

Attachment B

Facility Description

TABLE OF CONTENTS – ATTACHMENT B

B. FACILITY DESCRIPTION	1
B-1 General Description.....	1
B-2 Topographic Map	3
B-2a General Requirements	3
B-2b Additional Requirements for Land Disposal Facilities	5
B-3 Location Information.....	5
B-3a Seismic Standard	5
B-3b Floodplain Standard.....	5
B-3b(1) Demonstration of Compliance	5
B-3b(1)(a) Flood Proofing and Flood Protection Measures	5
B-3b(1)(b) Flood Plan.....	6
B-3b(2) Plan for Future Compliance with Floodplain Standard	6
B-3b(3) Waiver for Land Storage and Disposal Facilities	6
B-4 Traffic Information.....	6
B-4a Road Construction and Bearing Capacity	7
B-5 Exposure Information Report	7

List of Tables

Table B-1a:	Hazardous Waste Streams Generated at the Midwest Plant
Table B-1b:	Typical Industrial, Nonhazardous Waste Streams and Sewage Sludge Generated at Midwest Plant

List of Figures

Figure B-1:	Regional Topographic and Site Location Map
Figure B-2:	Hazardous Waste Treatment and Disposal Schematic
Figure B-3:	Wind Rose Data

B. FACILITY DESCRIPTION

This attachment provides a general description of the facilities and operations at United States Steel Corporation's Midwest Plant (Midwest Plant) located in Portage, Indiana (see **Figure B-1**). Specifically, this attachment includes a brief description of the existing production facilities and waste generation and management facilities. Conformance with the seismic and floodplain standards of 40 CFR 270.14(b)(11) and 329 IAC 3.1-13-1 is described in this attachment. Traffic routes are also discussed.

B-1 General Description

The United States Steel Corporation is predominantly a steel manufacturing company. The Midwest Plant is a steel finishing facility located in Portage, Indiana. Raw product in the form of hot rolled coils is received from other facilities and subjected to supplemental processing. No basic steel production takes place at the Midwest Plant.

Most of the raw product is processed through the Continuous Pickle Line and one of two Cold Reduction Mills. Continuous pickling with hydrochloric acid removes the oxides deposited on the steel surface during the hot rolling operation. Cold rolling reduces the thickness of the sheets. Following cold reduction, a portion of the product is directed to one of the following lines:

- 72-inch Galvanize Line (No.2 Galvanizing Line); or
- No. 3 Galvanize Line.

In addition, another portion of the product will be further processed prior to electroplating on one of the following lines:

- Electrolytic Tinning Line; or
- Chrome Line (also known as Tin Free Steel – TFS).

The 72-inch and No. 3 Galvanizing Lines apply a coating of zinc to pre-heated steel strip by passing the strip through a pot of molten zinc. The No.3 Galvanizing Line has a pot of aluminum-zinc for galvanizing. The Electrolytic Tinning line applies tin to steel strip using methane sulfonic acid.

Tin plated and galvanized strips can also be passed through chemical treatment baths on their respective lines to apply a thin coating of chrome. In addition, the No. 3 Line has the capability to apply an acrylic coating. Similarly, the 72" line has the capability to apply a zinc-phosphate coating. Wastes from the acrylic and zinc phosphate operations are sent offsite for treatment and disposal (see **Figure B-2**).

Steel strip is electroplated with chrome in the Chrome Line (TFS). The strip is passed through five vertical electroplating tanks where chrome is applied to the strip on both sides.

Acid cleaning of steel with sulfuric acid is performed at the Electrolytic Tinning Line and the Chrome Line (TFS). Caustic cleaning is performed at each of the four lines discussed above. In addition, caustic cleaning is performed on the Electrolytic Cleaning Line and the Continuous Anneal Line.

