

Appendix D

Soil and Stockpile Management Plan (SSMP)

Soil and Stockpile Management Plan

I. Purpose

This stockpile management plan has been developed to assist in the operation, maintenance and decommissioning temporary stockpile for Remedial Action Work Plan (“RAWP”) activities at the PPG Garfield Avenue Group Sites (“Site”). This plan is to be used in conjunction with the Site Health and Safety Plan (“HASP”) and Dust Control Plan (“DCP”). The stockpile location will generally be established at the beginning of the project and used throughout the project period. Once the project is complete the stockpile will be de-commissioned and the land restored back to near its original condition. All materials excavated during the RAWP activities will be handled as hazardous wastes until otherwise classified via laboratory analysis.

II. Contaminants of Concern

The anticipated primary contaminants of concern include hexavalent chromium, other metals, and to a lesser degree, manufactured gas plant (“MGP”) compounds, including volatile organics (“VOCs”) and semi-volatile organic compounds (“SVOCs”) that have been detected on Site. Visual examination of excavated soil and screening of the excavation limits with a photoionization detector (“PID”) will be conducted. Should any PID readings around the excavation limits be observed above 100 parts per million (“ppm”) or obvious MGP odors are detected by onsite personnel, the soil will be managed in accordance with the RAWP. If MGP waste is encountered and odor control is required, foam may be employed and applied directly to the soils, and stockpiled separately.

III. Stockpile Construction and Procedures

The soils will be temporarily stockpiled adjacent to excavation areas as needed by the contractor or within a designated temporary stockpile area(s), and these temporary stockpiles will be depleted (removed) as the contractor progresses through the RAWP excavation areas. These temporary stockpiles will be limited to approximately 200 cubic yards (“CY”) and will be covered, but not lined, if not accessed for a minimum of two hours. The stockpile area will be constructed in accordance with the Drawing 6-4 of the RAWP or approved alternative. In general, all stockpiles will include heavy duty plastic (minimum of 20-mil) and tear resistant (fiber reinforced) bottom. Top liners will be used for soil stockpiles. All stockpiles will include berms for containment of any water that drains from the soil. Stockpiles will be inspected at least three times a day and repaired as needed. At the end of each shift or when the stockpile is not in use for two hours or longer, the pile(s) will be securely covered with a heavy duty plastic and tear resistant (fiber reinforced) liner, weighted with ballast (cinderblocks, sandbags, etc.), and inspected. The surface of stockpile area will be clean and free of debris prior to the placement of the bottom liner. Stockpile height will be limited to a maximum height of 10 feet. The maximum on-site stockpile capacity will not exceed 4,000 CY. Excavation will cease when a maximum of 4,000 CY in the stockpile is reached; however, the pile may be near the 4,000 CY maximum capacity when operating at steady state. Note: A maximum of 4,000 CY may include concrete as part of the volume.

Metal debris will be moved out of the excavation area and placed on a lined stockpile area or in a container at the end of the work week. (Note: Any container used for shipping debris off the site will be

lined or have a gasketed gate, and will be covered prior to departing the site). If the metal is to be decontaminated, it will be done in a contained area with the water collected for off-site disposal. Upon sufficient accumulation of metal debris (15-20 CY), arrangements will be made for shipment. If the metal is decontaminated and sampling results indicate that it is not hazardous, there is no specific timetable to remove it. If the metal is not contaminated and deemed hazardous then it must be removed within 90 days of generation to comply with the Resource conservation and Recovery Act ("RCRA"). Concrete stockpiles will be covered with Formula 480, not tarps/covers.

On-site stockpiles will be handled as to prevent and/or reduce potential dust generation, as described in the Dust Control Plan (Appendix B of the RAWP). A containment area will be maintained for the duration of the staging period in order to prevent runoff from contaminated soil, leaching of contaminants into runoff water and fugitive dust emissions. Any stockpiles which may receive saturated soil will be equipped with diversionary structures in order to contain and collect all water which may drain from the soils. Stormwater which enters any active excavation or stockpile location will be collected and containerized or treated for disposal as needed.

IV. Stockpile Waste Classification

The contractor will direct load or segregate and stockpile concrete, soil, and debris for subsequent loading at a later date. Soils treated during Pilot Studies, (i.e. containing calcium polysulfide ("CaSx")) will be stockpiled separately from other non-treated fill materials. Soils are anticipated to be further segregated into the following classifications based on visual impairment: hazardous waste and contaminated non-hazardous waste. The field engineer or other trained field technician will direct the contractor to direct load or stockpile based on field screening results and/or visual observations. Any staff designated to direct the contractor in this manner will be trained to identify chromium impacted soils (bright green leachate stained soil, chromium ore processing residue ("COPR") and Green-Gray Mud), and MGP impacted soils that may be disposed of as hazardous wastes, if encountered.

It is anticipated that approximately 720,000 to 820,000 tons of material, excavated at a rate of approximately 400 to 1,500 tons per day, will be removed during RAWP activities. The stockpile height will not be greater than 10 feet. At this height, the footprint of the stockpile area should be approximately 34,750-square feet as shown in RAWP Drawings 6-1 through 6-3. This area should be adequate to accommodate the number of stockpiles anticipated to be generated in one week. Waste classification sample analysis will be performed in an expedited manner.

Source waste materials classified as Chromate Chemical Production Waste ("CCPW"), (i.e. bright green chromium stained materials, Green-Gray Mud and mixed fill with 25% or more COPR) will be direct loaded if possible. If the CCPW is saturated, it will be stockpiled separately from materials not containing CCPW or showing visual impacts. Soils with visual or olfactory evidence petroleum contamination or with PID readings greater than 100 ppm will also be stockpiled separately. Concrete/debris will be stockpiled separately as required by the disposal facilities. Excess soils will be removed from concrete/debris to the reasonable extent possible prior to stockpiling.

