBs in soil. Eight contingency step-out soil borings (GOSS-SOSB-10 through GOSS-SOSB-17) were also advanced to further assess the horizontal and vertical extent of PCBs in the event of exceedances in the primary borings. Samples were subsequently analyzed from two contingency borings (GOSS-SB-16 and -17) to delineate exceedances of the NJDEP RDCSRS in primary soil sample GOSS-SB-08. The locations of the soil borings are shown on Figure 3.

Each boring was advanced using a hand auger. Soil samples were collected from 0 to 0.5 ft bgs at each soil boring for analysis, and contingency samples were also collected from 1.0 to 1.5 ft bgs at each boring location and held for contingency analysis by the laboratory to delineate exceedances in the overlying samples. Soil samples were analyzed for PCBs by SW-846 Method 8082A.

2.3 2019 Investigation Results

Soil sampling results for PCBs obtained in 2019 were compared to current (September 2017) NJDEP criteria in **Table 1** and to USEPA criteria (May 2019) in **Table 2.** Soil sampling locations are shown on Figure 3. PCBs in one soil sample exceeded the 2017 USEPA RSLs and the 2017 NJDEP RDCSRSs.

Exceedances of the NJDEP RDCSRS occurred in only one of 9 boring locations (GOSS-SB-08) (see Figure 3 and Table 1). Aroclor-1260 was reported at 4.4 mg/kg in the field duplicate of the 0 to 0.5 ft bgs sample at boring GOSS-SB-08, which exceeds the NJDEP RDCSRS of 0.2 mg/kg for Total PCBs, and the USEPA RSL of 0.24 mg/kg for Aroclor-1260. Aroclor-1260 was not detected in the parent sample at GOSS-SB-08, indicating some heterogeneity in the soil sample results.

In general, the 2019 PCB sampling results do not corroborate the more widespread soil PCB exceedances indicated by the May 2009 results. For example, RDCSRS exceedances were encountered in samples from each of the nine soil borings from the May 2009 sample event, but in only one boring from the July 2019 event. While PCBs were detected at very low levels in multiple soil samples in July 2019, the NJDEP RDCSRS was exceeded at only one location: the duplicate of the GOSS-SB-08 sample collected from the 0 to 0.5 ft bgs interval. As shown on Figure 3 this exceedance was delineated horizontally by sample results from the surrounding borings GOSS-SB-05, -07, -09, -16, and -17. The exceedance was delineated vertically by the lower (1.0 to 1.5 ft bgs) sample at boring GOSS SB-08. As shown on Tables 1 and 2 there were no PCB detections above the RDCSRS and the USEPA RSL in the 1.0 to 1.5 ft bgs samples collected from borings GOSS-SB-08, -16, and -17.

3.0 THREATS TO PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT

Concentrations of Aroclor-1260 in soil were compared to USEPA RSLs to evaluate the potential effects of contaminants in soil on human health and the environment. The results of these comparisons were used to

evaluate the need for soil removal and to establish a baseline to evaluate the effectiveness of the proposed removal action.

3.1 Risk Assessment Evaluation

A screening evaluation was performed to evaluate the need for soil removal at the Gosselin Area to reduce the threat to human health. **Table 3** presents the maximum detected concentration of the COPC in soil. The maximum concentration of Aroclor-1260 from the 2019 sampling effort exceeds the USEPA Residential RSL, indicating a potential threat to human health.

Table 3. Maximum COPC Concentrations in Soil at the Gosselin Area

COPC	Maximum Concentration (mg/kg)	USEPA RSL[1] (mg/kg)
Aroclor-1260	4.4 J[2]	0.24

1. USEPA RSLs for Residential Soil, based on target risk of 1E-06 and target hazard quotient of 0.1. Effective May 2019 (USEPA, 2019b).
2. J = estimated detected value due to a concertation below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.

4.0 REGULATORY FRAMEWORK AND ENDANGERMENT DETERMINATION

This section summarizes the regulatory framework for the TCRA at the Gosselin Area and presents the objectives of the removal action.

4.1 Regulatory Framework

CERCLA provides the President authority to respond to releases of hazardous substances, including removal actions (42 U.S.C. Section 9604(a)). Executive Order 12580 Section 2(d) delegates the President's authority under various CERCLA sections, including Section 9604(a), to the Secretary of the U.S. Department of Defense (DoD). Section 300.415 of the NCP further specifies the structure and requirements for removal actions. As the lead agency, the U.S. Army has decided to implement the removal action in this TCRA in accordance with CERCLA and the NCP. The NJDEP acts as the state support agency.

4.1.1 Justification of the Time Critical Removal Action

A removal action is warranted pursuant to the NCP when the lead agency makes the determination that there is a threat to public health or welfare or the environment (40 CFR 300.415(b)(1)). Of the listed factors in the NCP, the site conditions meets the following criteria in Section 300.415(b)(2) of the NCP (40 CFR 300.415) which is directly applicable and was used in determining the appropriateness of a TCRA for the contaminant concentrations in soil at the Gosselin Area:

Other situations or factors that may pose threats to public health or welfare of the United States or the environment. (40 CFR 300.415(b)(2)(viii)).