Hazardous wastes generated at the Midwest Plant are summarized in **Table B-1a**. Hazardous waste to be disposed in the Greenbelt II Landfill may include F006 waste. Various industrial, nonhazardous, solidified sludges and residues are also generated at the Midwest Plant and may be disposed of in the Greenbelt II Landfill (see **Table B-1b**). A schematic representation of the wastes managed at the Midwest Plant is provided in **Figure B-2**. In addition, possible hazardous and nonhazardous wastes encountered at Solid Waste Management Units (SWMUs) may be disposed in the Greenbelt II Landfill, if results of the RCRA Facility Investigation (RFI) require soil excavation and disposal. This is discussed further in Section C-1d of Attachment C.

F006 listed hazardous waste is generated during the treatment of chromium plating operations wastewaters. Various chromium-bearing wastewaters are routed to the Chrome Treatment Plant, then reduced from hexavalent to trivalent chromium (chrome reduction). Then the Chrome Treatment Plant employs chemical precipitation to remove metals from the wastewater. Precipitate generated by the chemical precipitation process is pumped to a mechanical dewatering system to be pressed into a filter cake. The sludge filter cake will be captured, then either transported to the Greenbelt II Landfill or transported to an off-site location for appropriate management.

The waste streams shown in **Figure B-2** may be accumulated onsite for up to 90 days or treated at the facility's NPDES-permitted wastewater treatment system. A description of the waste

materials that may be placed in the Greenbelt II Landfill is provided in Section C-1d of Attachment C of this Permit.

B-2 Topographic Map

B-2a General Requirements

The topographic map information required by 40 CFR 270.14(b)(19) and (c)(2) and (3) and 329 IAC 3.1-13-1 is summarized in this section. The specific regulatory requirements for the topographic map are listed below, followed by the specific location within the Permit where the information satisfying the requirement is provided.

The majority of the requirements are satisfied with the following items:

1. Topographic map included in **Appendix E-5**, which shows areas within 1,000 feet of the Greenbelt II waste management area at a scale of 1" = 200'; and
2. **Figure B-1**, which shows areas within 1,000 feet of the legal property boundary at a larger scale.

Multiple figures are utilized to satisfy the requirements due to the size of the facility. According to 40 CFR 270.14(b)(19), "For large HWM facilities the Agency will allow the use of other scales on a case-by-case basis." Given the large size of the USS Midwest Plant, it is impractical and unnecessary to show a topographic map at a distance of 1,000 feet around the legal property boundary at a scale of 1" = 200'. Therefore, the requirement for a topographic map at a distance of 1,000 feet around the legal property boundary is intended to be satisfied with **Figure B-1**.

Compliance with the features required by 40 CFR 270.14(b)(19) for areas within 1,000 feet of the waste management unit is demonstrated as follows:

- A scale of 1 inch equal to no more than 200 feet (**Appendix E-5**);
- The 100-year floodplain area (**Appendix E-5**);
- Surface waters, including intermittent streams (**Appendix E-5**);
- Surrounding land uses (**Appendix E-5** and **Figure B-1**);
- A wind rose (prevailing winds speed and direction) (**Figure B-3**);
- A North orientation (**Appendix E-5**);
- The legal boundaries of the hazardous waste management facility site (**Appendix E-5**);

- Access control, such as fences and gates (**Appendix E-5**);
- On-site and off-site injection and withdrawal wells (**Appendix E-5**);
- All buildings, treatment, storage and disposal operations, and other structures (**Appendix E-5**);
- Drainage and flood control barriers (**Appendix E-5**);
- Locations of all operational units that treat, store, or dispose of waste (**Appendix E-5**); and
- Locations of all solid waste management units (**Figure B-1** and **Figure J-1**). Separate figures are required because one of the active solid waste management units is located greater than 1,000 feet from the waste management unit.

