Emissions Minimization Plan

Regulation 6, Particulate Matter, Rule 4
Metal Recycling and Shredding Operations

Schnitzer Steel Products Company
dba Radius Recycling
District Site #208
1101 Embarcadero West
Oakland, CA 94607
December 2023

☒ Public Copy
☐ Confidential Copy

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Attachments

Responsible Manager Certification
6-4-404.1

I, as the Responsible Manager of this facility, hereby certify that as of this date, this Emissions Minimization Plan contains all elements and information required of a complete EMP pursuant to District Regulation Section 6-4-403 and that the information contained in this EMP is accurate.

Certified by: Daniel Woltmann _____ *Dated:* 12-6-23

Dan Woltmann, Regional General Manager

Responsible Manager

Designation of Confidential Business Information

Describe the information you designate as “CONFIDENTIAL” that is trade secret or otherwise exempt under law from public disclosure. Specify what is “CONFIDENTIAL” and include specific section(s) and corresponding page number(s).

Name of Section / Page Number(s)	Description of Confidential Information

Company Description

Schnitzer Steel Products Company (Facility) dba Radius Recycling owns and operates a scrap metal recovery and recycling facility occupying approximately 26.5 acres of flat-lying land adjacent to the Oakland Inner Harbor waterfront and the Port of Oakland. The facility is bounded to the south by the Oakland Inner Harbor, to the east and west by the Port of Oakland, and to the north by Embarcadero West and Union Pacific Railroad tracks. Facility's operations are limited to scrap metal recycling. Facility does not engage in the recycling of secondary materials or wastes other than those that are generated incidentally in the course of scrap metal recycling operations.

Operations at the site include shredding of light iron products including automobiles (Autobodies), appliances, and other recyclable light steel materials (Tin/Light Iron); shearing and torch cutting of recyclable unprepared Heavy Melting Steel (HMS) products or Bonus or thick structural steel; preparation and sorting of ferrous and non-ferrous metal recycling feedstock; temporary storage of finished recycled metal products, incidental non-metal recyclable products and non-recyclable waste materials, and maintenance of facility equipment. Raw bulk scrap is delivered to the Facility by both rail and truck at the main commercial entrance where it is inspected and sorted.

Incoming bulk scrap metal is segregated into the following material streams:

- Unprepared Bonus or HMS material that will be processed by torch or shear cutting into smaller sizes for shipment;
- Prepared finish grade Bonus that is delivered will be processed by shear cutting into smaller sizes for shipment; and
- Shredder feed material consisting of light iron products including end-of-life depolluted automobiles and appliances, and other recyclable light steel materials.

At the shredder, light iron products are shredded so that ferrous metal can be isolated from nonferrous metals and residual non-metallic materials. The intermediate non-ferrous stream resulting from shredding operations is known as Non-Ferrous Raw (NFR), which consists of both non-ferrous metal, resdual ferrous metal, and non-metallic materials. NFR is processed further in the Joint Products Plant where non-ferrous metal is separated by metal type from non-metallic materials. Upon completion of the non-ferrous separation processes, the shredder residue is then treated with cement and silicate, which binds trace remnant metals in the residue to reduce their solubility. The Chemically Treated Metal Shredder Residue (CTMSR) is transported by truck to off-site disposal locations for use as alternate daily landfill cover.

The processed ferrous scrap is stockpiled at the Facility and is eventually loaded at the Facility's dock into cargo ships for export.

Company Organizational Chart and Schedule of Management Operators
6-4-403.1.3

A. *Company Organizational Chart* - Attach a copy of the organizational chart of the company, which describes the business structure and includes the name of the facility's Responsible Official. Label the attachment with the corresponding Attachment #.

Attachment # 1

B. *Schedule of Management Operators* - Provide the names and contact information of the Onsite Responsible Manager(s) and Onsite Alternate Contact(s) and their duty schedule.

Onsite Responsible Manager(s)

Facility Security
Main Gate
Phone: 707-608-8651

Name: Dane Morales
Title: General Manager
Phone: 510-774-5544
Email: dmorales@rdus.com
Schedule/Shift: M – F / Variable

Name: Chris Romrell
Title: Senior Asset Manager
Phone: 510-325-0973
Email: cromrell@rdus.com
Schedule/Shift: M – F / Variable

Name: Brian Pelech
Title: Safety Representative
Phone: 510-851-3403
Email: bpelech@rdus.com
Schedule/Shift: M – F / Variable

Onsite Alternate Contact(s)

Name: Patrick Lemos
Title: Non-Ferrous Recovery Manager
Phone: 415-517-4247
Email: plemos@rdus.com
Schedule/Shift: M – F / Variable

Name: Andrew Ward
Title: Ship Loading Operations Manager
Phone: 510-499-3257
Email: award1@schn.com
Schedule/Shift: M – F / Variable

Name: Mark Silverman
Title: Regional Environmental Manager
Phone: 415-271-1362
Email: msilverman@rdus.com
Schedule/Shift: M – F / Variable

Operations Subject to EMP
6-4-402

The EMP shall address all of the following operations that are conducted at the metal recycling and shredding facility per 6-4-402 to reduce fugitive emissions.

Please check all facility operations that apply.

402.1	Roadways and Other Trafficked Surfaces	☒ Yes ☐ No
402.2	Metal Management	☒ Yes ☐ No
402.3	Shredder Residue (SR) Management	☒ Yes ☐ No
402.4	Depollution Operations	☒ Yes ☐ No

Contents of the EMP
6-4-403

The owner or operator of the metal recycling and shredding facility subject to Regulation 6-4 shall prepare a complete and accurate EMP that details the management practices, measures, equipment and procedures that are employed or scheduled to be implemented to minimize fugitive emissions for the operations subject to the EMP.

A. Metal Recycling and Shredding Operations

I. Metal Management - List and provide a description of all process equipment, materials received, processed or stored, abatement and control equipment and monitoring parameters to reduce fugitive emissions. Include a comprehensive list of all abatement and control equipment for operations subject to 6-4-402 and specify the source(s) that it abates. Metal Management includes operations related to Roadways and Other Trafficked Surfaces per Regulation 6, Rule 4, Section 402.1.

II. Shredder Residue (SR) Management - Identify the equipment or structures that are used in the management of shredder residue, including the treatment process used to reduce the leaching potential of residual soluble metals in the residue.

III. Depollution Operations - Describe policies and procedures pertaining to: 1) the safe removal of materials from major appliances and vehicles that require special handling prior to crushing or transferring to balers or shredders for recycling; and 2) special handling of these materials if discovered during the recycling process.

B. Scrap Acceptance Policy (6-4-403.3) - Provide and attach a copy of the facility's scrap acceptance policy.

C. Management Practices to Reduce Fugitive Emissions - List and provide descriptions of all management practices conducted, including preventative maintenance activities, pollution prevention, housekeeping and source reduction measures to reduce fugitive emissions of particulates. Include the frequencies or circumstances when these measures and practices are undertaken (schedule of activity).

D. Description of Onsite Management and Schedule of Facility Operations - Describe the onsite management practices of metal recycling and shredding operations to reduce fugitive emissions, including those during business hours and after the close of business. Provide the approximate schedule of operations.

Metal Recycling and Shredding Operations

I. Metal Management

METAL MANAGEMENT

Provide a description of metal management operations which include the receipt, on-site transport, collection, sorting, segregation, separation, compilation, crushing, shredding, and storage of metals, metal-containing materials, and non-metallic materials at the metal recycling and shredding facility. Include all abatement and monitoring parameters that are employed.

Section #	Operation	District S#	Description of Operation	Source Abated	District A#	Abatement Required by Permit	Type of Abatement	Abatement Monitored	Monitoring Parameters
1	Receipt		Incoming scrap metal loads via trucks or rail mixed with excessive amounts of soil, trash or debris are rejected unless the scrap metal can be isolated from the incoming load prior to acceptance of the load; soil, trash and debris are rejected.	☒ Yes ☐ No		☐ Yes ☒ No	Visual inspection of incoming loads. Source Control Program and suppliers have Hazardous Substance Removal Compliance Contracts (HSRCCs) in place.	☒ Yes ☐ No	Visual inspection of all loads and rejection of all or part of loads that contain prohibited materials.
2	Transport		Transport of material is conducted using tractor trailers or rail during delivery (receipt) of material. Internally, material is transported using Terex mine trucks, front end loaders, grapple-equipped material handlers, skip pan loader, and conveyor belt systems. (Note: Facility considers Transport and Collection to be similar activities)	☒ Yes ☐ No		☐ Yes ☒ No	Water is sprayed on the ship loading skip pan during loading to prevent dust emissions. Sweeper truck cleans all paved roadways, concrete pier, and Embarcadero West per Sweeping SOP. The water trucks wet surfaces within the facility, minimizing the mobilization of dust during transport. Wheel washers at concrete pier and front gate washes truck tires before trucks enter the concrete pier or exit the facility. These BMPs remove sediment from truck tires leaving the facility and entering the pier area. Water trucks spray loads/scrap when dropped or moved.	☒ Yes ☐ No	Visual observation of Embarcadero West outside the main gate and on the concrete pier to assure that no excess dust is present. Visual observation to confirm that road cleaning is effective within facility and on Embarcadero West. Monthly storm water BMP inspections conducted by REM to confirm wheel washers and sweeping vehicles are maintainced properly to assure proper dust control on pier and front/pier wheel washers (records maintained in REMs office). Regular inspection of pier and front gate wheel washers by Operations (inspection records maintained in Work Order system). Routine maintenance is conducted on sweepers by Operations (service records maintained in Work Order System). Sweeping and watering logs are maintained per SOP. Records are maintained in Operations Department.
3	Collection		Collection of material is conducted using tractor trailers or rail during delivery (receipt) of material. Internally, material is transported using Terex mine trucks, front end loaders, and	☒ Yes ☐ No		☐ Yes ☒ No	Water trucks spray loads when dropped and piles as needed to reduce potential dust. Stationary water	☒ Yes ☐ No	Visible observation for dust.