PCBs are present in soil at the Gosselin Area at concentrations that could pose a threat to human health; nearby residential housing has been recently redeveloped. This TCRA is being performed to accelerate the

transfer of the property for beneficial reuse and to remove the environmental liability at this parcel from the COPC listed in Table 3.

The NCP also states:

If the lead agency determines that a removal action is appropriate, actions shall, as appropriate, begin as soon as possible to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to public health or welfare of the United States or the environment. (40 CFR 300.415(b)(3)).

The U.S. Army has determined that a TCRA is appropriate to remove the source of PCB contamination in soil and the long-term environmental liability at the Gosselin Area. PCBs in soils constitute an immediate threat to the environment and the nearby residential housing. Since soil concentrations exceeded risk-based exposure criteria by over an order of magnitude (Section 3.1), an accelerated response is warranted. This removal action will be expedited because the resources are available, and the contract vehicles are funded and in-place for the Army to address this environmental concern immediately.

4.1.2 Applicable or Relevant and Appropriate Requirements

The TCRA described in this Action Memorandum complies with applicable or relevant and appropriate requirements (ARARs). In accordance with the NCP (40 CFR § 300.415(i)), onsite removal actions conducted under CERCLA are required to meet ARARs "to the extent practicable." The U.S. Army consulted with NJDEP to confirm that the NJDEP's RDCSRS in the table below is applicable to this removal action. The Army then compared the NJ RDCSRS to the USEPA Regional Removal Management Levels (RMLs) for the unlimited reuse scenario for Aroclor-1260. The applicable requirement is the more stringent of the two values (in bold below).

COPC	**NJ RDCSRS (mg/kg)** [1/]	USEPA RMLs Residential Soil (mg/kg) [2/]
Aroclor-1260	**0.2**	24

Notes:

[1/] The NJDEP Criteria refers to the NJDEP's Sept 18, 2017 Remediation Standards for PCBs, which is compared to the sum total of individual Aroclors.

[2/] The USEPA RMLs refer to the USEPA's April 2019 Summary Table (USEPA, 2019a).

The TCRA described in this Action Memorandum also complies with applicable requirements for offsite actions (i.e., Resource Conservation and Recovery Act [RCRA] hazardous waste transportation and offsite treatment requirements prior to land disposal as required by the RCRA land disposal restrictions).

4.2 Endangerment Determination

Actual or threatened releases of hazardous substances from the Gosselin Area, if not addressed by implementing the response action selected in this Action Memorandum, may result in unacceptable exposures to contaminants and present a threat to human health. While the future land use of the Gosselin Area is proposed to be passive, open space (Fort Monmouth Economic Revitalization Authority [FMERA], 2019), the adjacent property has already been redeveloped for residential housing.

4.3 Removal Action Objective

The removal action objective (RAO) for the Gosselin Area is to remove Aroclor-1260 concentrations in soil that pose a threat to human health and the environment. This removal action will be expedited because

the resources are available, and the contract vehicles are funded and in-place for the Army to address this environmental concern immediately.

5.0 DESCRIPTION OF THE REMOVAL ACTION

Two alternatives for the Gosselin Area were evaluated using the effectiveness, implementability, and cost selection criteria established by the NCP. The relative performances of the alternatives were subsequently evaluated in a comparative analysis.

The alternatives considered for the Gosselin were:

- Alternative 1 – No Action
- Alternative 2 – Soil Removal and Offsite Disposal.

Both alternatives were evaluated against CERCLA remedial criteria of effectiveness, implementability, and cost. Only Alternative 2 satisfied the threshold criteria of protecting human health and the environment and complied with ARARs and was effective and implementable; therefore, it was then assessed for cost. Based on the comparative analysis in terms of effectiveness, implementability, and cost, the U.S. Army's selected alternative was **Alternative 2 – Soil Removal and Offsite Disposal.** Protectiveness is achieved by the removal of contamination in soil and is more cost effective in the long term compared to institutional controls.

The selected action consists of removing PCB-contaminated soil from the area surrounding GOSS SB-08. Removal action activities will include site preparation, excavation of contaminated soil, offsite transportation and disposal, and site restoration.

Site preparation will include staking the excavation locations and identifying locations of utilities. Excavated soil will be removed, sampled (for characterization analyses), and stockpiled prior to offsite disposal. Verification soil samples will be collected from the excavation prior to backfilling to document PCB concentrations in the soils remaining in place and to ensure removal action goals are met. Clean backfill will be compacted in lifts and graded to maintain positive drainage. The areas impacted during the removal action will be restored (typically grass seed and straw in previously vegetated areas). Characterization, transportation, and offsite disposal will comply with all appropriate Federal and state laws.

The ability of this action to meet the criteria of effectiveness, implementability, and cost is described below.

5.1 Effectiveness

The proposed action at the Gosselin Area will be effective at providing short- and long-term protection. This action is permanent because a significant source of soil contamination will be removed. This alternative will comply with the ARARs in Section 4.1.2 because PCB-contaminated soil with concentrations in excess of the NJDEP RDCSRS will be removed. Risks to workers during the removal action will be addressed through engineering controls and by implementing approved health and safety practices.

