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October 22, 2010

Received

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Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Blvd
Baltimore, Maryland 21230

Subject: Consent Decree, Civil Action JFM-97-558
October 2010 Coke Point Landfill Facility Operations Manual

Dear Ms. Brown:

Enclosed please find the referenced 2010 Coke Point Landfill Facility Operations Manual. The manual provides updated site information, waste acceptance procedures, operating procedures and associated requirements to be implemented at the landfill in support of environmental protection. This revised operations manual is being submitted in conjunction with the compliance work plan requirements for Coke Point Landfill that were approved by the Department in correspondence dated September 9, 2010, specifically incorporating Drawing C-002 as requested in Item 1 and timely completing the requirements detailed in Item 5 of the approval letter.

If you have any questions with respect to the revised Operations Manual, please contact me at (410) 388-6622.

Sincerely,

Russell Becker
Division Manager
Environmental and Engineering Affairs

Enclosures

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COKE POINT LANDFILL FACILITY

OPERATIONS MANUAL

October 2010

SEVERSTAL SPARROWS POINT
1430 Sparrows Point Boulevard
Baltimore, MD 21219

OPERATIONS MANUAL
COKE POINT LANDFILL FACILITY

1.0 INTRODUCTION

1.1 Background

Coke Point Landfill is a solid waste disposal area located within the boundary limits of the Sparrows Point Facility owned and operated by Severstal Sparrows Point, LLC. Operations at Coke Point Landfill include the disposal of acceptable waste materials generated on-site at the Sparrows Point Facility in accordance with the operating procedures and design plans and specifications outlined in this manual. This manual provides procedures and requirements for the landfill including waste acceptance, operating requirements, environmental monitoring and operational restrictions. The operating procedures and design plans and specifications defined in this manual have been developed to meet applicable compliance requirements for operation of the Coke Point Landfill as defined by the Multi-Media Consent Decree for the Sparrows Point Facility dated October 8, 1997.

1.2 Definitions

BF/SP - Blast Furnace/Sinter Plant

BOF - Basic Oxygen Furnace

SSP - Severstal Sparrows Point, LLC

COMAR - Code of Maryland Regulations

CHS - Controlled Hazardous Substances

Facility - Sparrows Point Facility

HCWWTP - Humphreys Creek Wastewater Treatment Plant

Landfill - Coke Point Landfill

MDE - Maryland Department of the Environment

ME&Y - Mobile Equipment and Yard

NAVD (1988) - North American Vertical Datum (1988)

OSHA - Occupational Safety and Health Administration

2.0 SITE INFORMATION

2.1 Responsible Officials

The following is a list of entities involved with the design, operation, maintenance, quality control/quality assurance of the Coke Point Landfill at the Sparrows Point Facility.

1. Operations and Maintenance:

Severstal Sparrows Point
Contact: Maintenance Services Department
Sparrows Point Facility Division Office
1430 Sparrows Point Blvd.
Sparrows Point, Maryland 21224

At the date of this manual the acting area manager is Mr. Norman Miller.

2. Engineer:

Severstal Sparrows Point
Contact: Technical Services Department
Sparrows Point Facility Division Office
1430 Sparrows Point Blvd.
Sparrows Point, Maryland 21224

At the date of this manual the department manager is Mr. Tim Wettlaufer.

3. Environmental Control:

Severstal Sparrows Point
Contact: Environmental Engineering and Affairs
Sparrows Point Facility Division Office
1430 Sparrows Point Blvd.
Sparrows Point, Maryland 21224

At the date of this manual the department manager is Mr. Russell Becker.

4. Material Separation and Iron Bearing Recovery:

Fritz Enterprises, Inc
Contact: Ray Fritz
1650 West Jefferson
Trenton, MI 48183

(734) 362-3200
Local (443) 213-0392

5. Concrete Reclamation

Global Demolition and Recycling, LLC
Contact: Albert Arillotta
Cell Phone: (617) 529-8735
Office: (410) 388-6064
Fax: (410) 388-5619

Corporate Address:
1 Boston Place 40th Floor
Boston, MA 02108

Local Address:
P.O. Box 54
Ft. Howard, MD 21052

2.2 Site Location and Description

The Sparrows Point Facility is located in Baltimore County, Maryland at the southeast corner of the Baltimore metropolitan area, approximately nine miles from the downtown area. The facility occupies all of a peninsula bounded to the west by Bear Creek; to the south by the Patapsco River; and to the east by Jones Creek, Old Road Bay and the city of Edgemere. The facility is approximately 2500 acres. Coke Point Landfill is located at the southwestern edge of the facility adjacent to the Patapsco River.