Section #	Operation	District S#	Description of Operation	Source Abated	District A#	Abatement Required by Permit	Type of Abatement	Abatement Monitored	Monitoring Parameters
			grapple-equipped material handlers. (Note: Facility considers Transport and Collection to be similar activities)				cannons, fog cannons or misters, or water trucks spray piles.		
4	Sorting / Segregation		Segregation of material involves stockpiling different grades of ferrous metal such as shred, prepared HMS, unprepared HMS, bonus grade HMS, Non-Ferrous Raw (NFR), and Shredder Infeed Material (Tin/Light Iron, Autobodies). Tractor trailers and rail cars deliver materials. Metal is transported internally using Terex mine trucks, material handlers, and conveyor belt systems.	☒ Yes ☐ No		☐ Yes ☒ No	Stationary water cannons, fog/misters, or water trucks spray loads or piles during/prior to transport.	☒ Yes ☐ No	Visible observation for dust.
5	Separation	11, 12	Separation involves processing downstream from the shredder, utilizing a magnetic drum to separate ferrous metal from Non-Ferrous Raw (NFR). Additionally, recoverable non-ferrous and ferrous material is separated from NFR in the Joint Products Plant.	☒ Yes ☐ No		☒ Yes ☐ No	Shredder infeed material is wetted thoroughly with water and fire retardant foam in the shredder as it is conveyed to the rotating magnetic drum. Shredder is fully enclosed with particulate and VOC emission control systems (RTOs). The Joint Products Plant (JPP) is fully enclosed with particulate filter baghouse to collect dust (Exempt).	☒ Yes ☐ No	Visual observation for dust. See Section #8 for shredder monitoring.
6	Compilation		Compilation includes the stockpiling of finished shredded ferrous metal. This is transported via Terex truck to ship. Stockpiling of finished non-ferrous metal (Zorba) is loaded into containers and transported off-site via truck.	☒ Yes ☐ No		☐ Yes ☒ No	Water spray: Shredded product storage pile is water spray-controlled by mobile and/or stationary waterspraying equipment in loading areas. Dust Boss (mister) sprays piles during loading.	☒ Yes ☐ No	Visible observation for dust.
7	Crushing		This facility operates no crushing equipment.	☐ Yes ☐ No		☐ Yes ☐ No		☐ Yes ☐ No	
8	Shredding	6	Shredding is the feeding of tin and light iron (Tin/Light Iron) and vehicle bodies (Autobodies) (feedstock) into a hammer mill that reduces the size of the material into fist-sized chunks of ferrous metal (Shred) and non-ferrous raw (NFR).	☒ Yes ☐ No	6, 11, 12, 15, 16, 17, 18	☒ Yes ☐ No	District Source #6 at this facility is abated by the following District-required abatement devices: Water spray system (A6), Venturi Scrubbers (A-11 and A-12), Regenerative Thermal Oxidizers (RTOs) (A-15 and A-16), and Packed Bed Scrubbers (A-17 and A-18).	☒ Yes ☐ No	Ventilation fan current (amps), water flow rate (gallons per minute), and pressure differential operating range (inches of H2O) of the Venturi scrubbers, as well as conbustion zone temperature of RTOs, are recorded during shredder operation. Records are retained in PLC or Operations data management system. Daily maintenance inspections for enclosure or shredder are

Section #	Operation	District S#	Description of Operation	Source Abated	District A#	Abatement Required by Permit	Type of Abatement	Abatement Monitored	Monitoring Parameters
									retained in Equipment Asset Management system (EAM), Operations, or Environmental Departments.
9	Storage of metals		Storage of metals includes the stockpiling of unprocessed metals, intermediate process metals, and finished products. Storage of metals including size, location, and number of stockpiles is dynamic, and can vary greatly from week to week.	☒ Yes ☐ No		☐ Yes ☒ No	Stationary and mobile waterspraying equipment are used to wet stored material to prevent generation of dust when loaded on to trucks carrying product to shipping pier or for processing. Piles are watered down as needed.	☒ Yes ☐ No	Visible observation for dust. Piles are watered per SOP. Records are maintained in Operations Department.

METAL MANAGEMENT

Provide a list of the metals received and/or processed at facility.

Section #	Name of Metal or Metal Alloy
1	Steel
2	Stainless Steel
3	Copper
4	Brass
5	Bronze
6	Aluminum
7	Cast Iron
8	Tungsten
9	Titanium
10	Iron-Based Alloys

METAL MANAGEMENT

Identify the storage piles and the types of metal and metal-containing material being stored. Indicate whether any monitoring is conducted and detail the monitoring parameters and equipment used to minimize fugitive emissions.

Section #	Description of Material	MONITORING			
		Monitoring Conducted	Monitoring Parameters	Monitoring Equipment	If Yes: Identify Monitoring Equipment Used
Storage of Delivered Scrap					
1	Shredder infeed storage piles (Tin/Light Iron and Autobodies)	☒ YES ☐ NO	Monitoring for visible dust emission. Stationary FLIR infrared cameras monitor temperature 24/7.	☒ YES ☐ NO	Two stationary FLIR infrared cameras with 24/7 monitoring.
2	Heavy Melting Steel (HMS), Bonus, Shred, Bushlings/Bundles - Ferrous Metal (Prepared)	☒ YES ☐ NO	Monitoring for visible dust emission.	☐ YES ☒ NO	
3	HMS material to be sheared pile - Ferrous Metal (Unprepared)	☒ YES ☐ NO	Monitoring for visible dust emission.	☐ YES ☒ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
Storage of Unprocessed Material					
4	Shredder infeed storage piles (Tin/Light Iron and Autobodies) – East and West of shredder infeed conveyor	☒ YES ☐ NO	Monitoring for visible dust emission. Stationary FLIR infrared cameras monitor temperature 24/7.	☒ YES ☐ NO	Two stationary FLIR infrared cameras with 24/7 monitoring.
5	Unprocessed HMS/Bonus product storage (material to be sheared or torch cut) - Ferrous metal (Same as Section 3 above)	☒ YES ☐ NO	Monitoring for visible dust emission.	☐ YES ☒ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
Storage of In-process Material					
6	Non-Ferrous Raw (NFR) - Non-ferrous/ferrous metal and non-metallic Components – Piles (A&B if necessary) near shredder out feed West of shredder and one near JPP (covered NFR feed bunker)	☒ YES ☐ NO	Monitoring for visible dust emission. Manual FLIR temperature monitoring conducted on storage piles. Stationary FLIR cameras monitoring temperature 24/7.	☒ YES ☐ NO	Portable FLIR temperature infrared devices used to monitor per SOP. Records maintained in Operations Department. Three stationary FLIR cameras monitored by security 24/7.
		☐ YES ☐ NO		☐ YES ☐ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
Storage of Finished Product					
7	Heavy Melting Steel (HMS), Bonus, Shred, Bushlings/Bundles - Ferrous Metal (Prepared)	☒ YES ☐ NO	Monitoring for visible dust emission.	☐ YES ☒ NO	
8	Non-ferrous (final product) storage piles – Zorba, aluminum, or other final non-ferrous product piles	☒ YES ☐ NO	Monitoring for visible dust emission.	☐ YES ☒ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
		☐ YES ☐ NO		☐ YES ☐ NO	
Storage of Shredder Residue					

9	Chemically Treated Metal Shredder Residue storage pile (CTMSR). Predominantly non-metallic residual of shredder process	☒ YES ☐ NO	Monitoring for visible dust emission. Stored and loaded inside enclosed JPP with particulate emission control baghouse (Exempt).	☐ YES ☒ NO	

ABATEMENT AND CONTROL EQUIPMENT

Provide a comprehensive list of all District-permitted abatement and control equipment to reduce emissions.