Compliance with the features required by 40 CFR 270.14(b)(19) for areas within 1,000 feet of the legal property boundary is demonstrated as follows:

- 100-year floodplain area is shown on **Sheet 23**;
- Surface waters are shown on **Figure B-1**;
- Surrounding land uses are shown on **Figure B-1**;
- Wind rose is provided on **Figure B-3**;
- North arrow is included on **Figure B-1**;
- Legal boundaries are shown on **Figure B-1**;
- Access control features (i.e., facility fence) are shown on **Figure B-1**;
- Known water wells are shown on **Figure B-1**;
- Buildings and structures are shown on **Figure B-1**;
- Sewers (storm, sanitary and process) are shown on the drawings contained in **Appendix B-2**. Because of the dense network of sewers, they could not be shown neatly on **Figure B-1**;
- Area for loading F006 sludge is shown on **Figure B-1** (unloading areas limited to area shown on drawing in **Appendix E-5**); and

- There are no flood control or drainage barriers, run-off control systems, or proposed new and existing hazardous waste management units within the above area.

B-2b Additional Requirements for Land Disposal Facilities

The waste management area, property boundary, point of compliance, and location of groundwater monitoring wells is also shown on the Topographic Map in **Appendix E-5**. The uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such information is contained in the Hydrogeologic Assessment Reports at **Appendix E-1** through **E-4** of the Permit. To date, groundwater monitoring data has indicated no release has occurred from the Greenbelt II Landfill. Therefore, the extent of the plume of contamination that has entered the groundwater from the regulated unit cannot be presented.

B-3 Location Information

B-3a Seismic Standard

The Midwest Plant is located in Porter County, Indiana. This political jurisdiction is not listed in Appendix VI of 40 CFR Part 264 and 329 IAC 3.1-9-1. Therefore, no further information is required to demonstrate compliance with the seismic considerations of 40 CFR 264.18(a) and 270.14(b)(11) and 329 IAC 3.1-9-1 and 3.1-13.

B-3b Floodplain Standard

B-3b(1) Demonstration of Compliance

The Greenbelt II Landfill does not lie within a 100-year floodplain. Documentation in the form of the appropriate FEMA Flood Insurance Rate Maps (FIRM) for the facility and surrounding areas is provided as **Sheet 23** in the Drawing Set. The effective date for the FIRM is September 2022. The latest version of the Flood Insurance Rate Maps for Porter County are overlain on an aerial photograph.

As can be seen on **Sheet 23**, the Burns Waterway is adjacent to the plant property. However, the 100-year floodplain is contained within the channel as shown on **Sheet 23**. Therefore, none of the property owned by the permittee is subject to inundation by a 100-year flood event.

B-3b(1)(a) Flood Proofing and Flood Protection Measures

Since the Greenbelt II Landfill is not located within a floodplain, this section does not apply.

B-3b(1)(b) Flood Plan

Since the Greenbelt II Landfill is not located within a floodplain, this section does not apply.

B-3b(2) Plan for Future Compliance with Floodplain Standard

Since the Greenbelt II Landfill is not located within a floodplain, this section does not apply.

B-3b(3) Waiver for Land Storage and Disposal Facilities

Since the Greenbelt II Landfill is not located within a floodplain, this section does not apply.

B-4 Traffic Information

Facility roads approaching the Greenbelt II Landfill are shown on the Topographic Map in **Appendix E-5**. Stop signs or yield signs are posted at intersections.

When the F006 filter cake is disposed at the Greenbelt II Landfill, approximately two to four truckloads of stabilized, dewatered sludge per month are typically hauled from the Chrome Treatment Plant to the Greenbelt II Landfill. The haul routes are located entirely within the boundaries of the U. S. Steel Midwest Plant property. No dewatered sludge is transported over public access roadways. The haul route within a 1,000 foot radius of the Greenbelt II Landfill is shown on the Topographic Map in **Appendix E-5**.

Typically, roadways consist of a 22-foot-wide bituminous wearing course with 8-foot shoulders on each side. The pavement was constructed in the early 1960s according to the State Highway Department of Indiana Standard Specifications (1957) for bituminous concrete pavement and consisted of the following:

- 1-inch Wearing Course (hot asphaltic concrete surface);
- 2-inch Binder Course (bituminous binder course);
- 10-inch Crushed Aggregate Base Course (compacted aggregate base course); and
- Prepared subgrade.