The existing landfill area is approximately 46 acres with a specific landfill boundary defined as shown on Drawing C-002 attached with this operations manual. The area is characterized by surface materials of slag and miscellaneous fill that were placed during filling operations to provide made land at Coke Point. Filling operations in this area began in approximately 1952 and the extent of the area was generally defined by 1973 as determined by aerial photograph records. Pre-landfilling topographic elevations are approximately 10 to 15 feet. Vegetation is generally not present on the surface slag fill materials.

Current wastes disposed at Coke Point Landfill exhibit irregular side slopes and vertical topographic elevations ranging up to approximately 70 feet. Drawing C-002 shows the topography that was current as of 2008, including surrounding features and lateral extent of the landfill operations. Features of the landfill have not been altered significantly since 2008.

3.0 WASTE ACCEPTANCE PROCEDURES

3.1 Acceptable Wastes

The landfill will only accept solid waste from commercial, industrial, construction, demolition and other activities occurring on the grounds of the facility. The following wastes will be specifically prohibited from disposal at the landfill; specific waste acceptance determinations will be completed by the Environmental Department as applicable;

i) CHS as regulated and listed in COMAR 26.13;

ii) Liquid wastes and wastes containing free liquids;

iii) Infectious waste from hospitals, laboratories, and other health care facilities unless specifically authorized by MDE;

iv) Radioactive materials as defined in COMAR 26.12.01;

v) Septage, sewage sludge, processed sewage sludge, and any other product containing these materials, unless authorized by a sewage sludge utilization permit;

vi) Automobiles;

vii) Drums or tanks, unless empty and flattened or crushed with the ends removed, or empty with the tops removed;

viii) Animal carcasses;

ix) Chemical or petroleum spill cleanup material, unless;

a) The nature of the spilled substance is known;
b) The spill cleanup material is demonstrably not a CHS; and
c) The spilled material is contained in an absorbent of sufficient excess volume that the material deposited at the landfill will not exhibit free liquids as defined in the following section;

x) Facility asbestos waste, until approved in the future by MDE.

3.2 Waste Inspection Program

Solid wastes will be inspected before or during unloading at the landfill to insure that no unacceptable wastes are disposed of at the landfill. The waste inspection program will consist of specific procedures to account for: 1) uniform and thoroughly controlled waste streams and 2) miscellaneous waste streams. The procedures to be followed are as follows;

3.2.1 Uniform and Thoroughly Controlled Waste Streams

Current production rates for the uniform waste streams being disposed of at Coke Point Landfill are estimated as follows:

Construction/Demolition Debris	5,000 tons/year
Slag Skimming Bowl Materials	50,000 tons/year
Steelmaking Rubble Pit Materials	5,000 tons/year

These materials have undergone adequate inspection, regulatory waste determinations and physical/chemical characterizations and will not require inspection personnel to be present during unloading of the wastes at the landfill.

Additional solid waste streams which can be classified as uniform and thoroughly controlled may be generated by future operations. As these waste streams are identified, this operations manual will be modified to identify their routine disposal without further inspection procedures.

3.2.2 Other Waste Streams

Waste streams not identified above will undergo the following inspection program to insure compliance with the acceptable waste restrictions:

1. Waste streams which have previously undergone inspection by the Environmental Department will be accepted at the landfill only on the day shift of operations. Landfill inspection personnel will have the authority to reject incoming loads until adequate inspection has been completed.

2. Waste streams which have not previously undergone inspection will require approval from the Environmental Department before arrival at the landfill. Approval from the Environmental Department may require verification analyses to confirm compliance with acceptable waste restrictions outlined in 3.1 above. These analyses may include Paint Filter Tests, CHS analyses, and/or analyses requested by the MDE to determine suitability for landfilling. Upon approval of the Environmental Department, these wastes will be accepted at the landfill only on the day shift of operations.

3.2.3 Uninspected Waste Unloading Reports

In the event that a load of waste is unloaded at the landfill that has not met the inspection requirements outlined above, it will be evaluated to determine compliance with the acceptable waste restrictions outlined in 3.1 above. A written follow up report will be submitted to MDE within five (5) working days following the incident. The report will provide descriptions of the waste(s) including determinations if the waste is acceptable and describe corrective measures taken or planned, to remove unacceptable waste if encountered.