Section #	Abatement Equipment	District A#	Name of Source(s) Abated and District Source #(s)
1	Water spray system	A6	S6 Steel Shredder; S7 Steel Infeed Conveyor
2	Venturi Scrubber	A11	S6 Steel Shredder; S7 Steel Infeed Conveyor
3	Venturi Scrubber	A12	S6 Steel Shredder; S7 Steel Infeed Conveyor
4	Baghouse, pulse jet and PM filters	A10	S10 Cement Silo
5	Baghouse, enclosed	Exempt	S11 Joint Products Plant
6	Regenerative Thermal Oxidizer (RTO)	A-15	S6 Steel Shredder; S7 Steel Infeed Conveyor
7	Regenerative Thermal Oxidizer (RTO)	A-16	S6 Steel Shredder; S7 Steel Infeed Conveyor
8	Packed Bed Scrubber	A-17	S6 Steel Shredder; S7 Steel Infeed Conveyor
9	Packed Bed Scrubber	A-18	S6 Steel Shredder; S7 Steel Infeed Conveyor

Metal Recycling and Shredding Operations

II. Shredder Residue (SR) Management

SHREDDER RESIDUE (SR) MANAGEMENT

Describe the equipment or structures used for conveyance, storage and treatment of shredder residue (SR) during the recycling process. Include measures to minimize fugitive emissions.

Section #	Equipment or Structure for Processing SR	District S#	SR Stored in an Enclosed Area	MONITORING		SR ADDITIVE	
				Monitoring Conducted	Monitoring Parameters	SR Additive Used	Type and Purpose of Additive
1	Mixing trommel and related conveyors (located inside enclosed Joint Products Plant (JPP))		☒ Yes ☐ No	☒ Yes ☐ No	Monitoring for visible dust emissions. Stored in an enclosed building with particulate control system baghouse. Material is wetted during processing.	☐ Yes ☒ No	
2	Chemically Treated Metal Shredder Residue (CTMSR) Pile		☒ Yes ☐ No	☒ Yes ☐ No	Monitoring for visible dust emissions. CTMSR is loaded into trucks inside JPP buliding, which is fully enclosed with particulate control system baghouse. Trucks are tarped before exiting JPP and building doors are kept closed except when materials are entering/exiting.	☒ Yes ☐ No	Shredder residue is given a final treatment with water, polysilicate solution, and Portland cement. This mixture chemically fixes residual soluble metals, reducing their leachability in landfills. The high residual moisture content due to the addition of water helps to minimize potential fugitive dust. The cement silo is abated by filters. Loads are watered and tarped prior to leaving JPP.
			☐ Yes ☐ No	☐ Yes ☐ No		☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No		☐ Yes ☐ No	

Metal Recycling and Shredding Operations

III. Depollution Operations

DEPOLLUTION OPERATIONS

List all materials that require special handling and removal in depollution operations.

Section #	Materials Requiring Special Handling or Removal
1	Depollution of appliances or vehicles occurs under limited circumstances by third party contractor or onsite personnel. Appliances, including refrigerators, stoves, washing machines, clothes dryers, and dishwashers which contain capacitors, ballasts, mercury switches, oils, batteries, CFCs, and/or HCFCs are depolluted by EPA and/or DTSC certified third party contractors prior to acceptance at facility. All wastes generated from depollution activities are profiled and disposed of properly.

DEPOLLUTION OPERATIONS

Describe the policies and procedures pertaining to the safe removal of materials from major appliances and vehicles that require special handling (MRSH) prior to crushing or transferring to balers or shredders for recycling. Include the measures that are implemented when these materials are discovered during the recycling process.

The Facility has a Source Control Program which includes a robust written scrap acceptance policy (SAP) which prohibits acceptance of hazardous materials and/or waste in our incoming scrap metal streams (see Attachment #2). This policy is designed to keep prohibited material out of ferrous scrap streams and especially shredder feedstock. This policy includes, but is not limited to prohibitions on materials such as:

- Items with elemental Mercury.
- Batteries such as NiCad, Li Ion, Alkaline, etc.
- E-waste
- Scrap with free-flowing liquids (i.e., used oil, etc.)
- Scrap with CFCs (i.e., Refrigerants)
- Scrap with PCBs (i.e., capacitors, ballasts, transformer oil, etc.)
- Military Munitions and other explosives
- Scrap metal with asbestos
- Radioactive scrap metal
- Materials which contained hazardous materials or waste not meeting the definition of empty (22 CCR 66261.7)

Suppliers must have a signed Hazardous Substance Removal Compliance Contract (HSRCC) on file prior to delivering material. The HSRCC clearly states our SAP and the suppliers must certify that they are not dropping off material that contains hazardous waste or any other prohibited material. Any materials that are brought to the facility that do not conform to the SAP are rejected and recorded in the Rejection Log.

The most common types of major appliances the Facility receives that may have contained MRSH include washers, dryers, refrigerators, freezers, air conditioning units, stoves, ovens, water heaters, space heaters, furnaces, boilers, dehumidifiers, trash compactors, and microwave ovens. The most common types of MRSH-containing appliances received by the Facility are those that held refrigerants (chlorofluorocarbon, hydrochlorofluorocarbons, and non-CFC replacement refrigerant types) and oils (polychlorinated biphenyl, halogenated and non-halogenated oils) which may be found in capacitors and compressors. Other MRSH materials that may have been in appliances include mercury switches, batteries, and fluorescent bulbs.

Suppliers that bring in appliances must also provide a copy of DTSC Form 1430 certifying that the appliances have had MRSH removed by a Certified Appliance Recycler (CAR). Records are maintained on-site for a minimum of 3 years.

Although Facility does not accept appliances from which MRSH has not been removed, when suspect material is discovered in a load prior to acceptance, it is preferentially rejected and returned to the customer. If suspect material were discovered after a load delivery, it would be segregated and depolluted by an EPA/DTSC CAR. The Facility is not open to the public (peddlers) for appliance/scrap drop-offs and therefore we expect such depollution activities to be rare.

If other prohibited materials are found in scrap, the scrap is isolated and inspected. A third-party vendor is called to depollute the scrap. All wastes generated from any depollution processes are properly profiled and disposed of per local, state, and federal regulations.

Scrap Acceptance Policy

SCRAP ACCEPTANCE POLICY

Attach a copy of facility's Scrap Acceptance Policy. Label the attachment with the corresponding Attachment #.

Attachment # 2

Management Practices

to

Reduce Fugitive Emissions

MANAGEMENT PRACTICES TO REDUCE FUGITIVE EMISSIONS - ROADWAYS AND OTHER TRAFFICKED SURFACES

List and describe facility's management practices to reduce fugitive emissions from roadways and other trafficked surfaces. Detail the schedule of activities conducted.

	Section #	Management Practices to Reduce Fugitive Emissions	Schedule of Activity
ROADWAYS AND OTHER TRAFFICKED SURFACES	1	Industrial wheel wash at front gate.	Whenever trucks exit the plant.
	2	Wheel wash at concrete pier.	Whenever trucks travel onto the shiploading pier.
	3	Sweeping and brooming of internal paved roads (3 times/day on weekdays and at least once/day on weekends) and sweeping of concrete pier daily when ship loading occurs.	Monday through Friday (three times per day), Saturday (once per day).
	4	External paved road (Embarcadero West) swept during normal business hours.	Monday through Friday (three times per day), Saturday (once per day).
	5	Watering of internal roads and scrap metal stockpiles using stationary and mobile water spraying equipment.	Several times per day, more frequently if needed per SOP.
	6	Water spraying of scrap product during unloading of transport trucks into skip pan on dock for shipping.	Limited to sprayers being turned on during loading of skip pan (motion sensored).
	7	Visual inspection of all on-site roads to assure sweeping is taking place.	Monday through Friday (three times per day), Saturday (once per day). Sweeping log is maintained per SOP.
	8	Employee training.	Initially for new employees, and annual update for current employees. New employee training includes an air quality component among other pertinent environmental topics. Annual training is a full tailgate session specifically tailored to the Oakland facility. All emission minimization topics are reviewed in this session. Frequency of training is: 1) New Employee: within 90 days of hire. 2) Tailgate Training: once per year for all employees and supervisors. Scrap inspectors and scale house personnel are trained within the first 90 days per onboarding requirements.
	9	Speed limit of 5 mph for equipment and trucks inside yard.	24 hours per day, 7 days per week whenever facility equipment is operating.

MANAGEMENT PRACTICES TO REDUCE FUGITIVE EMISSIONS – METAL MANAGEMENT

List and describe facility's management practices to reduce fugitive emissions. Include practices for receiving, processing and handling scrap and shredded materials to prevent fugitive emissions from these operations. Detail the schedule of activities conducted.

