



New Jersey Department of Environmental Protection
Site Remediation Program

Report Certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites

These certifications are to be used for reports submitted for RCRA GPRA 2020, CERCLA, and Federal Facility Sites. The Department has developed guidance for report certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites under traditional oversight. The "Person Responsible for Conducting the Remediation Information and Certification" is required to be submitted with each report. For those sites that are required or opt to use a Licensed Site Remediation Professional (LSRP) the report must also be certified by the LSRP using the "Licensed Site Remediation Professional Information and Statement". For additional guidance regarding the requirement for LSRPs at RCRA GPRA 2020, CERCLA and Federal Facility Sites see http://www.nj.gov/dep/srp/srra/training/matrix/quick_ref/rcra_cercla_fed_facility_sites.pdf.

Document: "Response to Comments for NJDEP comments on Final Remedial Investigation Report for FTMM-02 dated January 2016 (& Landfill Boundary Refinement for FTMM-02 dated January 2016)"

PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: William R. Colvin

Representative First Name: William Representative Last Name: Colvin

Title: BRAC Environmental Coordinator

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State: NJ

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This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature:

Date: 27 July, 2016

Name/Title: William R. Colvin / BRAC Environmental Coordinator



DEPARTMENT OF THE ARMY

OFFICE OF ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
U.S. ARMY FORT MONMOUTH
P.O. 148
OCEANPORT, NEW JERSEY 07757

July 27, 2016

Ms. Linda Range
New Jersey Department of Environmental Protection
Bureau of Case Management
401 East State Street
PO Box 420/Mail Code 401-05F
Trenton, NJ 08625-0028

SUBJECT: *Final Remedial Investigation Report for FTMM-02 dated January 2016 (& Landfill Boundary Refinement for FTMM-02 dated January 2016) Fort Monmouth, Oceanport, New Jersey*
PIG000000032

Dear Ms. Range:

The Fort Monmouth (FTMM) team has reviewed the New Jersey Department of Environmental Protection (NJDEP) comments on the subject submittal for FTMM-02. Responses to your comments are provided below in the order in which they were presented in your comment letter.

A. Soil Analytical Results

A. COMMENT: *Elevated levels of pesticides, priority pollutant metals, PAHs, and PCBs have been noted in the soil. Levels of PCBs have been found which require additional remedial action, see below, however, the remaining contaminants of concern are to be addressed via engineering and institutional controls. Addressing all remaining levels of contamination in this manner is acceptable pending compliance with comments as noted below.*

A figure and/or statement should have been included which demonstrates all sample locations containing elevated levels of contamination are located within the area to be addressed via engineering controls. In the interest of time, however, a comparative review was performed by this office and although it is agreed most affected boring locations appear to be within that area designated as landfill, the entire area as amended in the Landfill Refinement Report along Mill Creek appears to exclude not only landfill material (see comments regarding same below), but also borings which exhibit elevated levels of contaminant concentrations (e.g. B-178 - PCBs 5.98 ppm; B-113E - DDE 3.7 ppm, DDT 6.8 ppm; B-64 - As 26.8 ppm, Hg 16.7 ppm).

RESPONSE: The FTMM team concurs that PCBs require additional remedial action and will be addressed as discussed in the following response. The proposed remedy as described in the January 2016 FTMM-02 Remedial Investigation Report (RIR) remains the same, and

contaminants of concern other than PCBs will be addressed via the NJDEP Site Remediation Program (SRP) policy that allows for contaminants with appropriate institutional and engineering controls to be non-permanently remediated as long as the remedy is found to be protective of human health and the environment.