Within the limits of the Greenbelt II Landfill, vehicular access is provided by the use of temporary slag roads and unloading pads. Typically, the access road is a maximum of 2.0 feet of coarse graded slag bearing on the hard compacted solidified sludge mixture. Because of the minimal height of the access road above the base slope, instability is not a potential failure mechanism, and therefore, slope stability analyses are not required. Bearing capacity analyses

(included as **Appendix B-1**) show the slag haul roads and unloading pads to possess adequate bearing strength to safely support waste hauling vehicles.

B-4a Road Construction and Bearing Capacity

Roads will be constructed of coarse slag or alternate material capable of supporting the trucks, while minimizing drag out of waste materials. Roads will have a maximum 2.0 feet of slag bearing on either the hard, compacted, solidified sludge or compacted cover sand except over leachate piping where a minimum of 3.0 feet of slag is recommended. In either case, roads will not extend greater than 4.0 feet above the surrounding grade. Because of the minimal height of the access road above the surrounding base slope, instability is not a potential failure mechanism, and therefore, slope stability analyses are inappropriate. Slope stability of the elevated, permanent road within the bench in the cover is provided for in the landfill slope stability calculations presented in **Appendix D-2**. Bearing capacity calculations of the slag roads are provided in **Appendix B-1**.

B-5 Exposure Information Report

Part B Permit Applications submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner and operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. An Exposure Information Report is contained in **Appendix B-3**.

Attachment B – Facility Description
TABLES

TABLE B-1a

HAZARDOUS WASTE STREAMS GENERATED AT THE MIDWEST PLANT

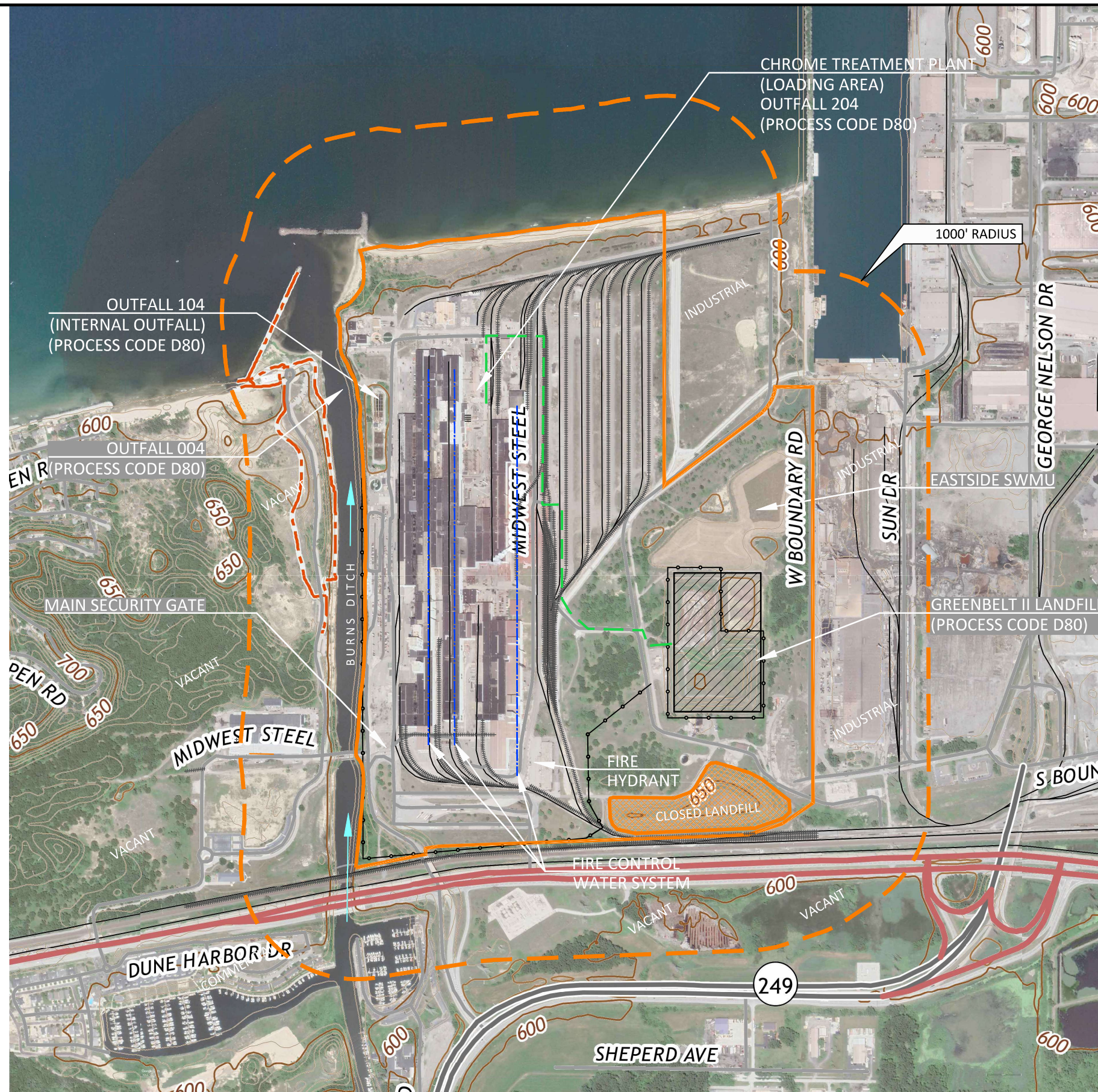
Waste	EPA Waste Code	Source
Chrome Contaminated Debris	D007	Chrome Line, 72" (No. 2) and No. 3 Galvanizing Line and Tin Line
Spent Zinc Phosphate & Chem Treat Solution	D002/D007	72" (No. 2) Galvanizing Line
Roll Shop Swarf	D007	Roll Shop
Chromic acid	D002/D007	Chrome Line
Chrome treatment sludge	F006	Chrome Treatment Plant