	Section #	Management Practices to Reduce Fugitive Emissions	Schedule of Activity
TRANSPORT	1	Sweeping and brooming of all accessible paved surfaces. As well as the use of stationary and mobile water-spraying systems to dampen material stockpiles and heavily trafficed internal roadways.	Per Sweeping SOP, roadways and paved surfaces are swept Monday-Friday (three times per day) and Saturday (once per day), at minimum.
RECEIPT	2	Scale house personnel and inspectors visually observe all incoming truck and rail loads and reject any, in full or partial, that contain prohibited materials.	During all hours of operation when receiving incoming trucks or rail cars.
COLLECTION	3	Covered by other categories above and below.	
SORTING	4	Main gate inspectors trained to direct incoming trucks to deposit loads at appropriate storage pile locations.	During all hours of operation when receiving incoming trucks/rail.
SEGREGATION	5	Materials entering facility are segregated into different storage piles before further processing, including shredder feedstock piles (Tin/Light Iron and Autobodies), HMS (prepared or unprepared), Bonus, Bushling/Bundles. The NFR stockpiles are managed in two piles (as necessary) so first in and first out pile management can be used to mitigate the fire potential and enable aisle space for emergency vehicles.	During all hours of operation.
SEPARATION	6	Materials being separated after shredding are wetted by initial shredding process. This residual moisture content helps to reduce fugitive dust emissions from separation processes. Torch cutting operations use stationary misting devices (Fog Cannons/Dust Bosses) to mitigate emissions.	During all hours of operation.
COMPILATION	7	Covered by other categories above and below.	
CRUSHING	8	No crushing is conducted at this facility.	
SHREDDING	9	Shredding in enclosed building with particulate (Venturi scrubbers) and VOC (RTOs) emission control systems. Water is applied to shredder feedstock via stationary or mobile equipment. Water and fire retardant foam are added during shredding process. 30' wall with 10' debris screen installed immediately East of shredder downstream to control fugitive emissions.	Shredding: 9:00 pm to 6:30 am, Monday through Friday (Can vary).
STORAGE OF METALS	SEE STORAGE PILE MANAGEMENT SECTION		
STORAGE OF METAL-CONTAINING MATERIAL	SEE STORAGE PILE MANAGEMENT SECTION		
STORAGE OF NON-METALLIC MATERIAL	SEE STORAGE PILE MANAGEMENT SECTION		

MANAGEMENT PRACTICES TO REDUCE FUGITIVE EMISSIONS – SHREDDER RESIDUE MANAGEMENT

List and describe facility's management practices to reduce fugitive emissions from processing and handling shredder residue. Detail the schedule of activities conducted.

	Section #	Management Practices to Reduce Fugitive Emissions	Schedule of Activity
MANAGEMENT OF SHREDDER RESIDUE (CTMSR)	1	Employee training.	Initially for new employees, and annual update for current employees. New employee training includes an air quality component among other pertinent environmental topics. Annual training is a full tailgate topic specifically tailored to the Oakland facility. All emission minimization topics are reviewed in this session.
	2	Initial shredding process adds water and fire retardant foam to feedstock. Residual moisture in NFR fraction of shred output (over 5%) mitigates fugitive dust emissions. Piles are watered per SOP.	Whenever facility shredder is operating, water is being added to the material being processed.
	3	CTMSR is handled within an enclosed building (JPP) with a particulate controlling system/baghouse.	Whenever Joint Products Plant is operating.
	4	Baghouse is fully enclosed and water is added at the Joint Products Plant. Filters and pulse jet in use when Cement Silo filled or dosing.	Whenever Joint Products Plant is operating.
	5	CTMSR is loaded into trucks inside JPP and doors remain closed unless equipment or trucks are entering/exiting the building.	Whenever material is being handled by mobile equipment.
	6	Once CTMSR trucks are loaded ,they are tarped prior to leaving the JPP, further minimizing fugitive emissions.	Whenever CTMSR is being transported off-site.

MANAGEMENT PRACTICES TO REDUCE FUGITIVE EMISSIONS – DEPOLLUTION ACTIVITIES

List and describe facility's management practices to reduce fugitive emissions from processing and handling materials during depollution activities. Detail the schedule of activities conducted.

	Section #	Management Practices to Reduce Fugitive Emissions	Schedule of Activity
DEPOLLUTION ACTIVITIES	1	Subcontracted depollution only conducted by certified subcontractors holding DTSC and EPA permits (i.e., "Certified Appliance Recyclers").	Suppliers must have a signed Hazardous Substance Removal Compliance Contract (HSRCC) on file prior to delivering material. The HSRCC clearly states our Scrap Acceptance Policy (SAP) and the suppliers must certify that they are not dropping off any prohibited material. Any materials that are brought to the facility that do not conform to the SAP are rejected and recorded in the Rejection Log. If prohibited materials are found in scrap on-site, the scrap is isolated and inspected, either inside a building or under cover in the maintenance area. A third-party vendor is called to depollute the scrap. All wastes generated from any depollution processes are properly profiled and disposed of per local, state, and federal regulations.

METAL MANAGEMENT – STORAGE PILE MANAGEMENT

List and describe the facility's storage pile management practices to reduce fugitive emissions from stored materials. Detail the schedule of activities conducted.

Types of Storage	Section #	Management Practices to Reduce Fugitive Emissions	Schedule of Activity
Storage of Delivered Scrap	1	Water spraying of all delivered scrap stockpiles as needed during unloading and material handling. Can include both stationary and mobile water-spraying equipment.	During all hours of operation when accepting trucks or rail deliveries.
	2	Water is applied to all scrap piles, as needed, during relocation/movement of materials. Piles are watered per SOP. Can include both stationary and mobile water-spraying equipment.	During all hours of operation .
Storage of Unprocessed Material	3	Water spraying of all unprocessed material storage piles as needed during unloading and material handling. Can include both stationary and mobile water-spraying equipment.	During all hours of operation as needed when materials are being handles.
	4	Shredder infeed stockpiles (Light Tin/Iron and Autobodies) are kept to a minimum by shredding the maximum amount possible every day and are watered per SOP at least every hour when not raining. Pile sizes of unprepared HMS material is kept to a minimum by processing through the fixed shear or torch cutting in a timely manner. Water is applied to in-process scrap, which could include both stationary and mobile spraying equipment.	Watering of shredder infeed stockpiles occurs at least every hour, unless raining.
	5	HMS (prepared/unprepared), Bonus, Shred, and Bushling/Bundle stockpiles are predominantly metallic (greated than 99.99%) and lack sufficient combustible material to sustain a fire. Water is applied to all scrap piles, as needed, during relocation/movement of materials to minimize dust. Can include both stationary and mobile water-spraying equipment.	During all hours of operation, as needed, during pile relocation/movement.
Storage of In-process Material	6	Water spraying of all in-process material storage piles as needed during unloading and material handling. Can include both stationary and mobile water-spraying equipment. Non-ferrous raw (NFR) is sprayed with water at least every hour to prevent fires, except possibly during periods of rain (see "Metal Management" section for details). Watering of the NFR is recorded on the NFR Watering Log (records maintained by Operations). The primary NFR storage location (West of the shredder) is contained by a 30-foot high wall on three sides to reduce the potential of fugitive dust emissions. NFR pile stored near JPP (bunker) is covered and enclosed (3 sides) to reduce the potential of fugitive dust emissions.	During all hours of operation as needed. NFR piles are watered at least every hour, except possibly during periods of rain. NFR water application is recorded on the NFR Watering Log (date, inspector's name/initials, and time). Records are maintained by Operations.
	7	NFR is kept to a minimum by processing the material in a timely manner through the JPP. NFR is managed in two piles (as necessary) just West of the shredder outfeed conveyor which enables proper access to all sides of the pile(s). The NFR pile stored near the JPP (bunker) is processed daily. The NFR piles are processed with the "first in first out" pile management which is used to mitigate fire potential.	During all hours material is stored onsite.
	8	NFR is monitored manually by employees using portable infrared cameras to prevent fires (See "Metal Management" section for details).	Every hour, 24 hours per day, 7 days per week employees take infrared camera temperature readings from at least 4 locations in the NFR pile(s). Readings are recorded in the NFR Monitoring Log (date, inspector's name/initials, time, and

			temperature readings). Records are maintained by Operations.
	9	NFR is monitored continuously by Facility's Security Command Center via three fixed infrared cameras (see "Metal Management" section for details).	NFR pile(s) are continuously monitored by Facilty's Security Command Center via three fixed infrared cameras.
Storage of Finished Product	10	Water spraying of all finished product stockpiles as needed during unloading and material handling. Can include both stationary and mobile water-spraying equipment.	During all hours of operation as needed.
	11	Water is applied to piles of finished product such as shred, prepared HMS, Bonus, and other non-ferrous commodities, as needed, during relocation/movement of materials. Can include both stationary and mobile water-spraying equipment.	During all hours material is stored onsite.
	12	Finished product is predominantly metallic (greater than 99.99%) and lacks sufficient combustible material to sustain a fire. As such, finished product piles are not monitored with the infrared cameras.	
Storage of Shredder Residue	SEE SHREDDER RESIDUE MANAGEMENT SECTION		

METAL MANAGEMENT – STORAGE PILE MANAGEMENT

Describe facility's storage pile management practices to minimize and prevent emissions from stored materials (i.e. limiting size of piles, creating fire breaks, segregation of materials, etc.). Specifically include policies and measures to prevent and control combustion of storage pile materials.