The Final RIR for FTMM-02 was submitted in January 2016 to the NJDEP prior to the submittal of the Landfill Boundary Refinement and Methane Gas Survey Report, and an updated version of the landfill boundary based on historical and the August 2015 test pits was presented in the latter report. The FTMM team reviewed the soil sample locations located outside the latest revised FTMM-02 landfill boundary (2015) and identified those locations exceeding their respective NJDEP Residential and/or Non-Residential Direct Contact Soil Remediation Standards (DCSRS). Consistent with NJDEP's comparative review, FTMM agrees that most of the affected boring locations are within the area designated as landfill and are proposed to be capped. The FTMM team identified the following borings located at least 30 feet south of the Mill Creek on or outside the latest revised 2015 landfill boundary exhibiting levels of contaminant concentrations above non-residential or residential DCSRS (e.g. B-13 – PCBs 0.92 ppm at 4 to 4.5 feet bgs, **4.6 ppm at 5 to 5.5 feet bgs**; B-4 PCBs 1 ppm, V 78.9 ppm; B-64 – As 26.8 ppm, V 189 ppm; B-25 – V 82 ppm, PCBs 1.3 ppm at 3 to 3.5 feet bgs, **7.1 ppm at 5 to 5.5 feet bgs**; B-25 – **PCBs 25.3 ppm at 5 to 5.5 feet bgs**, B-142A – DDE 3.7 ppm, DDT 6.8 ppm; B-113F – Chloroform 550 at 2.7 to 3.5 feet bgs and 760 ppm at 5.0 to 5.5 feet bgs; B-150 – V 84.4 ppm, B-171 – As 31.4 ppm, and B-178 – **PCBs 5.98 ppm**; all samples taken from 0 to 1 feet bgs unless otherwise noted). *Bolded concentrations at a given location are greater than both the applicable respective non-residential DCSRS and residential DCSRS for a contaminant, all other identified concentrations in this response are greater than the applicable respective residential DCSRS but less than the non-residential DCSRS.*

Based on contaminant concentrations in select soil borings exceeding the non-residential DCSRS, the northern FTMM-02 engineered soil cap will be extended to include those locations as part of the soil cover engineering control design or the soil associated with these boring locations will be excavated and relocated within the landfill boundaries. These options are consistent with NJDEP SRP *Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria*, Section 6.7.5.1.3 Restricted use soil remedial actions.

B. PCBs

B. COMMENT: *PCBs have been noted at numerous areas within the landfill at levels exceeding both NJDEP and USEPA regulatory concern, and as referenced in the RIR, above that requiring additional action under the NJDEP Guidance on Coordination of NJDEP and USEPA PCB Remediation Policies.*

Correction of/clarification to the following two sentences beginning on line 18 of page 8-1 of the RIR is necessary;

"TSCA does not regulate PCBs at concentrations less than 50 ppm. At concentrations greater than 50 ppm PCBs, TSCA stipulates a range of self-implementing cleanup levels..."

The TSCA regulated level of 50 ppm does not apply to remediation in that TSCA regulates PCBs in soil at concentrations greater than 1ppm. TSCA stipulates a range of self-implementing cleanup levels based upon future high and low occupancy scenarios that are identified in 40 CFR 761.6l (a)4. These self-implementing remediation scenarios fall within PCB soil contamination ranges from 1ppm to 100 ppm.

A pre-design investigation to determine the lateral and vertical extent of PCBs greater than 25 ppm is to be performed, as appropriate. The proposal for subsequent removal of all PCBs > 25 ppm is acceptable to the Department. Please ensure future submittals include figures with not only sample locations and depths, but also specific contaminant concentrations plotted on the maps to allow for confirmation of adequate delineation and removal, as required by N.J.A.C. 7:26E-1.6(b)8(2).

Please note, following characterization, and at least 30 days prior to remedial activities, notification to the EPA must be made, as per the Self-Implementing Cleanup provisions at §761.6l(a)(3).