Note: Streams listed above disposed off-site.

TABLE B-1b
TYPICAL INDUSTRIAL, NONHAZARDOUS WASTE STREAMS GENERATED
AT THE MIDWEST PLANT

Waste	Source
Oil Reclaiming Waste Sludge	Oil Separation/Recovery Contractor
Metal Fines and Spent Oil Dry	Plant-wide
Machine Shop Metal Fines	Machine Shop Grinding
Rolling Oil	Tandem Mills and Temper Mills and other hydraulic systems
Contaminated Soil	Miscellaneous Spills/Releases
SWMU Remediation Waste	Historical or Active SWMUs
Cleaner and Acid Cleaning Sludges	Sheet and Tin Operations
Wastewater Treatment Sludge	Final Wastewater Treatment Plant

Attachment B – Facility Description
FIGURES



- LEGEND**
- APPROXIMATE PROPERTY BOUNDARY
 - FENCE
 - TYPICAL HAUL ROUTE
 - FIRE CONTROL WATER SYSTEM
 - RAILROAD TRACKS
 - DIRECTION OF FLOW IN SURFACE WATER
 - OWNED BY OTHERS, NOT THE PERMITTEE
- SURROUNDING LAND USE: INDUSTRIAL OR AS NOTED

NOTES:

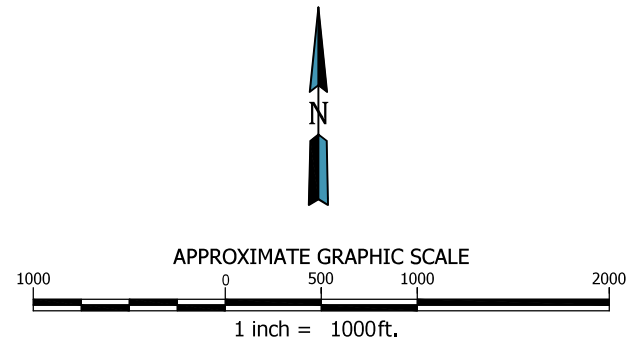
ALL LOCATIONS ARE APPROXIMATE NO EXISTING OR PROPOSED INTAKE STRUCTURES SUBJECT TO RCRA REGULATIONS ARE PRESENT.