- Facility conducts load inspections (looking for prohibited material) on incoming deliveries. Loads may be rejected, in part or full, depending on the results of these inspections.
- Facility employees monitor the shredder input pile during processing for potentially flammable off-spec materials.
- While it is Facility's goal to shred as much scrap as possible on any given day and thereby minimize scrap stockpile size, the following factors prevent the facility from always achieving this goal:

  Variable PG&E power usage curtailment schedule which can restrict the time of day we can operate the shredder. The facility does not shred every day of the week due to maintenance, staffing considerations, and variable incoming volume. Scrap is received throughout the day, even after shredding operations have ended for the day. The inflow scrap volume in a given day can exceed the facility's ability to shred all material in a standard shift.

- Facility has coordinated with the Oakland Fire Department to stock fire suppression foam additive on-site in an easily accessible location in case of a fire. This material can be hooked up to fire truck pump systems to mix the foam additive into the water helping to better suppress the fire.
- Additional fire control measures include, but are not limited to:
  - The fire water piping loop has been extended to include two additional fire hydrants.
  - Hydrants are clearly marked by poles (red/white), so they can be easily located.
  - Four stationary water cannons are available at the shredder infeed and NFR stockpiles.
  - A second water truck is available on-site to improve fire mitigation response time.
  - Two operable grapple cranes are available onsite at all times.
  - NFR piles near the shredder are enclosed by 30' container wall on three sides and is managed in two piles (as necessary) to enable aisle space for emergency vehicles. NFR pile stored near the JPP building is enclosed from three sides and top. NFR piles are managed via first in and first out pile management used to mitigate the fire potential.
  - NFR is watered at least every hour to prevent fires, except possibly during periods of rain. The date, time, and employee name is recorded on the "NFR Watering Log." Records are maintained by Operations.
  - Facility employees monitor the NFR stockpile temperatures with portable infrared cameras. Procedures include:
    - Facility employees monitor NFR stockpile using a portable infrared cameras every hour, 24 hours a day, and 7 days a week.

- Temperature readings from portable infrared cameras are taken from at least four locations at each NFR stockpile.
- Date, time, inspector, NFR location/area, and infrared camera readings are recorded on the "NFR Monitoring Log" and are compared to ambient temperatures. Records are maintained by Operations.
- If the difference between the ambient temperature and the infrared camera readings is 100 degrees Fahrenheit or more, on-site supervisors are notified via phone or radio. If no supervisors are on-site, site staff/supervisors are notified via phone using the available emergency contact list. The NFR stockpile is monitored from a safe distance for smoke or fire. If fire is present, local emergency services are immediately notified.
- If the difference between the ambient temperature and the infrared camera readings is less than 100 degrees Fahrenheit, no further action is required.

- NFR and shredder infeed (Tin/Light Iron and Autobodies) stockpile temperatures are continuously monitored by Facility's Security Command Center via five fixed infrared cameras. Significant temperature reading increases will produce an alarm in the Security Command Center which is staffed 24 hours a day and 7 days a week. If an alarm occurs, site personnel are notified via phone and email, using the available contact list. Logs are maintained by Operations.
- Facility maintains records of all environmental training related to this EMP.

Description of Onsite Management

And

Schedule of Facility Operations

ONSITE MANAGEMENT PRACTICES

Provide a description of the facility's onsite management practices to reduce fugitive emissions.

All new employees receive initial environmental compliance training which includes an air quality, fugitive emission control component. This training is conducted either by yard management or the Regional Environmental Manager. All shifts are covered by this training (i.e., night and day shift employees). General topics include: Engine idling limits, use of water for dust control, emission observations, permit requirements, truck speed requirements, and Environmental Management Systems – emission requirements.

Facility-specific tailgate training session on air quality issues annually that includes fugitive emissions and site BMPs. This training is conducted by site management and supervisors. All shifts are covered by this training (i.e., night and day shift employees). The topics include engine idling limits, use of water trucks for dust control, use of stationary and/or mobile water-spraying equipment for dust control, sweeping for dust control, the difference between point source emissions and non-point source emissions, speed limit of equipment and vehicles to reduce dust, and reporting potential issues such as heavy dust generation.

Training related to infrared camera and water application operations on the NFR stockpiles for fire mitigation is conducted by Operations annually. Training records for NFR stockpile management are retained by Operations or the Environmental Manager. Topics include procedures and use of mobile infrared cameras, recordkeeping, and water application.

Training for sweeping of facility and watering of piles is conducted annually by Operations Management. Records are retained by Operations or Environmental Department.

Facility-specific PowerPoint training on air quality regulations, including fugitive dust control and site BMPs for managers and supervisors annually. This training is conducted by the Regional Environmental and Operation Managers/Supervisors. The topics include engine idling limits, use of water trucks for dust control, use of stationary and/or mobile water-spraying equipment for dust control, sweeping for dust control, the difference between point source emissions and non-point source emissions, speed limit of equipment and vehicles to reduce dust, reporting potential issues like heavy dust generation, and CARB heavy-duty vehicle emission control programs such as the cargo handling rule and the on-road/off-road truck rules.

DESCRIPTION OF ONSITE MANAGEMENT

Identify if staff are designated to observe visible emissions from metal shredding and recycling operations during business hours and after the close of business. Specify if staffing is Visible Emissions Evaluation (VEE) Certified. If onsite staffing is designated to observe visible emissions after the close of business, include a description of the duties to ensure visible emissions are minimized from storage piles of material.

Section #	Operations	Onsite Personnel DURING Business Hours to Observe Visible Emissions	Staffing to Observe Visible Emissions	Onsite Personnel AFTER Business Hours to Observe Visible Emissions	Staffing to Observe Visible Emissions	If onsite staffing is designated after the close of business to observe visible emissions, describe the specific duties to manage storage piles to prevent and minimize visible emissions.
1	**Roadways and Other Trafficked Surfaces**	☒ Yes ☐ No	Number of Staff: 5+ Visible Emissions Certified: ☐ Yes, # ☒ No	☒ Yes ☐ No	Number of Staff: 2 Visible Emissions Certified: ☒ Yes, 1 ☐ No	Section 15: Every hour, 24 hours per day, 7 days per week, Facility employees take infrared camera temperature readings from at least 4 locations in the NFR pile(s). Readings are recorded on a NFR Monitoring Log. If the difference between the ambient temperature and the infrared camera reading is 100 degrees Fahrenheit or more, on-site supervisors are notified via phone or radio. If no supervisors are on-site, site staff/supervisors are notified via phone using the available emergency contact list. The NFR stockpile is monitored from a safe distance for smoke or fire. If fire is present, local emergency services are immediately notified. At least two operable grapple cranes are available for use during a fire. Staff is available to provide access to warehouse where two totes of non-PFAS containing fire fighting foam are stored for Fire Department's use. NFR pile(s) are continuously monitored by Facility's Security Command Center via 5 fixed infrared cameras. Significant temperature reading increases will produce an alarm in the Facility's Security Command Center which is staffed 24 hours a day and 7 days a week. If an alarm occurs, site personnel are notified via phone and email using the available emergency contact list. NFR is watered at least every hour to prevent fires, except possibly during periods of rain. The date, time, and employee name is recorded on the Watering Log.
2	**Metal Management**	☒ Yes ☐ No		☒ Yes ☐ No		
3	Transport	☒ Yes ☐ No		☒ Yes ☐ No		
4	Receipt	☒ Yes ☐ No		☒ Yes ☐ No		
5	Collection	☒ Yes ☐ No		☒ Yes ☐ No		
6	Sorting	☒ Yes ☐ No		☒ Yes ☐ No		
7	Segregation	☒ Yes ☐ No		☒ Yes ☐ No		
8	Separation	☒ Yes ☐ No		☒ Yes ☐ No		
9	Compilation	☒ Yes ☐ No		☒ Yes ☐ No		
10	Crushing	☐ Yes ☒ No		☐ Yes ☒ No		
11	Shredding	☒ Yes ☐ No		☒ Yes ☐ No		
12	Storage of Metals	☒ Yes ☐ No		☒ Yes ☐ No		
13	Storage of Metal-Containing Material	☒ Yes ☐ No		☒ Yes ☐ No		
14	Storage of Non-Metallic Material	☒ Yes ☐ No		☒ Yes ☐ No		
15	**Shredder Residue Management**	☒ Yes ☐ No		☒ Yes ☐ No		
16	**Depollution Activities**	☒ Yes ☐ No		☐ Yes ☒ No		

DESCRIPTION OF ONSITE MANAGEMENT

Identify any employee training provided pertaining to management practices and work practice standards to minimize fugitive emissions from recycling and shredding operations.