B. RESPONSE: The two sentences on line 18 of page 8-1 will be corrected as follows;

~~"TSCA does not regulate PCBs at concentrations less than 50 ppm. At concentrations greater than 50-1 ppm PCBs, TSCA stipulates a range of self-implementing cleanup levels..."~~

Page 8-1 is reissued as a replacement page attached to this letter. In September 2016, FTMM plans to perform the pre-design investigation to delineation PCBs to residential standard (0.2 ppm), and to determine the lateral and vertical extent of PCBs greater than 25 ppm for remediation (i.e., excavation). The FTMM team will submit a letter to NJDEP prior to site activities outlining the proposed approach for the PCB delineation at select landfills, including M-2. In accordance with NJDEP's request, the FTMM team will ensure that pre-design submittals include figures with sample locations and depths, and specific contaminant concentrations to allow for confirmation of adequate delineation and removal per N.J.A.C. 7:26E-1.6(b)8(2). Please note that the RIRs for the FTMM Landfills, with the exception of FTMM-25, have been submitted to the NJDEP at the time of this letter, as such figures as described in this response will not be submitted for the landfill RIRs.

C. Landfill Boundary

C. COMMENT: *As was indicated during a April 12, 2016 phone conversation with Army representatives, the Department is not in agreement with the categorizations of the test pit findings utilized in determining the boundaries of the landfills, as referenced in Section 2.0 Landfill Boundary Refinement Program and Summary (Appendix A). More specifically, the*

Department does not agree debris of a "scattered nature" or "de minimus" quantity may be presumed as existing beyond the boundaries of a landfill. This would include, for instance, debris as noted in test pits M2TP8 and M2TP10, which are among those test pits with scattered, non-contiguous or de minimus amounts of debris used in Figure A1 of the Landfill Boundary Refinement Report to designate the revised extent of the northern boundary, but which the Department considers located within the landfill boundary.

Unless test pits at anticipated landfill boundaries are free of debris (e.g. M2TP 25, Test Pit 2 at the western boundary noted on Figure A1 above), or it is sufficiently demonstrated areas of scattered, non-contiguous, or de minimus debris are not within the landfill boundaries (e.g., as was suitably demonstrated for the southern boundary of FTMM-02 via submittal of historic aerial photographs, which established the historic and continued presence of the railway and wooded areas), as per the discussion on April 12, those areas at which scattered, non-contiguous and/or de minimus debris is noted are considered landfill material and must also be incorporated into that area at which capping is to be performed.

C. RESPONSE: The FTMM team's detailed evaluation of the landfill boundary did not presume that all debris was outside the landfill boundary. We did, however, use site knowledge, and evidence from extensive test pit operations to make a professional judgment at FTMM-02 on a case-by-case basis that some debris (of a scattered nature and *de minimus*) in select test pits was not contiguous and did not constitute a landfill. The FTMM team believe this is reasonable and appropriate given the wide variety of activities at FTMM over many decades. Although the FTMM team disagrees with the NJDEP regarding the landfill boundary, we reserve the right to: 1) adjust the northern FTMM-02 landfill boundary will be revised so that the soil cover engineering control includes the test pits containing debris of *de minimus* quantity located approximately 40 feet south of Mill Creek or 2) move this material into the existing boundary of the cap and regrade as appropriate.; however, the engineering control will be placed no closer to the creek than the southern edge of the planting buffer indicated in the 2012 *Sanitary Landfill Disruption Approval Construction Closeout Report* by Princeton Hydro, LLC previously submitted to NJDEP. The 2012 Princeton Hydro report details the installation of slope stabilization rip rap located along the northern bank of FTMM-02, subsequent grading of the bank, and the planting buffer installed along Mill Creek.

Figure 1 presents the revised 2016 landfill boundary, test pit locations, and soil borings located north of the 2015 landfill boundary. The soil cover engineering control will be extended to the 2016 boundary and graded to integrate into the existing rip rap. The revised boundary incorporates the test pits described in Response C, and revised engineering control extent includes the borings mentioned in Response B.