5.2 Implementability

The soil excavation employs construction practices that are routinely implemented. All services and materials required are readily available. Therefore, the removal action will be both technically and administratively implementable. This alternative will likely be acceptable to the community because the soil removal will achieve the RAO.

5.3 Contribution to Remedial Performance

The removal action will meet the RDCSRS identified in Section 4.1.2, and no hazardous substances will remain above an unrestricted use/unlimited exposure scenario. Therefore, the risks at the Gosselin Area will be addressed and no post-removal CERCLA action will be necessary. The results of the removal action will be documented in the Remedial Action Completion Report.

5.4 Cost

The estimated cost of the TCRA is approximately $60,000. A breakdown of the costs is provided in **Table 4**. The costs include development of a project-specific work plan, site preparation, soil excavation, transportation and disposal, and site restoration.

Table 4. Approximate Costs for the Parcel 82 Removal Action

Phase Name	Year 1
Work Plan	$10,000
Soil Removal	$10,000
Transportation and Disposal	$25,000
Restoration	$5,000
U.S. Army Corps of Engineers Costs	$10,000
Present Worth Total Cost:	$60,000

6.0 EXPECTED CHANGE IN THE SITUATION HAD THE ACTION BEEN DELAYED OR NOT TAKEN

Delaying the implementation of the removal action or taking no action could result in potential threats to human health and the environment, as well as delays in the redevelopment of the property and transfer of the Gosselin Area from the U.S. Army to the FMERA.

7.0 PUBLIC INVOLVEMENT AND PARTICIPATION

This Action Memorandum will be made available for a 30-day public review and comment period from Tuesday 19 November to Thursday 19 December 2019, and will be placed in the FTMM Environmental Restoration Public Information Repository (the Administrative Record) at the following location:

Monmouth County Library, Eastern Branch
1001 Route 35, Shrewsbury, NJ
Phone: (732) 683-8980
Hours: Mon-Thurs, 9am-9pm; Fri-Sat, 9am-5pm; and Sun, 1pm-5pm

Appendix A includes the public press release regarding the TCRA and the public notice requesting comments.

8.0 CONCLUSIONS

The removal action for PCB-contaminated soil at the Gosselin Area meets the NCP criteria because it:

- Is technically feasible based on commonly used construction techniques and demonstrated proven approaches;
- Is administratively feasible;
- Provides a high degree of long-term public health and environmental protection through the removal of the source of the contaminated soil;
- Complies with chemical- and action-specific ARARs;
- Imposes no restrictions on future use of the site;
- Meets the criteria of effectiveness, implementability, and cost;
- Will facilitate transfer of the property to the FMERA; and
- Serves as a final action at the site.

9.0 REFERENCES

Fort Monmouth Economic Revitalization Authority (FMERA), 2019. E-mail from Joseph Fallon to William Colvin; re: future land use at Gosselin Area. October 18.

New Jersey Department of Environmental Protection (NJDEP), 2007. Letter to Army; Re: *Remedial Action Report for the 800, 700, and 400 Areas, Fort Monmouth, New Jersey*. September 5.

Shaw, 2012. *Final Fort Monmouth Main Post and Charles Wood Area Baseline Ecological Evaluation Report, U.S. Army Garrison Fort Monmouth, Fort Monmouth, New Jersey*. Prepared for the Army Corps of Engineers, Baltimore District. Rev. 1.

U.S. Army, 2013. *Spill Prevention, Control and Countermeasures Plan (SPCCP), Installation Spill Contingency Plan (ISCP), and RCRA Contingency Plan (RCP)*. Prepared by the Office of the Assistant Chief of Staff for Installation Management, Fort Monmouth, New Jersey. December 1992; last revision November 2013.