Section #	Employee Training
1	Initial environmental training for new employees covers a variety of environmental topics including air quality related training. This training takes place within 90 days of hire.
2	Annual Air Quality Training for managers and supervisors is conducted once every year. Topics include general particulate and dust control and shredder emissions/BAAQMD Permit.
3	Annual Air Quality Training for all yard employees (i.e., non-office employees) is conducted once every year. Topics include general particulate and dust control and shredder emissions/BAAQMD Permit.
4	Annual Air Quality Training related to infrared camera and water application operations on the NFR stockpiles for fire mitigation is conducted by Operations personnel. Topics include procedures and use of mobile infrared cameras, recordkeeping, and water application.
5	Annual training related to facility and sweeping of facility. Topics include frequency, locations, and waste management.

SCHEDULE OF FACILITY OPERATIONS

Provide the facility's schedule and hours of operation. Schedule of operations should include all shifts with specific operations identified.

Material Receiving: Monday through Friday 3:30 am to 4:00 pm

Shiploading: 7 days per week (subject to shiploading schedule), Shift 1: 6:00 am to 6:00 pm, Shift 2: 6:00 pm to 6:00 am.

Metal Processing: Shredding: 9:00 pm to 6:30 am, Monday through Friday, varies by season.

Metal Processing: Shearing: 6:00 am to 4:30 pm, Monday through Friday

Metal Processing: Torch Cutting: 6:00 am to 4:30 pm, Monday through Friday

Material Processing: Joint Products Plant: Shift 1: 4:00 am to 4:00 pm, Shift 2: 4:00 pm to 4:00 am. Both shifts Monday through Friday

ALL OPERATIONS CAN VARY INCLUDING DAYS OF WEEK, SHIFT HOURS, ETC AS NEEDED TO SUPPORT OPERATIONAL NEEDS, VOLUME OF METAL RECEIVED, PG&E POWER CURTAILMENT NEEDS, ETC.

Technical Data
6-4-403.1

A. *Process Flow Diagram* - Facilities must indicate all operations in Section 6-4-402, the flow of materials used, and identify all monitoring and the processes, abatement and controls to minimize emissions beginning from material receipt to achievement of final product. Identify all equipment by source numbers according to District Permit or as exempt from District Permit. Include the abatement and control devices. Label the attachment with the corresponding Attachment #.

Attachment # 3

B. *Facility Layout / Floor Plan* - Facilities must indicate all relative locations of processing equipment and monitoring and controls, all permitted and exempt sources identified in the process flow diagram per Section 6-4-403.1.1 and any other source(s) that may contribute to particulates. Include all building walls, partitions, doors, windows, vents and openings and indicate all areas that have abatement for particulates. Note roadways and other trafficked surfaces and indicate the types and locations of pervious and impervious surfaces. Identify all metal recycling and shredding equipment by the facility's District Permit source number or as exempt from District permit requirements and include abatement and control devices. Label the attachment with the corresponding Attachment #.

Attachment # 4

Five-Year Review of the EMP: Schedule for Implementation of the EMP Elements and Fugitive Emissions Reductions 6-4-408

A. Provide a list of existing or current EMP elements in place during the 5-year review period (March 1, 2016 – February 28, 2021). Include a list of equipment, processes and procedures installed or implemented to reduce fugitive emissions and indicate the permit status if applicable. Specify the purpose for implementation and detail any employee training that was conducted. Any associated training materials shall be made available for Air District review upon request.

B. Provide a list of new or future EMP elements to be implemented following APCO approval of the EMP. Include a description, the purpose and schedule of the element(s) to be implemented.

A. 6-4-408 SCHEDULE FOR IMPLEMENTATION OF THE EMP ELEMENTS AND FUGITIVE EMISSIONS REDUCTIONS REALIZED WITHIN THE LAST 5 YEARS (MARCH 1, 2016 – FEBRUARY 28, 2021)							
Section #	**Identify Type of Operation per Section 6-4-402**	**Description of Equipment, Processes or Procedures Implemented Between March 1, 2016 and February 28, 2021**	**Permit Status**		**Implementation Date**	**Purpose of Implementation**	**Description of Employee Training**
1	Roadways and other Trafficked Surfaces	Commercial wheel wash at facility exit	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	10/30/2012	Minimize trackout of dust on to city streets.	Initial and annual update training in tailgate sessions.
2	Roadways and other Trafficked Surfaces	Complete power wash cleaning of dock and pier annually. Wheel washer was installed at pier crane dock.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	9/2012, 9/2013, and 1/2013, respectively	Reduce silt on dock and pier surface that can be entrained as fugitive particulate emission.	Initial and annual update training in tailgate sessions.
3	Roadways and other Trafficked Surfaces	Facility Speed Limit, 5 mph	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	2009 (estimated)	Reduce generation of fugitive dust through controlling vehicle and equipment speed.	Initial and annual update training in tailgate sessions.
4	Metal Management	Stationary and/or mobile water-spraying equipment purchased to cover the shred pile, ship loading conveyor, and metal shearing operations.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	2011	Wet piles during material handling and minimize particulates already mobilized in the air.	Initial and annual update training in tailgate sessions.
5	Metal Management	Water trucks used to wet piles when material handled.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	10/2007	Minimizes particulate generation during material handling.	Initial and annual update training in tailgate sessions.
6	Metal Management	Ship loading conveyor covered/contained.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	10/2013		
7	Metal Management	Purchased/installed stationary and/or mobile water-spraying equipment on tower at Shred Pile/Shred Shiploading Conveyor.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	10/2013	Replaced with stationary and/or mobile water-spraying equipment that can be operated by remote control. Elevated platform allows for better coverage of shred stockpile. Additionally, this unit can oscillate 359 degrees, giving a greater range of coverage.	Initial and annual update training in tailgate sessions.
8	Shredder Residue Management	Material is kept moist with water.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	1980	Minimize mobilization of particulate matter.	Initial and annual update training in tailgate sessions.
9	Shredder	Install enclosure and Venturi scrubbers for shredding operations.	☒ A/C ☐ P/O ☐ N/A	Application # (if applicable):	2017	Reduction of fugitive emissions from shredding and metal separation activities.	Initial and annual update training in tailgate sessions.
10	Metal Management	Install Baghouse at Joint Products Plant (exempt).	☐ A/C ☒ P/O ☐ N/A	Application # (if applicable):	2019	Abate emissions and fugitive dust from metals processing at Joint Products Plant (exempt).	Initial and annual update training in tailgate sessions.

11	Fire Prevention	Implement mobile and stationary infrared cameras.	☐ A/C ☐ P/O ☒ N/A	Application # (if applicable):	2018	24/7 monitoring of NFR stockpiles	Initial and annual update training in tailgate sessions.
			☐ A/C ☐ P/O ☐ N/A	Application # (if applicable):			
			☐ A/C ☐ P/O ☐ N/A	Application # (if applicable):			
			☐ A/C ☐ P/O ☐ N/A	Application # (if applicable):			
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			☐ A/C ☐ P/O ☐ N/A	Application # (if applicable):			

B. 6-4-408 NEW OR FUTURE EMP ELEMENTS TO BE IMPLEMENTED					
Section #	**Identify Type of Operation per Section 6-4-402**	**List Specific Elements to be Implemented Following APCO Approval of the Updated EMP**	**Projected Implementation Date**	**Description of Elements to be Implemented**	**Purpose of Implementation**
1	Roadways and Other Trafficked Surfaces	Pave all unpaved surfaces.	8/2021	Pave entire facility to mitigate fugitive dust emissions from truck traffic.	Facility is paved to minimize dust on roadways and mitigate dust or sediment on paved surfaces.
2	Shredder Residue Management	Enclose JPP and process all NFR inside building with automatic doors and particulate emission control baghouse. Store and load all CTMSR in enclosed JPP Building.	9/2021	NFR processing was enclosed in building and doors open when materials enter/exit JPP. All CTMSR is stored and loaded into trucks inside enclosed building with particulate emission control baghouse.	Abate potential fugitive dust emissions from pile management and NFR processing.
3	Metal Management	Enclose the shredder downstream drum magnet.	3/2022	Installed fully enclosed shredder downstream drum magnet.	Abate potential fugitive dust emissions.
4	Metal Management	Installed Regenerative Thermal Oxidizers (RTOs) and Packed Bed Scrubbers.	4/2022	Installed Regenerative Thermal Oxidizers (RTOs) and Packed Bed Scrubbers.	Abate VOC emissions from shredding process.
5	Roadways and Other Trafficked Surfaces	Obtain regenerative and walk behind mechanical sweepers to mitigate potential fugitive dust emissions from roadways.	9/2022	Obtained a new regenerative sweeper and a walk behind HEPA sweeper for use on paved surfaces (roadways and walkways).	Abate potential fugitive dust emissions from roadways.
6	Metal Management	Installed 2 new fog cannons (misters) at torch cutting area and shredder infeed conveyor.	7/2023	Install 2 new fog cannons (misters) at torch cutting area and shredder infeed conveyor.	Abate potential emissions from shredder infeed conveyor and torch cutting operations.
7	Roadways and Other Trafficked Surfaces	Increase sweeping of paved roadways (internal, Embarcadero West, and pier) to mitigate potential fugitive dust emissions from truck traffic.	12/2023	Sweeping of roadways, pier, and Embarcadero West three times per day. Modify SOP and Train employees to new procedures.	Abate potential fugitive dust emissions from truck traffic.
8	Metal Management	Install barriers around NFR piles to mitigate potential fugitive dust emissions.	12/2023	Install 30” barrier around 3 sides of NFR pile(s) near West of shredder outfeed conveyor and barrier on three sides and covered NFR pile near JPP (bunker).	Abate potential fugitive dust emissions from pile management.
9	Metal Management	Increase pile (Tin/Light Iron and NFR) watering to at least once per hour, unless raining.	12/2023	Pile watering SOP and log updated and watering of piles increased to once per hour, unless raining.	Abate potential fugitive dust emissions from pile management.
10	Metal Management	Add additional stationary FLIR camera to cover any shredder feedstock (Tin/Light Iron, Autobodies) stored in secondary location East of the Autobody infeed pile.	1/2024	Install stationary FLIR to cover secondary shredder infeed pile location East of the Autobody infeed pile.	Provide 24/7 fire monitoring from any shredder infeed stockpiles stored in secondary location East of the Autobody infeed pile to decrease response time for fires.