D. Ground Water

D. COMMENT: *A CEA was established for ground water at FTMM-02 in 2001, with the most recent revision comprising the contaminants benzene, chlorobenzene and tertiary butyl alcohol (TBA). The CEA is to remain in place at this time, as appropriate, with a biennial*

sampling frequency proposed. However, a previously approved submittal (Annual - Fourth Quarter - 2014 Groundwater Sampling Report dated December 2015), which confirmed the continued exceedance of the Ground Water Quality Standards for benzene, recommended one additional sampling round for wells M2MW11, M2MW21, M2MW22 and M2MW24, and continued annual VOC monitoring for M2MW03 and M2MW10. Please clarify the disparity.

D. RESPONSE: To clarify, future groundwater sampling (including the recommended additional sampling round in *Annual - Fourth Quarter - 2014 Groundwater Sampling Report*) at FTMM-02 will be performed and reported under the existing CEA, as the RIR for this site has been completed and a CEA is recommended in the RIR. At the RI phase in the remedial process, future sampling and reporting under a CEA is consistent with N.J.A.C. 7:26E-4.3(a)7 and 7:26E-4.9(a)7. The existing CEA accepted by the NJDEP in January 2001 (and updated in 2011) will be revised to include a biennial sampling frequency for select wells for an appropriate set of compounds that are consistent with the existing CEA and representative of more recent groundwater conditions. An extensive groundwater sampling history has been established for FTMM-02 as part of the long term monitoring program (LTM) for the site, and a comprehensive review of the data has now been performed as part of the January 2016 RIR. The biennial sampling frequency will provide data for the biennial certifications. The Annual – 4th Quarter 2015 Groundwater Sampling Report will reference the RIR for consistency and state that the FTMM-02 LTM program will be transitioned and continued under the revised CEA program, with biennial sampling to be performed in the same year as the biennial CEA certification. At FTMM-02, the next biennial sampling and certification will be performed in 2017.

E. Proposed Remedy

E. COMMENT: *Following removal of PCBs greater than 25 ppm, the landfill is to be cleared, regraded, and covered with a vegetated (or functional equivalent) two foot cap of clean soil. A vegetated soil cover of two feet of clean fill, the implementation of a LUC through filing of a deed notice with its incumbent inspection and reporting requirements, and in association with the existing CEA, was previously deemed appropriate and is acceptable. Although conceptually feasible, a "functional equivalent" in lieu of the vegetated layer must be proposed and reviewed for appropriateness once specifications are known, to ensure "functional equivalency".*

E. RESPONSE: The FTMM team is currently working with the Fort Monmouth Economic Redevelopment Authority (FMERA) to identify landfills where a functional *equivalent* (e.g., expanded parking lot) maybe installed rather than the vegetated soil cover. Information on the proposed landfill cover design including those landfills where a functional equivalent cover maybe installed will be presented in the *Draft Conceptual Design Report for Nine Landfills*. It is anticipated that this report will be submitted to the NJDEP after comments are received on the nine RIR FTMM landfill reports, and on the *Landfill Boundary Refinement and Methane Gas Survey Report for Nine Landfills*.

Linda S. Range, NJDEP
Response to Comments
Final RIR for FTMM-02
July 27, 2016
Page 6 of 6

We look forward to your review of these responses and approval of the FTMM-02 RIR. Should you have any questions or require additional information, please contact me by phone at (732) 380-7064 or by email at william.r.colvin18.civ@mail.mil.

Sincerely,



William R. Colvin, PMP, PG, CHMM
BRAC Environmental Coordinator

Attachments: Replacement page 8-1
Figure 1 – Revised 2016 Landfill Boundary

cc: Linda Range, NJDEP (e-mail and 3 hard copies)
Delight Balducci, HQDA ACSIM (e-mail)
Joseph Pearson, Calibre (e-mail)
James Moore, USACE (e-mail)
Jim Kelly, USACE (e-mail)
Cris Grill, Parsons (e-mail)

Replacement Page 8-1

SECTION 8 CONCLUSION

The RI concluded that risks to human health and the environment from soil and groundwater are within acceptable ranges for current and future intended land use. A FS was not performed because the RI concluded that no further action is required at FTMM-02 under CERCLA.