4.0 OPERATING PROCEDURES

4.1 Waste Placement

The landfill will be operated to minimize air, land, and water pollution, public health hazards, or nuisances. Operating procedures will include:

- control of dust;
- maintenance of sediment and surface water control facilities;
- restriction of access to the landfill;
- regular maintenance and inspection of the landfill;
- environmental monitoring activities

Drawing C-002 specifies the horizontal extent of the landfill. Waste placement at the landfill will be within the horizontal limit as specifically delineated on this drawing. In general, the procedures will be as follows:

- The eastern portion of the landfill is used predominantly for the storage of steel slag materials. Steel slag materials will be identified and relocated for processing at the Phoenix Services location. This activity will be conducted by the on-site steel slag processing contractor. It is anticipated that the site elevation will be approximately 12 feet upon completion of this activity. The resulting subgrade will undergo iron reclamation to recover iron bearing materials with no expected change in the subsequent site grade elevation.

- The northwest portion of the landfill is currently used to store and recover iron from the slag skimmer bowls (kish iron). This activity will continue with additional reclamation of historical as well as as-generated kish iron materials.

- The southwestern portion of the landfill contains miscellaneous waste materials including construction/demolition debris and steelmaking waste materials. This area will undergo reclamation procedures to recover iron bearing and concrete and brick materials and will be used for ongoing waste management.

Operations will consist of the placement and spreading of larger-sized construction and demolition waste materials directly on the fill surface for either disposal or iron/steel reclamation operations. Current methods of operation include overbank spreading and filling to laterally expand the established waste piles. Vertical heights of the waste piles will be maintained at the current elevations until approvals are received for engineering plans being developed for slope stabilization of the landfill facility.

Unloading and operational placement of wastes will be conducted to maintain a limited working face while placing stable, compacted lifts of waste material. Landfill procedures for wastes will involve the following;

- The incoming wastes will be unloaded within an active working face of the landfill and spread with bulldozers to lift thicknesses of approximately 2 feet;

- Compaction efforts will be conducted as feasible based on the bulkiness of materials to provide stable waste lifts. Trackable surfaces will be constructed to support placement of subsequent lifts of waste materials and to ensure landfill stability and safety;

4.2 Material Separation Procedures

Iron bearing materials will be reclaimed and recycled using typical construction equipment including; dozers, excavators, drop ball cranes and a specially designed salvage machine. The salvage machine will be used to magnetically separate iron bearing materials. Separated materials will either be processed further at the hammer mill facility to provide a feed product for the ironmaking operation or be utilized as part of recycled scrap metal at the Basic Oxygen Furnace at the Sparrows Point facility.

Concrete and recyclable construction/demolition debris will be identified and segregated from the feed to the salvage machine. These materials may be transported to the on-site concrete recycling area where further processing (removal of rebar and crushing) can occur to provide a marketable product. Separated materials that will remain as waste will be placed as fill materials within the horizontal limit within the existing footprint of the landfill.

4.3 Covering Procedures

Daily Cover:

No daily or intermediate cover will be required for the acceptable wastes. The anticipated waste types are physically stable, nonputrescible and are not attractants for disease or animal vectors. The active stacking process is essentially a continuous incremental stacking procedure that develops compacted lift surfaces of stable waste materials.

Intermediate and Final Cover

An erosion and sediment and stormwater management design is currently being completed for waste management activities at the landfill as part of the compliance engineering improvements required by the Multi-Media Consent Decree. Upon approval, intermediate cover will be placed on the waste materials in accordance with the design requirements.

The final cover to be utilized on the landfill will be as follows (from top layer downward):

- vegetation support layer consisting of 6 inches of earthen material
- 18 inches of earthen fill;

- drainage layer consisting of 6 inches of granular material exhibiting a permeability of 1 x 10^{-3} cm/sec or greater or equivalent geosynthetic drainage net;
- low permeability cap layer consisting of a minimum of 1 foot of suitable waste material compacted to exhibit a permeability of 1 x 10^{-5} cm/sec or less;

Vegetation shall be established on the final cover. The applicable seeding methods and types to be used for vegetation will be selected in consideration of seasonal and other factors. Specifications for seed mixture applications are included with the sediment and erosion control plan. The plan and schedule for final cover of the landfill has not been determined.

4.4 Grading and Drainage

Interim grading will include side slopes no greater than 3 Horizontal to 1 Vertical. This grading effort will provide interim stability of the existing waste materials while the future landfilling plans are finalized and approved by the appropriate agencies.

Design grading and drainage plans will be submitted to MDE for approval in accordance with schedule requirements outlined in the Coke Point Landfill Work Plan correspondence from MDE dated September 9, 2010. Grading and drainage procedures will be implemented to: a) minimize runoff onto the working faces and other fill areas of the landfill; b) prevent erosion and ponding within the working faces and other fill areas; and c) facilitate runoff from the surface of the landfill.