11	Metal Management	Monitor piles manually during emergency when stationary fixed FLIR cameras connection/monitoring is lost to mitigate potential fires.	1/2024	Emergency FLIR monitoring using handheld cameras will be initiated per SOP in case of system or power outage or equipment failure of fixed FLIR cameras.	Mitigate fire potential of piles monitored by stationary FLIR cameras in case of a connection failure during emergency.
12	Metal Management	Install barrier/wall along Eastern property fence line.	2/2024	Fence line barrier will be installed alone Eastern fence line of property.	Abate potential fugitive dust emissions from pile management.
13	Metal Management	Install fire fighting foam at four fixed water cannons to be used during fire.	3/2024	Fire fighting foam injection system installed at all four fixed water cannons located on the shredder.	Help mitigate fires.

Appendix

Insert any attachments and supplemental information within the corresponding sections of the EMP or at the end of this document. Label each attachment with the corresponding Attachment #.

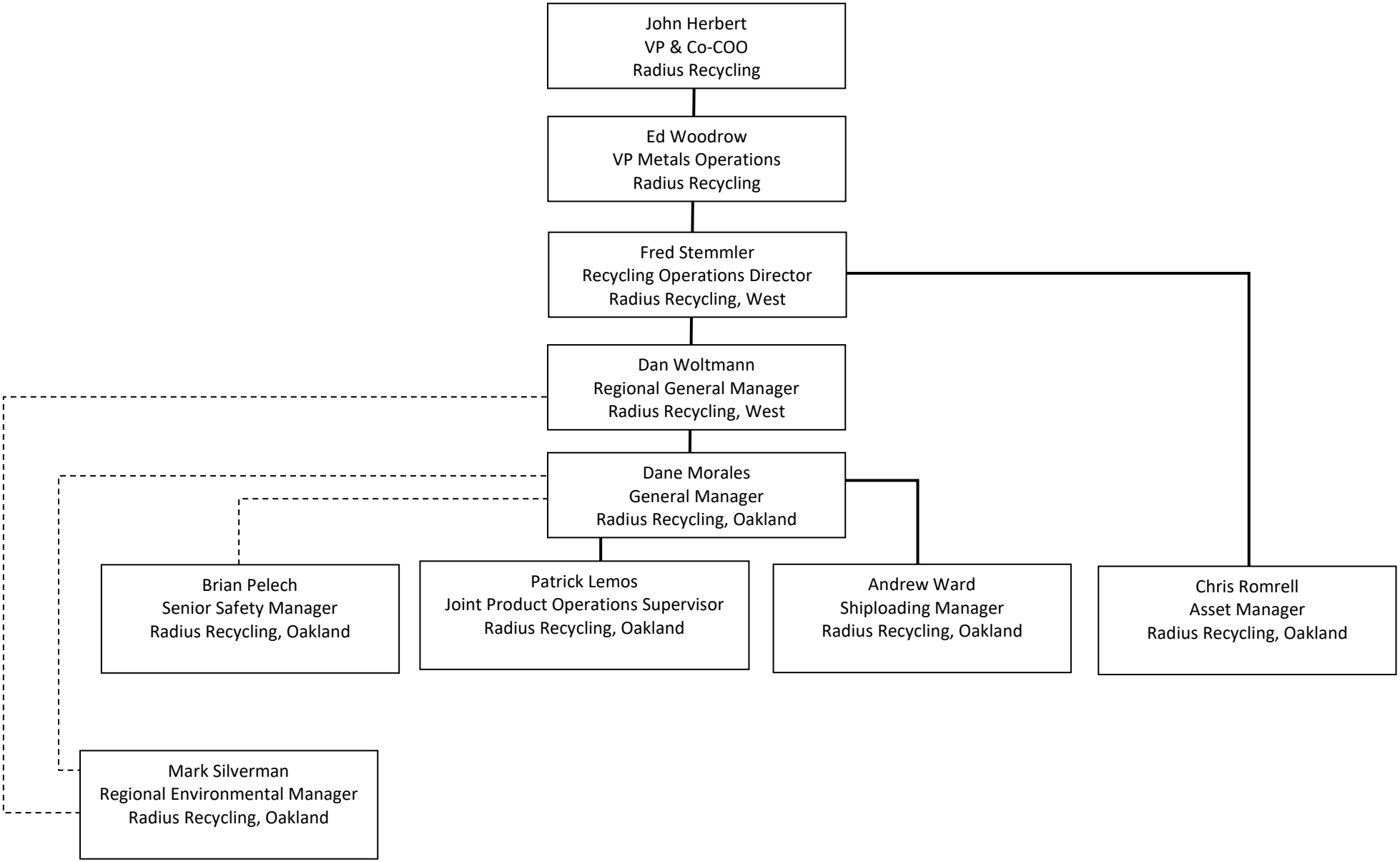
In the table below, list each Attachment # and provide the Page # and Section # (if applicable) of the EMP where the material is referenced.

Attachment #	Reference to Page # and Section # of EMP
1	Page #6, Section # Introduction
2	Page #24, Section # III
3	Page #39, Section # III
4	Page #39, Section # III
5	Page # , Section # APCO Determination of Approvability
6	Page # , Section # VEE Certifications
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #

Attachment 1

Company Organizational Chart

Attachment #1
Schnitzer Steel Products Co. dba Radius Recycling Organization Chart



December 2023

Attachment 2

Scrap Acceptance Policy

Estimado Cliente:

Este folleto servira para aclarar nuestras normas acerca de cuales metales recicables aceptamos. Estos requerimientos son un relfejo de nuestro compromiso hacia un comportamiento responsable al medioambiente. Por favor recuerde que muchas de nuestras normas son controladas por regulaciones ambientales a nivel federal y estatal, que son aplicabes tanto a nuestra empresa como a nuestros clientes. Esta lista no incluye todo; otros articulos que no aparecen aqui, pueden ser inapropiados para reciclar como chatarra.

Por favor lea este folleto cuidadosamente, y para cualquier pregunta contacte a nuestro Regional Environmental Manager, Pam Gray en el telefono (510) 839-4714.

Recuerde que tenemos el derecho de rechazar cualquier cargamento, al costo del cliente, si no cumple con esta guia.

Los siguientes materiales NO SERAN aceptados en nuestras instalaciones:

- Mercurio (22 CCR 66260. 10)
- Virutas de berilio y magnesio capaces de ser auto combustible (22 CCR 66260. 10)
- Metales que reaccionan con el agua, incluyendo sodio, potasio y litio (22 CCR 66260. 10)
- Tarjetas de circuito sacados de residuos universals (22 CCR 66260.10)
- Polvos metalicos muy finos (que tengan tamano de particula menor de 100 micrones) (22 CCR 66260.10)
- Metal contaminado con deshechos peligrosos
- Metal que contenga cualquier aceite de flujo libre
- Filtros de aceite
- Baterias de uso domestico, tal como alcalino, niquel-cadmio, y litio
- Asbestos, o materiales conteniendo asbestos, tal como el aislamiento de tuberia y material de superficie comunmente encontrado en vigas, tanques, y otros restos estructurales y de demolicion (40CFR $61.150).
- Articulos que contienen o han contenido PCBs, incluyendo capacitores chicos, balasto de luz fluorescente, y transformadores electricos o componentes de transformador (TSCA and 40 CFR $258 and $261).
- Aceites, gasolina, propano, y otros productos de petroleo tal como fluidos hidraulicos, aceites de engranajes, y grasa. Tambien el anticongelante y otros liquidos de flujo libre, incluyendo el agua.
- Unidades de aire acondicionado o refrigeracion conteniendo CICs o HCFCs (40 CFR82)
- Bolsas de aire de automoviles que contienen azida de sodio (40 CFR $261) o perclorato
- Latas de estano
- Vehiculos recreativos o casa de motor
- Latas, barriles u otros contenedores que hayan contenido restos peligrosos que no cumplen con la definicion de “contenedor vacio.”
- Luces fluorescentes, neon, luces de alta intensidad o luces de vapor mercurio
- Residuos electronicos incluyendo TVs, monitores, reproductors de DVDs, computadoras y sus perifericos
- Cualquier material conteniendo sustancias peligrosas o toxicas, plaguicidas, etc.
- Chatarra de municiones o militar
- Explosivos, residuos explosivos o materiales combustibles
- Materiales radioactivos de cualquier tipo o contenedores
- Neumaticos, madera, tierra, desechos de jardin, asfalto, vidrio, goma, ladrillo refractario u otros materiales no metalicos.