Although risks from soil, which included an assessment of PCBs in soil, are within acceptable ranges, there are areas at FTMM-02 where PCBs were detected. The presence of PCBs in soil requires further consideration based on the NJDEP Guidance on Coordination of NJDEP and USEPA PCB Remediation Policies (NJDEP, 2013). Under the current NJDEP Site Remediation Program (SRP) policy, in a non-residential or restricted use scenario such as site FTMM-02, PCBs detected at concentrations greater than 0.2 mg/kg require a deed notice and when above 1 mg/kg, requires a deed notice and cap. However, the NJDEP SRP policy since 1993 allows for contaminants with appropriate institutional and engineering controls to be non-permanently remediated as long as the remedy is found to be protective of human health and the environment.

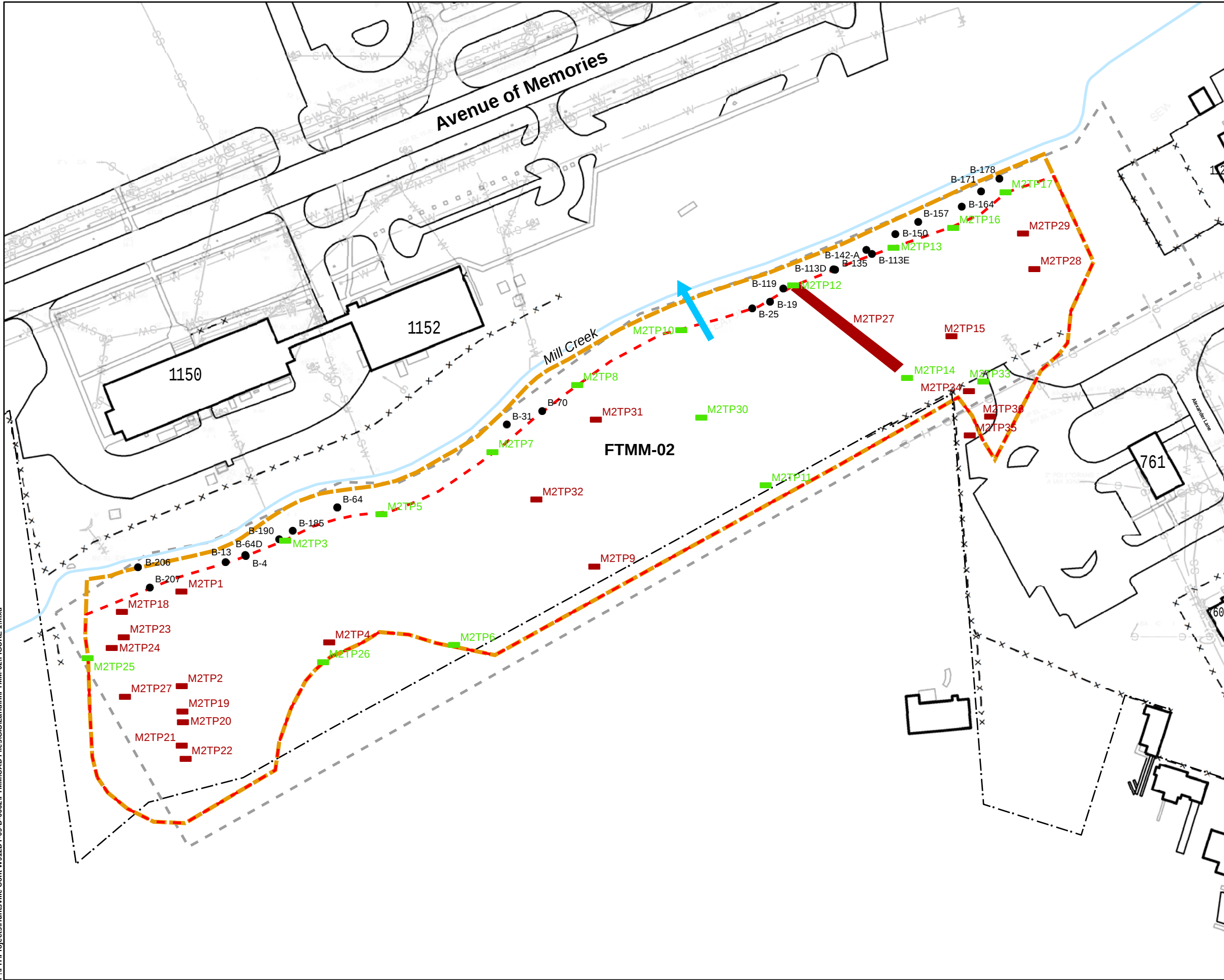
TSCA provides federal PCB remediation requirements, regulated by the USEPA, which must be coordinated with the NJDEP SRP policy during PCB remediation projects. The TSCA regulations are principally found in 40 CFR Part 761. At concentrations greater than 1 ppm PCBs, TSCA stipulates a range of self-implementing cleanup levels based upon contaminated media and future high and low occupancy scenarios that are identified in 40 CFR § 761.61(a)(4). FTMM-02 is considered low occupancy under TSCA, which has a cleanup level of 25 ppm. Bulk remediation wastes in low occupancy areas may remain between 25 and 50 ppm if the site is secured by a fence and marked with a sign including the ML mark, or remain between 25 and 100 if the site is covered with a cap meeting the requirements of paragraphs 40 CFR 761.61(a)(7) and 761.61 (a)(8).