Information regarding each stockpile will be appropriately documented. At a minimum, the following will be recorded in the site field book: name and date of stockpile, a description of the materials within each stockpile, including CCPW waste (COPR, Green-Gray Mud, mixed fill with COPR), MGP related wastes, concrete and debris, non-hazardous soils, etc.), a sketch of the stockpile area including stockpile

dimensions on the given day, and screening results/visual observations as necessary. Each stockpile will be labeled “A, B, C, D, etc.” The letter designation with a description of the materials included in the stockpile will be recorded in the field notebook.

Wastes generated during the field operations at the Site will be handled as generally detailed in the New Jersey Department of Environmental Protection (“NJDEP”) *Guidance Document for the Remediation of Contaminated Soils* (1998) and the AECOM Field Sampling Plan / Quality Assurance Project Plan (“FSP-QAPP”) for Non-Residential and Residential Chromium Sites (2010) and disposed of off-site as either non-hazardous or hazardous waste. Wastes that will be generated include excavated soils, concrete and debris, contaminated personnel protective equipment (“PPE”), decontamination fluids, purge water, dewatering liquids, and general garbage. Solids such as well abandonment cuttings and decontamination solids will be containerized in 55-gallon steel drums which meet the prescribed specific minimum thicknesses for steel drums that are used for transporting hazardous materials (must be at least 0.92 millimeters thick throughout, or have a shell and head thickness of 0.82 mm and 1.11 mm, respectively), roll-off boxes or stockpiled for disposal off-site. All drums will be stored on-site in an approved staging area or in the stockpile area. Waste characterization sampling will be performed as required by the disposal facility.

V. Sampling Procedures

Stockpiled materials will be sampled and analyzed as needed to verify that the materials meet the requirements of the receiving facility prior to loading for transport. Field blanks and field duplicates are not required for waste classification sampling. The receiving facility may require different sample frequencies and methods from time to time based on its specific permit. The disposal facility will notify AECOM if sampling or analytical requirements need to change.

Each sample will be analyzed for the parameters required by the receiving disposal facility. Each waste classification sample may be collected and analyzed for the following anticipated parameters: Full Toxicity Characteristics Leaching Procedure (“TCLP”) Waste Classification parameters, RCRA hazardous characteristics, polychlorinated biphenyls, VOCs, SVOCs (Method SW846 8270C), Target Analyte List (“TAL”) metals, total petroleum hydrocarbons, and hexavalent chromium. If needed, disposal-specific facility sampling and analytical requirements can be forwarded to NJDEP upon selection of facilities prior to the commencement of RAWP activities.

The following nomenclature will be used for stockpile sampling: Site-Stockpile and Sample Number-Date (yymmdd). For example, a sample collected at Site 114 from the 1st stockpile, designated Stockpile A, on April 15th, 2011 will be labeled “114-A1-110415.”

Information regarding each stockpile sample will be appropriately documented. At a minimum, the following will be recorded in the site field book:

- Name of sample collected (following the nomenclature described above);
- Number and type of samples collected;
- Analytical parameters for each sample;
- A sketch of the stockpile(s) indicating the time and location of each sample collected,

- Screening results/visual observations.

Samples for laboratory analysis will be placed in pre-cleaned laboratory-provided containers. The containers will be clearly labeled with the same identification, date of collection, and analysis to be performed. Samples will be submitted to a NJ-certified laboratory for analysis. Analyses will be performed in accordance with United States Environmental Protection Agency (“USEPA-”) and NJDEP-approved analytical protocols and the revised FSP-QAPP, submitted to NJDEP under separate cover. Standard chain-of-custody procedures will be followed.

Completed chain-of-custody forms will be scanned and filed in the field office prior to the next workday.

VI. Disposal

Waste transportation will be documented by manifest or bill of lading and recorded in the field book. PPG’s appointed designee will sign on behalf of PPG Industries as the generator to sign manifests or bills of lading. All manifests or bills of lading will be scanned and filed as soon as possible. In addition, information regarding waste transportation will be recorded including: time in, time out, truck name, truck number, truck license plate number, the receiving facility, and which stockpile from which the material in the truck was collected.

VII. Records

The relevant person controlling the stockpile area will ensure:

- A register or similar records of all types and quantities of material incoming and outgoing as well as where re-use or recycled material is being used, and
- Inspection Records are maintained.

VIII. Inspection and Reporting

Daily inspections of stockpile area will be performed in order to:

- Monitor the effectiveness of the control measures and to ensure the environmental impacts are being minimized.
- Confirm that the requirements and inspection frequencies are being met.

If necessary, the results of the inspection will be discussed with the contractor. Items discussed may include each stockpile(s) location, material being stockpiled, surrounding environment and any specific issues associated with it.

As part of inspection and reporting, the following will be performed:

- Tarps/covers will be inspected daily in accordance with Appendix B.2 of the DCP provided as Appendix B of the RAWP;
- Tarps/covers with damage that expose stockpile shall be repaired or replaced as soon as possible (Note: “repaired” means that soil beneath the tarp/cover is not visible.); and
- All implemented alternative measures must be, at a minimum, equivalent to NJDEP-approved Work Plan specifications.

Stockpile management issues that are observed during the inspection will be dealt with in accordance to a non-conformance procedure. Issues that arise which were not covered in the original requirements will be managed as corrective action requests to improve either implementation or the documentation.

The non-conformance and corrective action procedure will include the following:

- Details of the stockpile site;
- Issues observed;
- Corrective action taken; and
- Preventive action.

Inspection reports and non-conformance reports will be forwarded to the Construction Manager or Assistant Construction Manager through the person performing the inspection.