NO DRINKING WATER WELLS WITHIN 1/4 MILE OF FACILITY HAVE BEEN IDENTIFIED IN THE PUBLIC RECORD OR ARE OTHERWISE KNOWN TO THE PERMITTEE.

LEGAL FACILITY BOUNDARY ADAPTED FROM DRAWING 901-0171, TOPO & PROPERTY MAPS FROM DLZ INDUSTRIAL, LLC DATED JUNE 4, 2003.

CONTOUR AND TOPOGRAPHIC INFORMATION ADAPTED FROM THE OGDEN DUNES (DATED 2022) AND PORTAGE, INDIANA (DATED 2022) USGS 7.5 MINUTE SERIES QUADRANGLES, CONTOUR INTERVAL: 10 FT.

AERIAL IMAGE BASED FROM GOOGLE EARTH IMAGERY DATED JULY 2022.

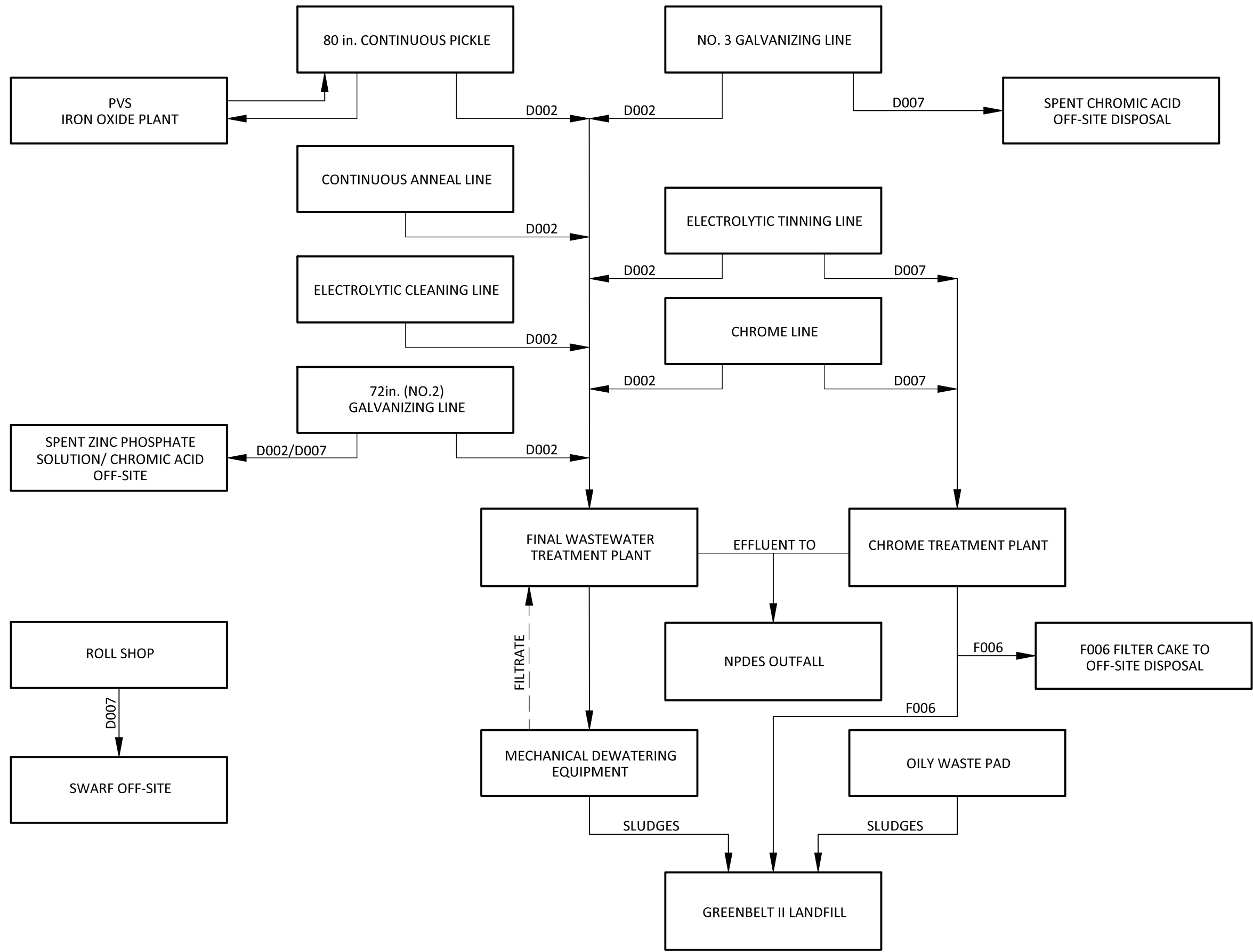


REGIONAL TOPOGRAPHIC & SITE LOCATION MAP
 UNITED STATES STEEL
 MIDWEST PLANT
 PORTAGE, IN

REUSE OF DOCUMENTS
 THIS DOCUMENT, AND THE DESIGN INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF WEAVER CONSULTANTS GROUP, AND IS NOT TO BE USED IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF WEAVER CONSULTANTS GROUP.



DRAWN BY: RMD
 REVIEWED BY: JK
 DATE: 8/7/2023
 FILE: 1146-301-01
 CAD: SiteLayout.dwg
FIGURE B-1



PREPARED FOR:



HAZARDOUS WASTE TREATMENT AND DISPOSAL SCHEMATIC
 UNITED STATES STEEL
 MIDWEST PLANT
 PORTAGE, IN

REUSE OF DOCUMENTS
 THIS DOCUMENT, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF WEAVER CONSULTANTS GROUP, AND IS NOT TO BE USED IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF WEAVER CONSULTANTS GROUP.