Since NJDEP SRP policy allows for contaminants with appropriate institutional and engineering controls to be non-permanently remediated as long as the remedy is found to be protective of human health and the environment, and TSCA considers sites such as FTMM-02 to be remediated if PCB concentrations do not exceed 25 ppm; a limited excavation will be conducted at FTMM-02 to remove soils with PCB concentrations in excess of 25 ppm. A pre-design investigation (PDI) will be conducted prior to limited PCB removal action to determine lateral and vertical extent of PCB concentrations greater than 25 mg/kg.

After removal of isolated areas with concentrations of PCBs exceeding 25 ppm, a vegetated soil cover or functional equivalent will be placed over the landfill area after the landfill is regraded, to provide safety protection for future non-residential use. The soil cap will be placed consistent with the NJDEP Solid Waste regulations (N.J.A.C. 7:26-2A and TSCA requirements at 40 CFR §§ 761.61[a][7] & [8]). Additional soil will be added to the existing soil cover to provide a minimum of two feet of soil between the ground surface and landfilled debris. The use of a vegetated native soil cover or functional equivalent will offer safety protection to non-residents from future exposure to solid waste at the landfill and will control surface water runoff and erosion.

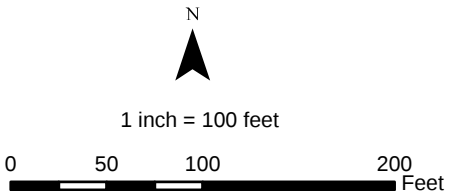
Figure 1 – Revised 2016 Landfill Boundary

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LEGEND:

- Soil Boring Location
- ▭ FTMM-02 Landfill Revised Boundary (2016)
- ▭ FTMM-02 Landfill Revised Boundary (2015)
- ▭ FTMM-2 Landfill Original Boundary
- ▭ Installation Boundary
- ▭ M2TP3 2015 Landfill Test Pit - Solid Waste Not Present
- ▭ M2TP4 2015 Landfill Test Pit - Solid Waste Present
- × Existing Fence
- × Demolished Fence
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction



Source: FTMM Supplied CAD

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

**FTMM-02 REVISED 2016
LANDFILL BOUNDARY**

CREATED BY: RR	REVIEWED BY: JTK
DATE: JUL. 2016	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810.02010	FILE: FIGURE 1.mxd