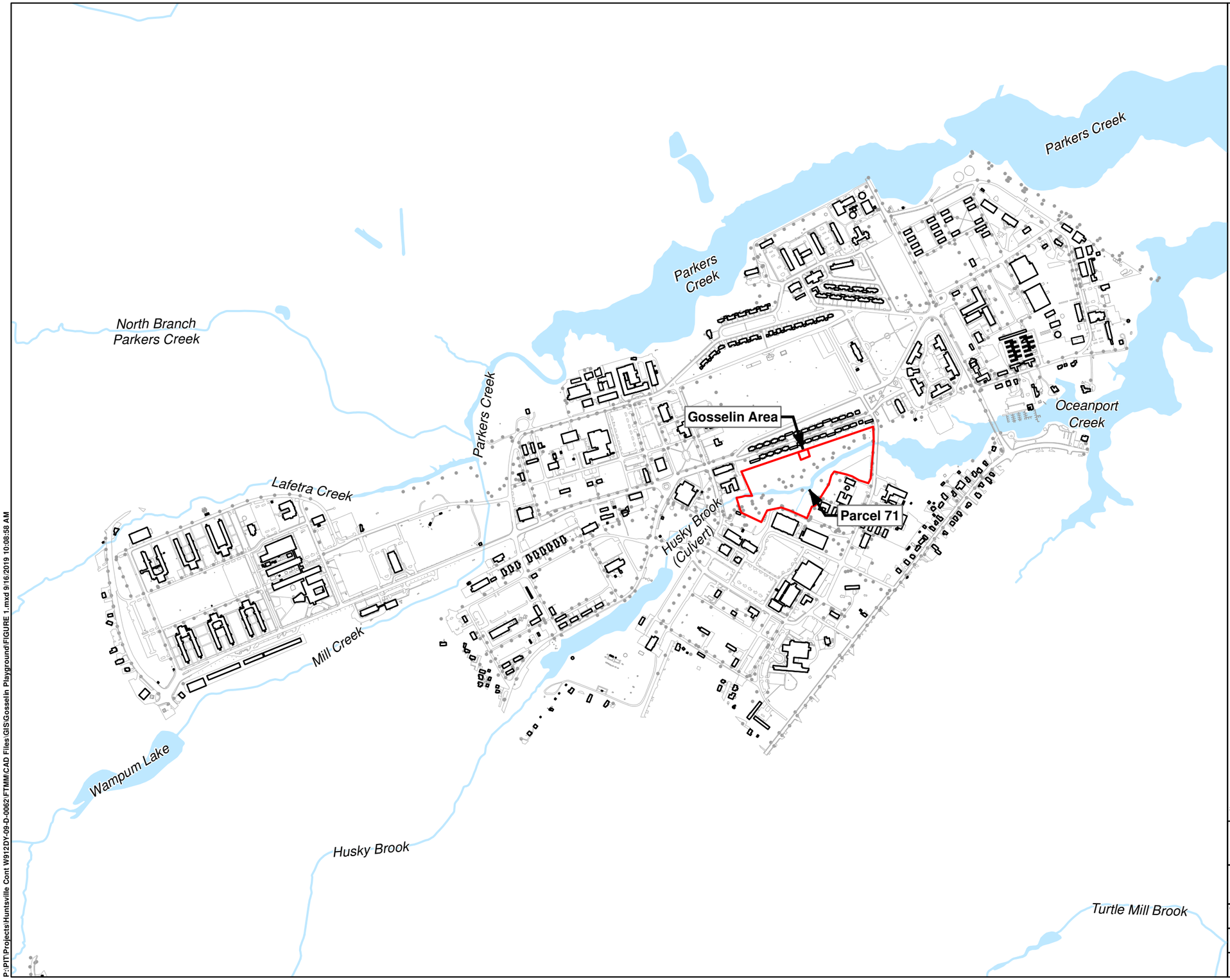
U.S. Army, 2019 *Site Investigation Report, Gosselin Area of Parcel 71, Fort Monmouth, Monmouth County, Oceanport, New Jersey*. Prepared by the Office of the Assistant Chief of Staff for Installation Management, Fort Monmouth, New Jersey. October 8.

USEPA, 2019a. Regional Removal Management Levels (RMLs) User's Guide and Summary Table (based on target risk of 1E-04 and target hazard quotient of 1.0). April. Available at: https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls

USEPA, 2019b. Regional Screening Levels Summary Table (based on target risk of 1E-06 and target hazard quotient of 0.1). May. Available at: https://semspub.epa.gov/work/HQ/199436.pdf.

Figure 1

Gosselin Area Location



LEGEND:

- Parcel Boundary
- Surface Water Feature

N

1 inch = 1,000 feet

0 500 1,000 2,000 Feet

Source: FTMM Supplied CAD, 2013; ESRI Data and Maps, 2011; USGS NHD, 2012.