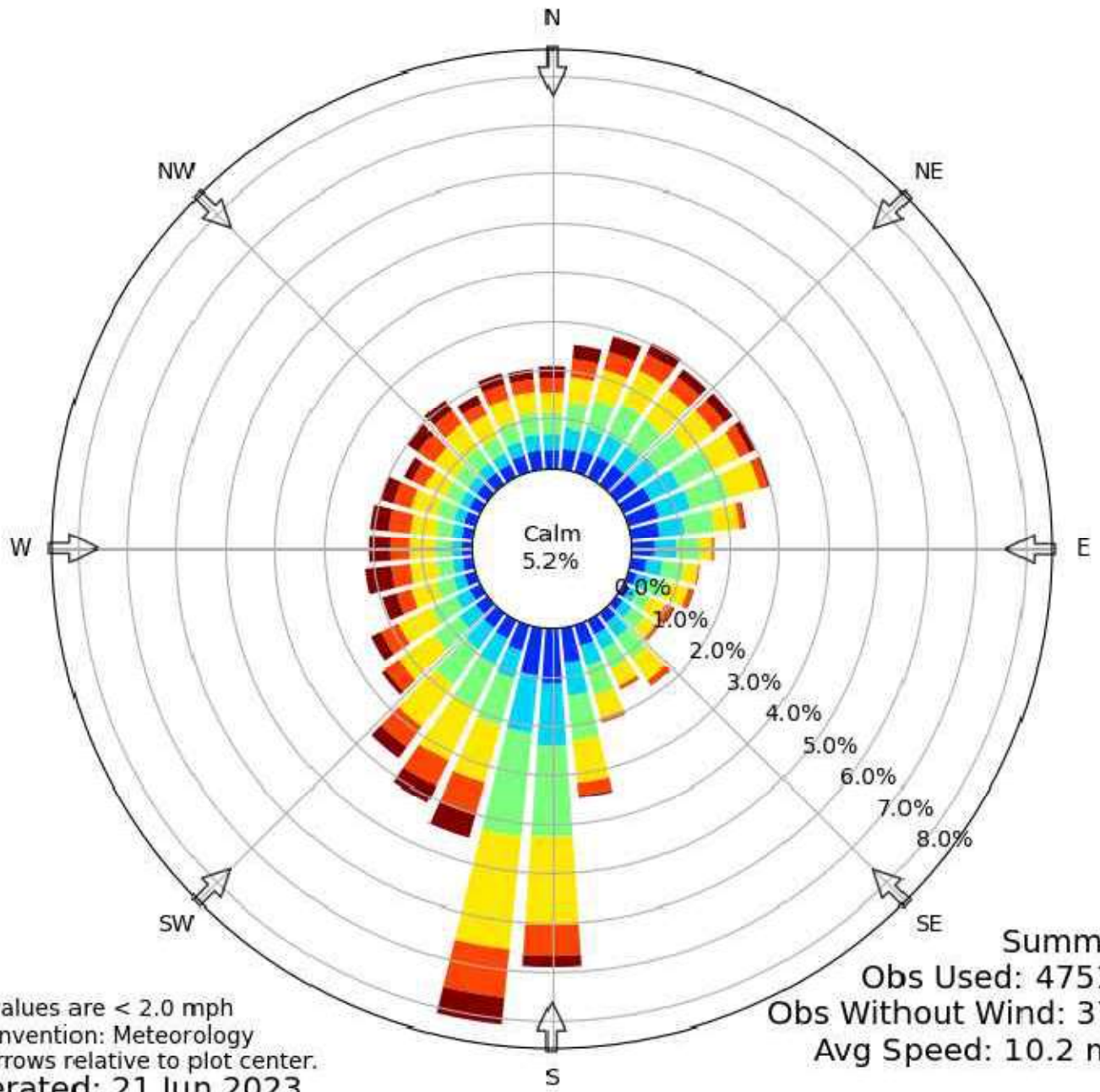


Weaver Consultants Group
 CHICAGO, ILLINOIS
 (312) 922-1030 www.wcgrp.com

DRAWN BY: RMD
REVIEWED BY: MM
DATE: 9/13/2023
FILE: 1146-301-01
CAD: SiteLayout.dwg
FIGURE B-2

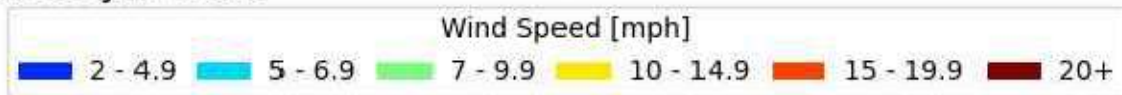


Windrose Plot for [BHRI3] BURNS HARBOR
 Obs Between: 01 Jan 2012 12:10 AM - 01 Oct 2022 11:50 PM America/Chicago



Calm values are < 2.0 mph
 Bar Convention: Meteorology
 Flow arrows relative to plot center.
 Generated: 21 Jun 2023

Summary
 Obs Used: 475108
 Obs Without Wind: 3779
 Avg Speed: 10.2 mph



SOURCE: DATA BY IOWA STATE UNIVERSITY ENVIRONMENTAL MESONET, <http://mesonet.agron.iastate.edu/>, DATED OCTOBER 2022.
 COPYRIGHT © 2023 WEAVER CONSULTANTS GROUP. ALL RIGHTS RESERVED.

PREPARED FOR:



WIND ROSE DATA

UNITED STATES STEEL
 MIDWEST PLANT
 PORTAGE, IN

REUSE OF DOCUMENTS

THIS DOCUMENT, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF WEAVER CONSULTANTS GROUP, AND IS NOT TO BE USED IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF WEAVER CONSULTANTS GROUP.



Weaver
 Consultants
 Group

CHICAGO, ILLINOIS
 (312) 922-1030 www.wcgrp.com

DRAWN BY: RMD
 REVIEWED BY: JK
 DATE: 8/7/2023
 FILE: 1146-301-01
 CAD: SiteLayout.dwg

FIGURE B-3

APPENDIX B-1

Road Bearing Capacity Calculations

See VFC Document # [83546904](#), pages 234 – 238

APPENDIX B-2

Facility Drawings Showing Sewers

See VFC Document # [83546904](#), pages 239 - 241

APPENDIX B-3

Exposure Information Report

See VFC Document # [82571970](#), pages 241 – 268