4.5 Personnel and Equipment

Personnel and equipment will be maintained at the landfill to insure proper operation and prompt attention to correct problems associated with the construction and maintenance of the landfill. The following personnel and equipment will be allocated to this facility during active landfilling operations; current telephone lists will be established and maintained with this Operations Manual:

Personnel: ME&Y or Contracted Equipment Operator(s)

Equipment: Bulldozer (s)
Front End Loader
Water Truck
Excavators and specialized material recovery equipment

Services: Technical Services Engineering Support
Environmental Control Waste Acceptance and Environmental Monitoring Support

4.6 Access Restrictions

The landfill is located entirely within the Sparrows Point facility. Public access to the facility is restricted to established points of entry that are staffed with security personnel. Access to the landfill from the facility will be restricted by an access control berm and entry gate. Supervision will be provided for waste disposal operations within the limits of Coke Point Landfill beyond this gate.

4.7 Scavenging or Salvaging

Scavenging and salvaging of recyclable iron and steel units or products is part of routine recycling and waste minimization procedures at the facility. Some of the acceptable waste streams at the facility contain a percentage of iron and steel units which may contain recoverable value. Dependent upon economic conditions, reclamation operations for particular waste streams will be conducted as outlined in this manual and previously authorized by MDE

Routine salvaging of recoverable iron and steel units will be conducted within the landfill boundary. Areas for salvaging are clearly designated and will remain separate from the working face and disposal area of the landfill.

4.8 Operational Restrictions

The following operational restrictions will be complied with during the life of the landfill facility:

- Burning - Solid waste will not be burned at the landfill except as permitted by MDE.

- Operating an Open Dump - Open dumping will not be permitted at the landfill;

- Explosive Gases - The landfill will not be designed or operated in such a manner that the concentration of explosive gases generated by a unit exceeds twenty-five percent (25%) of the lower explosive limit for the gases inside of a structure, excluding gas control or recovery system components, and the lower explosive limit for the gases at the property boundary.

5.0 ENVIRONMENTAL PROTECTION

5.1 Landfill Operation Requirements

Stormwater Control

Stormwater runoff will be managed with the maintenance of a perimeter berm structure that prevents runoff and retains stormwater. An erosion and sediment and stormwater management design is being completed for future waste management activities at the landfill as part of the compliance engineering improvements required by the Multi-Media Consent Decree. It is anticipated that this design will be completed and approved by Maryland Department of the Environment and the Baltimore County Soil Conservation District as defined in correspondence from MDE dated September 9, 2010. Upon approval, stormwater improvements will be constructed as appropriate for future use of the facility.

Dust Control

Dust will be controlled from landfilling and the material recovery operations including waste and material transport activities. Dust abatement will include the use of road watering equipment and truck mounted water cannons to be used as necessary at the working face and during the material separation process at Coke Point Landfill. Fugitive emissions from the on-site processing equipment including the hammer mill and concrete crusher will be controlled in accordance with the air permits that have been issued for the equipment.

Odor Control

Odor is not anticipated to be an issue based on the inert nature of waste materials typically disposed at Coke Point Landfill. If required, odors will be controlled using acceptable odor control products such as granular and liquid odor suppressants.

Litter Control

Litter control is not anticipated to be a concern at the landfill. The anticipated waste streams do not contain wastes (paper or lightweight materials) which would require windblown litter controls.

5.2 Environmental Monitoring Requirements

Environmental monitoring requirements will include provisions to periodically collect and analyze groundwater and surface water runoff related to the landfill.

Groundwater Monitoring

The monitoring program to initially determine the impact of the landfill on the groundwater will include an initial phase that will identify monitoring wells that are properly located to

assess groundwater conditions at the landfill. The process will include an assessment of the condition and accessibility of the monitoring wells.

After completion of the inventory, a groundwater monitoring program will be implemented consistent with the process that has been completed at Greys Landfill. The program will consist of quarterly groundwater monitoring for an initial year with submission of semi-annual reports. Adjustments to the program will be made as appropriate upon review of the results obtained for the initial year.

Surface Water Runoff

Current stormwater management practices at Coke Point Landfill include on-site retention and solids filtration. Stormwater is retained through the use of impervious dike structures that have been constructed in low areas susceptible to overland runoff. Solids filtration is accomplished with the use of gravel filter berms installed where potential runoff from access roads or the landfill could occur.

When landfill facility improvements are designed and installed in the future, and if the improvements require stormwater outlet structures or outfalls, a sampling plan for this discharge point(s) may be implemented to monitor stormwater. In addition, changes to the site stormwater controls will be included in the facility's NPDES Stormwater Pollution Prevention Plan.