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

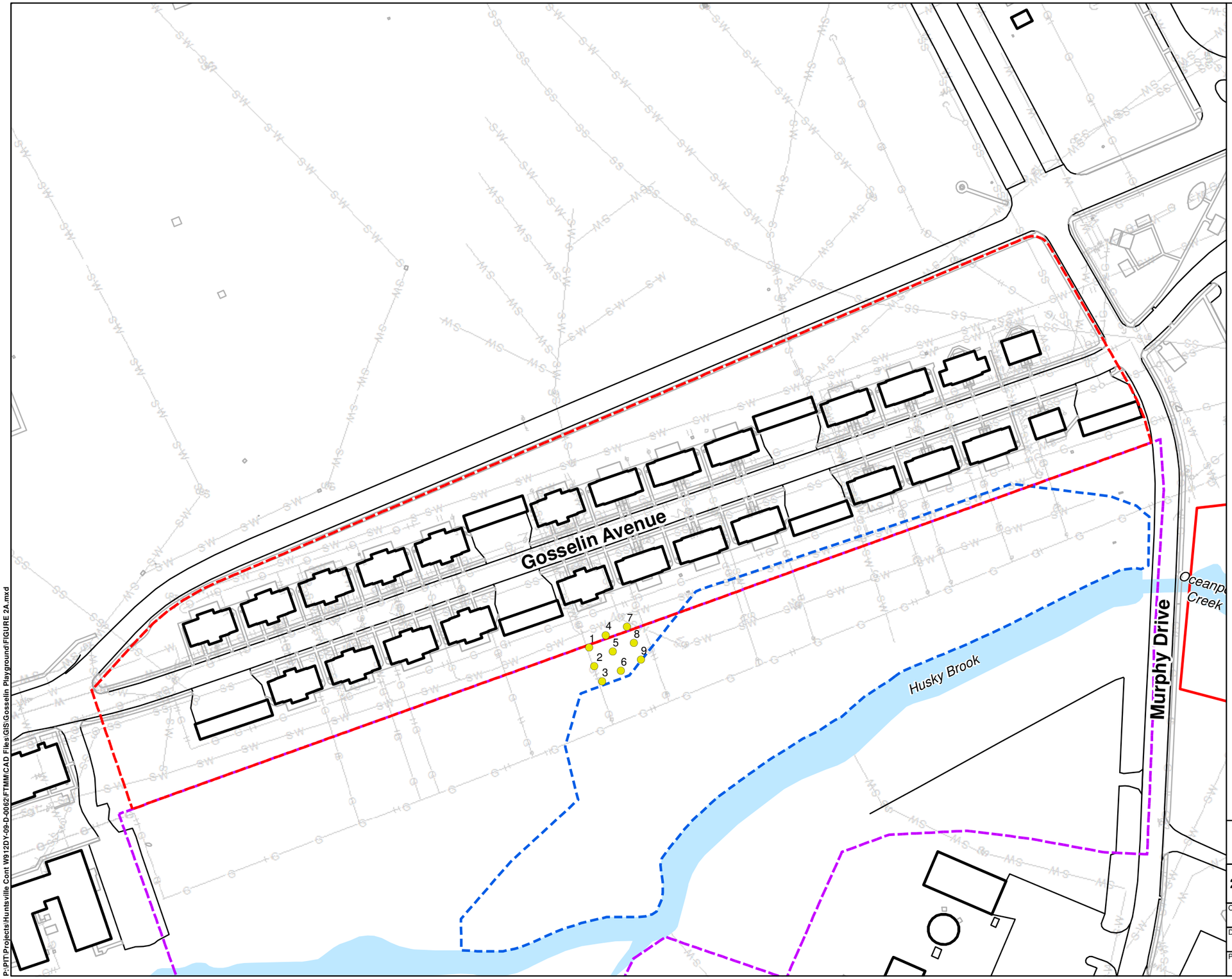
GOSSELIN AREA SITE LOCATION

CREATED BY: RR	REVIEWED BY: JC
DATE: SEP. 2019	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-02130	FILE: FIGURE 1.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\GosselIn Playground\FIGURE 1.mxd 9/16/2019 10:08:58 AM

Figure 2

2009 Sample Locations at Gosselin Area



LEGEND:

- Sample Location (2009)
- Approximate FTMM-14 Landfill Boundary
- Approximate Subdivision Line
- Approximate Army Carveout Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- S W Storm Sewer Line
- G Gas Line

N

1 inch = 130 feet

0 65 130 260 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

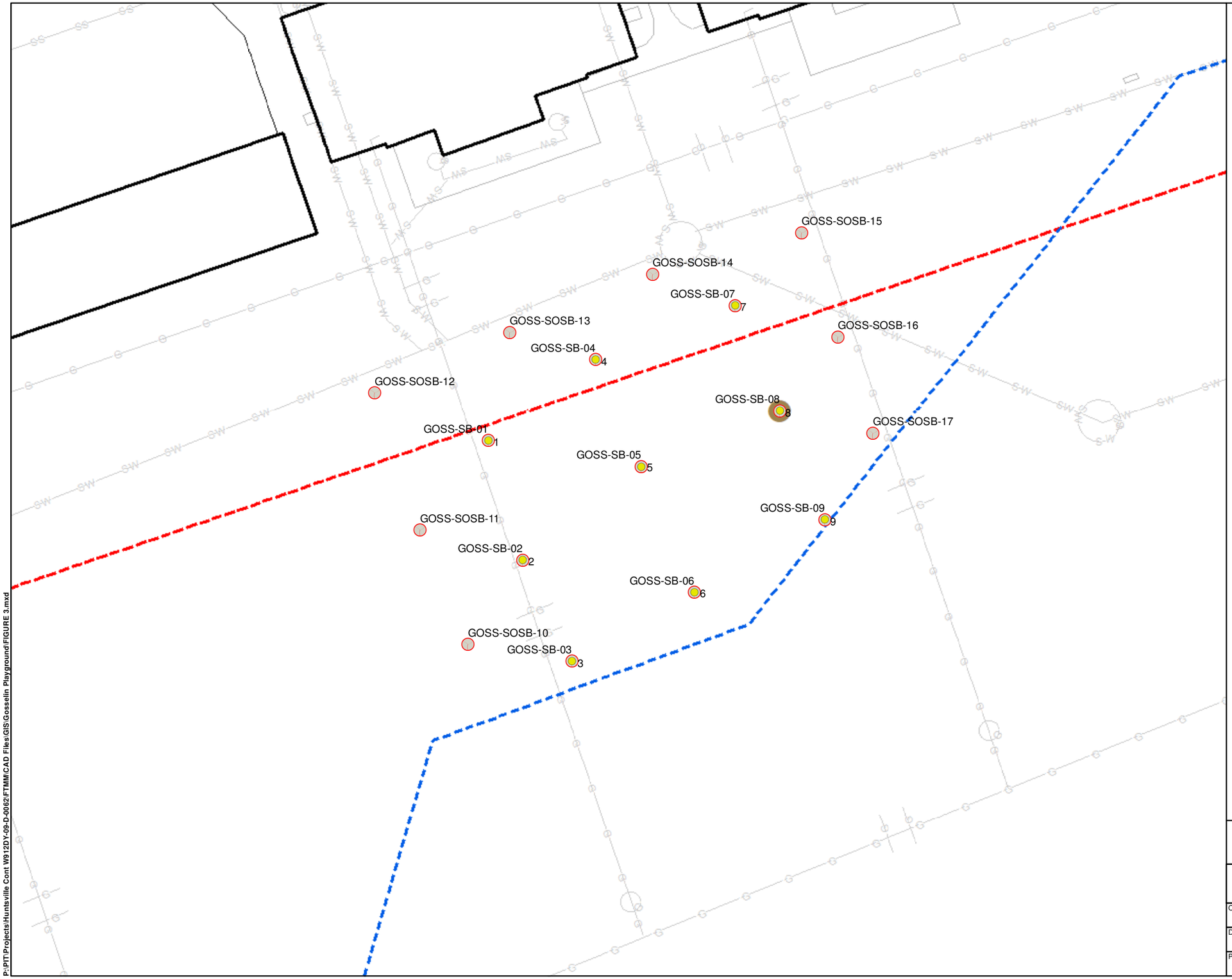
2009 SAMPLE LOCATIONS AT GOSSELIN AREA

CREATED BY: RR	REVIEWED BY: KF
DATE: OCT. 2019	FIGURE NUMBER: FIGURE 2
PROJECT NUMBER: 748810-06031	FILE: FIGURE 2A.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\Gosselin Playground\FIGURE 2A.mxd

Figure 3

Locations of 2019 Samples and Soil PCB Exceedance



LEGEND:

- Sample Location (2019)
- Sample Location (2009)
- Exceedance of NJDEP RDCSRS for PCBs
- Approximate FTMM-14 Landfill Boundary
- Approximate Subdivision Line
- W Water Line
- S Sanitary Sewer Line
- S W Storm Sewer Line
- G Gas Line

NOTE:

Contingency soil samples were collected from borings GOSS-SOSB-10 thorugh -15, but were not analyzed by the laboratory.

N

1 inch = 20 feet

0 10 20 40 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

LOCATIONS OF 2019 SAMPLES AND SOIL PCB EXCEEDANCES

CREATED BY:	REVIEWED BY:
RR	KF
DATE:	FIGURE NUMBER:
OCT. 2019	FIGURE 3
PROJECT NUMBER:	FILE:
110015.07000	FIGURE 3.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\Gosselin Playground\FIGURE 3.mxd

Table 1

Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL
REMEDIATION STANDARDS
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	GOSS-SB-01	GOSS-SB-02	GOSS-SB-03	GOSS-SB-04		GOSS-SB-05
Sample ID				GOSS-SB-01-0.0-0.5	GOSS-SB-02-0.0-0.5	GOSS-SB-03-0.0-0.5	GOSS-SB-04-0.0-0.5	GOSS-SB-104-0-0.5	GOSS-SB-05-0.0-0.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)									
Aroclor-1016	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1221	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1232	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1242	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1248	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1254	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1260	NLE	NLE	NLE	**0.078**	**0.02 J**	< 0.012	**0.026 J**	**0.014 J**	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Total PCBs	0.2	1	0.2	< 0.1	< 0.11	< 0.11	< 0.1	< 0.098	< 0.1

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL
REMEDIATION STANDARDS
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	GOSS-SB-06	GOSS-SB-07	GOSS-SB-08			GOSS-SB-09
Sample ID				GOSS-SB-06-0.0-0.5	GOSS-SB-07-0.0-0.5	GOSS-SB-08-0.0-0.5	GOSS-SB-108-0.0-0.5	GOSS-SB-08-1.0-1.5	GOSS-SB-09-0.0-0.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)									
Aroclor-1016	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1221	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1232	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1242	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1248	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1254	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1260	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012 UJ	**4.4 J**	< 0.011	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Total PCBs	0.2	1	0.2	< 0.11	< 0.1	< 0.11 UJ	**4.4 J**	< 0.095	< 0.1

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL
REMEDIATION STANDARDS
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	GOSS-SB-16		GOSS-SB-17	
Sample ID				GOSS-SOSB-16-0.0-0.5	GOSS-SOSB-16-1.0-1.5	GOSS-SOSB-17-0.0-0.5	GOSS-SOSB-17-1.0-1.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)							
Aroclor-1016	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1221	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1232	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1242	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1248	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1254	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1260	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Total PCBs	0.2	1	0.2	< 0.1	< 0.1	< 0.1	< 0.098

Footnote:

1) All historical data collected prior to 2013 are reported as provided by others.

2) Number of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) NLE = no limit established.

4) ND = not detected in any background sample, no background concentration available.

5) Bold chemical dectection

6) SS = Site Specific action level, see "Specific Chemical Class (or Parameter)" footnote for details.

7) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.

[blank] = detect, i.e. detected chemical result value.

B =Compound detected in the sample at a concentration less than or equal to 5 times (10 times for common lab contaminants) the blank concentration.

R = Rejected, data validation rejected the results.

U = non-detect, i.e. not detected at or above this value.

U-DL = Elevated sample detection limit due to difficult sample matrix.

U-ND = Analyte not detected in sample, but no detection or reporting limit provided.

J = estimated detected value due to a concetration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.

E (or ER) = Estimated result.

D = Results from dilution of sample.

J-DL = Elevated sample detection limit due to difficult sample matrix.

JN = Tentatively identified compound, estimated concentration.

UJ=The compound was not detected: however, the results is estimated because of discrepancies in meeting certain analyte-specific QC criteria.

J+ = The result is an estimated quantity, but the result may be biased high.

J- = The result is an estimated quantity, but the result may be biased low.

8) Specific Chemical Classes (or Parameters) comments or notes regarding how data is displayed, compared to Action Levels, or represented in this table.

9) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.

- Cell Shade values represent a result that is above the NJ Residential Direct Contact Soil Remediation Standard. ####

There are no NJDEP soil standards for individual PCB Aroclors, therefore the total PCB NJDEP standards were used for individual Aroclors.

- Cell Shade values represent a result that is above the NJ Non-Residential Direct Contact Soil Remediation Standard. ###

- Cell Shade values represent a result that is above the NJ Impact to GW Soil Screening Level ###

- Cell Shade values represent a result that is above both the NJ Residential, Non-Residential, AND NJ Impact to GW Soil Screening Level Direct Contact Soil Remediation Standard. ###

- Cell Shade values represent a result that is above both the NJ Residential and Non-Residential Direct Contact Soil Remediation Standard. ###

10) Criteria action level source document and web address.

- The NJ Residential Direct Contact Soil Remediation Standard refers to the NJDEP's Sept 18, 2017 Remediation Standards

http://www.nj.gov/dep/rules/rules/njac7_26d.pdf

- The NJ Non-Residential Direct Contact Soil Remediation Standard refers to the NJDEP's Sept 18, 2017 Remediation Standards

http://www.nj.gov/dep/rules/rules/njac7_26d.pdf

- The NJ Impact to GW Soil Screening Level criteria refers to the Development of Site Specific Impact to Ground Water Soil Remediation Standards - Nov 2013 revised

http://www.nj.gov/dep/srp/guidance/rs/partition_equation.pdf

Table 2

Soil Sampling Results – Comparison to USEPA Soil Remediation Standards

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA RSLs
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	GOSS-SB-01	GOSS-SB-02	GOSS-SB-03	GOSS-SB-04		GOSS-SB-05
Sample ID				GOSS-SB-01-0.0-0.5	GOSS-SB-02-0.0-0.5	GOSS-SB-03-0.0-0.5	GOSS-SB-04-0.0-0.5	GOSS-SB-104-0-0.5	GOSS-SB-05-0.0-0.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1221	0.2	0.83	0.00008	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1232	0.17	0.72	0.00008	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1242	0.23	0.95	0.0012	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1248	0.23	0.95	0.0012	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1254	0.12	0.97	0.002	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1260	0.24	0.99	0.0055	**0.078**	**0.02 J**	< 0.012	**0.026 J**	**0.014 J**	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.011	< 0.012	< 0.012	< 0.011	< 0.011	< 0.011
Total PCBs	0.23	0.94	0.0068	< 0.1	< 0.11	< 0.11	< 0.1	< 0.098	< 0.1

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA RSLs
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	GOSS-SB-06	GOSS-SB-07	GOSS-SB-08			GOSS-SB-09
Sample ID				GOSS-SB-06-0.0-0.5	GOSS-SB-07-0.0-0.5	GOSS-SB-08-0.0-0.5	GOSS-SB-108-0.0-0.5	GOSS-SB-08-1.0-1.5	GOSS-SB-09-0.0-0.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1221	0.2	0.83	0.00008	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1232	0.17	0.72	0.00008	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1242	0.23	0.95	0.0012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1248	0.23	0.95	0.0012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1254	0.12	0.97	0.002	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Aroclor-1260	0.24	0.99	0.0055	< 0.012	< 0.012	< 0.012 UJ	**4.4 J**	< 0.011	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.011	< 0.011
Total PCBs	0.23	0.94	0.0068	< 0.11	< 0.1	< 0.11 UJ	**4.4 J**	< 0.095	< 0.1

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA RSLs
SITE GOSSELIN AREA
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	GOSS-SB-16		GOSS-SB-17	
Sample ID				GOSS-SOSB-16-0.0-0.5	GOSS-SOSB-16-1.0-1.5	GOSS-SOSB-17-0.0-0.5	GOSS-SOSB-17-1.0-1.5
Sample Date				7/10/2019	7/10/2019	7/10/2019	7/10/2019
PCBs (mg/kg)							
Aroclor-1016	0.41	5.1	0.013	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1221	0.2	0.83	0.00008	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1232	0.17	0.72	0.00008	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1242	0.23	0.95	0.0012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1248	0.23	0.95	0.0012	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1254	0.12	0.97	0.002	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1260	0.24	0.99	0.0055	< 0.012	< 0.011	< 0.011	< 0.011
Aroclor-1268	NLE	NLE	NLE	< 0.012	< 0.011	< 0.011	< 0.011
Total PCBs	0.23	0.94	0.0068	< 0.1	< 0.1	< 0.1	< 0.098

Footnote:

1) All historical data collected prior to 2013 are reported as provided by others.

2) Number of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) NLE = no limit established.

4) ND = not detected in any background sample, no background concentration available.

5) Bold chemical dectection

6) SS = Site Specific action level, see "Specific Chemical Class (or Parameter)" footnote for details.

7) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.

[blank] = detect, i.e. detected chemical result value.

B =Compound detected in the sample at a concentration less than or equal to 5 times (10 times for common lab contaminants) the blank concentration.

R = Rejected, data validation rejected the results.

U = non-detect, i.e. not detected at or above this value.

U-DL = Elevated sample detection limit due to difficult sample matrix.

U-ND = Analyte not detected in sample, but no detection or reporting limit provided.

J = estimated detected value due to a concetration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.

E (or ER) = Estimated result.

D = Results from dilution of sample.

J-DL = Elevated sample detection limit due to difficult sample matrix.

JN = Tentatively identified compound, estimated concentration.

UJ=The compound was not detected: however, the results is estimated because of discrepancies in meeting certain analyte-specific QC criteria.

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8) Specific Chemical Classes (or Parameters) comments or notes regarding how data is displayed, compared to Action Levels, or represented in this table.

9) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.

- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Residential Soil (HQ=0.1). ####
- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Industrial Soil (HQ=0.1). ###
- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Protect GW Risk-Based (HQ=0.1). ###
- Cell Shade values represent a result that is above both the USEPA RSL Residential and Industrial Soil (HQ=0.1), 2017-06. ###
- Cell Shade values represent a result that is above the USEPA RSL Residential, Industrial, Protect GW Risk-Based Soil (HQ=0.1), 2017-06. ###

10) Criteria action level source document and web address.

- The 2017-06 USEPA RSL Residential Soil (HQ=0.1) refers to the EPA's Regional Screening Levels (HQ=0.1)
  https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017
- The 2017-06 USEPA RSL Industrial Soil (HQ=0.1) refers to the EPA's Regional Screening Levels (HQ=0.1)
  https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017
- The 2017-06 USEPA RSL Protect GW Risk-Based (HQ=0.1) refers to the EPA's Regional Screening Levels (HQ=0.1)
  https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017

APPENDIX A

PUBLIC NOTICE

U.S. Army Corps of Engineers,
NY District

ACTION MEMORANDUM FOR FTMM-14 CARVEOUT (GOSSELIN AREA OF PARCEL 71) at Fort Monmouth, NJ

The U.S. Army Corps of Engineers New York District and the U.S. Army Engineering and Support Center, Huntsville (USAESCH), has prepared an *Action Memorandum* for FTMM-14 Carveout (Gosselin Area of Parcel 71) at Fort Monmouth (FTMM) in Oceanport, Monmouth County, New Jersey. The U.S. Army is the lead agency for FTMM in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Executive Order 12580. New Jersey Department of Environmental Protection (NJDEP) is the state support agency under the National Contingency Plan for FTMM.

The purpose of the *Action Memorandum* is to document the U.S. Army's decision to undertake the Time Critical Removal Action (TCRA) at FTMM-14 Carveout (Gosselin Area of Parcel 71) where polychlorinated biphenyl (PCB) contaminated soil was identified. This *Action Memorandum* describes the TCRA proposed for the Gosselin Area.

The *Action Memorandum*, the associated reports, and the full public record for FTMM-14 Carveout (Gosselin Area of Parcel 71), are available for review at the Monmouth County Library, Eastern Branch, 1001 Route 35, Shrewsbury NJ 07702.

The New York District invites public comment on the FTMM-14 Carveout (Gosselin Area of Parcel 71) *Action Memorandum*. Written comments will be accepted during a 30-day comment period starting Tuesday 19 November 2019 and ending Thursday 19 December 2019. All comments must be postmarked by 19 December 2019 and mailed to the address below (or emailed by 19 December 2019 to william.r.colvin18.civ@mail.mil):

BRAC Environmental Coordinator
U.S. Army Fort Monmouth
Attn: Mr. William Colvin
P.O. Box 148, Oceanport, NJ 07757