Los siguientes articulos se aceptaran SOLAMENTE SI SE PREPARAN de las siguientes maneras descritas:

- Los aparatos deben tener CFC’s, capacitores, balastos, interruptores de mercurio, aceites y todo el material peligroso quitado antes de que sean aceptados. La forma DTSC Form 1430 se requiere para todo los traslados de aparatos preparados. Los aparatos no preparados seran aceptados pero deben separase de otra chatarra y no pueden ser embalados, aplastados o manipulados (por ejemplo: aparatos abandonados).
- Automovil: todos los fluidos, incluyendo el refrigerante, deben ser drenados. Baterias, contrapesos de plomo de rueda, bolsas de aire no desplegadas se deben quitar del automovil. Los tanques de gas deben estar visiblemente perforados o quitados.
- Baterias de acido de plomo o piezas de bateria, se aceptan pero deben separarse de otra chatarra y no estar partidos o quebrados.
- Contenedores a granel tal como tanques deben ser limpiados segun 22 CCR 66261.7(p) y tener suficientes agujeros abiertos para una visible inspeccion.
- Cilindros de gas incluyendo botellas de aire, amortiguadores, propano y otros tanques de gas deben ser partidos por la mitad y las valvulas quitadas. Los cilindros de acetileno se prohiben estrictamente.
- Latas de aerosol: DEBEN ESTAR vacias y aplastadas o perforadas. Las tapas de plastico se deben quitar.
- Banda de metal: DEBE SER partida en pedazos que miden 1 pie.
- Malla ciclonica: DEBE SER partida en pedazos no mas grande de 18 pies X 4 pies.
- Cable y alambre: DEBE SER partido en pedazos de 3 pies, o en espiral y flejado en cuatro lugares con banda de acero de 3/4 pulgadas de ancho.
- No ponga cable, alambre de acero para malla ciclonica, o chatarra pesada, adentro de los automoviles.

Robo de Metal

- Para disminuir la ocurrencia de robos de metal, Schnitzer Steel no aceptara los siguientes materiales a no ser que se indique u establesca claramente quien es el dueno:
- Chatarra de nueva produccion o materiales nuevos que forman parte de un proceso de manufactura que se vendan por un individuo, y no por una empresa.
- Articulos usados unicamente por gobiernos, empresas de servicio publico, ferrocarriles o para propositos muy especificos. Esto incluye barandas de proteccion, tapas de registro, ciertos cables usados solamente en lineas de transmision de alto voltaje, marcadores historicos y placas de cementerio, y obras de arte.
- Nuevos materiales como los que se usan en las obras de construccion o herramientas que usan los contratistas.
- Materiales que quizas no sean nuevos, siguen siendo sospechosos, como los asientos de un campo atletico o los signos de transito.
- Barriles de cerveza
- Vehiculos al final de su vida util proveniente de un cliente desconocido, salvo si se presenta el registro del titulo. (en algunos locales, vehiculos se reciben unicamente de desmanteladores autorizados y transportistas de autos compactados).
- Materiales que hayan sido reportados como robados.

Schnitzer Steel coopera con las autoridades locales de ley para el enjuiciamiento de cualquier acto de robo de metal y tambien mantiene registros de todas las transacciones con nuestra empresa

SCRAP ACCEPTANCE PRACTICES

SCHNITZER STEEL INDUSTRIES, INC. SINCE 1906 Strength. Sustainability. Success.™

SCHNITZER SOUTHWEST

P.O. Box 747
Oakland, CA 94604
510-444-3919 P
510-444-3370 F

Dear customers:

This brochure clarifies our policies for accepting recyclable metals. These requirements reflect our commitment to responsible environmental management. Please be aware that many of our policies are controlled by state and federal environmental regulation which apply both to us and to our customers. This list is not inclusive; other items not listed may be inappropriate for recycling as scrap metal.

Please read this brochure carefully, and contact our Regional Environmental Manager Pam Gray at **(510) 839-4714** if you have questions about specific items.

Remember that any load may be rejected at your cost if these guidelines are not followed.

The following materials will NOT be accepted at our facility:

- Elemental mercury (22 CCR 66260.10)
- Beryllium and magnesium shavings borings, turnings capable of self combustion (22 CCR 66260.10)
- Water reactive metals including sodium, potassium and lithium (22 CCR 66260.10)
- Circuit boards removed from Universal Waste (22 CCR 66260.10)
- Fine metal powders (have a particle size smaller than 100 micrometers) (22 CCR 66260.10)
- Metal contaminated with a hazardous waste (22 CCR 66260.10)
- Metal with any free flowing oils(22 CCR 66260.10)
- Oil filters (22 CCR66260.130
- Household batteries such as alkaline, nickel cadmium and lithium.
- Asbestos or asbestos containing materials, such as pipe insulation and surfacing material commonly found on I-beams, tanks, and other structural and demolition debris (40CFR $61.150).
- Items that contain or have contained PCBs, including small capacitors, fluorescent light ballasts and electrical transformers or transformer components (TSCA and 40 CFR $258 and $261).
- Oils, gasoline, propane, other petroleum products such as hydraulic fluids, gear oils and grease. Also antifreeze and other free flowing liquid including water.
- Refrigeration or air conditioning units containing CGCs or HCFCs (40 CFR82)
- Automobile airbags, which contain sodium azide (40 CFR $261) or perchlorate.
- Tin Cans
- RVs or Motorhomes
- Cans, drums or other containers which held hazardous materials or hazardous wastes not meeting “empty container” definition (22 CCR 66261.7)
- Fluorescent lights, neon, high intensity or mercury vapor lights
- Ewaste including TVs, monitors, DVDs player, computers and peripherals
- Any material containing hazardous or toxic substances,pesticides, etc
- Military or munitions crap
- Explosives, explosive residues or combustible materials
- Radioactive materials of any kind or containers.
- Tires, wood, dirt, yard debris, concrete asphalt, glass, rubber, fire brick or other nonmetallic materials.

The following items will be accepted Only if prepared as described:

- Appliances must have CFC’s, capacitors, ballasts, mercury switches, oils and all other hazardous materials removed prior to acceptance. A DTSC From 1430 is required for all shipments of prepared appliances. Unprepared appliances will be accepted but must separate from other scrap metal and must not be baled, crushed pr tampered with (ie orphan appliances).
- Automobile: ALL fluids, including refrigerant must be drained. Batteries, lead wheel weight, mercury switches and undeployed air bags must be removed. Gas tanks must be visibly punctured or removed.
- Lead-acid batteries or battery parts, can be accepted but must be separated from other scrap and not cracked or broken.
- Bulk containers such as tanks must be cleaned as per 22 CCR 66261.7 (p) and have sufficient holes open for visible inspection.
- Gascylinders including air bottles, shock absorbers, propane and other gas tanks must be cut in half and valves removed Acetylene cylinders are strictly prohibited.
- Aerosol cans: MUST be empty crushed or punctured. Plastic caps must be removed.
- Metal banding: MUST be cut in 1-foot lengths.
- Chain-ink fencing: MUST be cut in sections no larger than 18 feet by 4 feet.
- Cable and wire: MUST be cut in 3-foot lengths, or coiled and banded with 3⁄4-inch steel banding in atleast four places.
- Do not put cable, cyclone fencing wire rope or heavy melt metal inside automobiles.

Metal Theft

- In an effort to curtail the rising incidence of metal theft, Schnitzer Steel’s operations refuse to accept the following material unless ownership is clearly established:
- New production scrap or new materials that are part of a manufacturing process that are being sold by an individual, not a company.
- Items used only by government, utilities, railroads or very specific purpose. This includes guardrails, manhole covers, certain cables used only in high voltage transmission lines, historic markers and cemetery plaques, and artwork.
- Full sized, new materials such as those used in construction or equipment tools used by contractors.
- Materials that may mot be new but are clearly suspect such as bleachers from an athletic field or traffic signs.
- Beer kegs.
- End-of-life vehicles from an unknown customer unless a written record of title is presented. (In some locations, end-of-life vehicles are accepted only from licensed dismantlers and hulk haulers.)
- Materials that have been reported stolen.

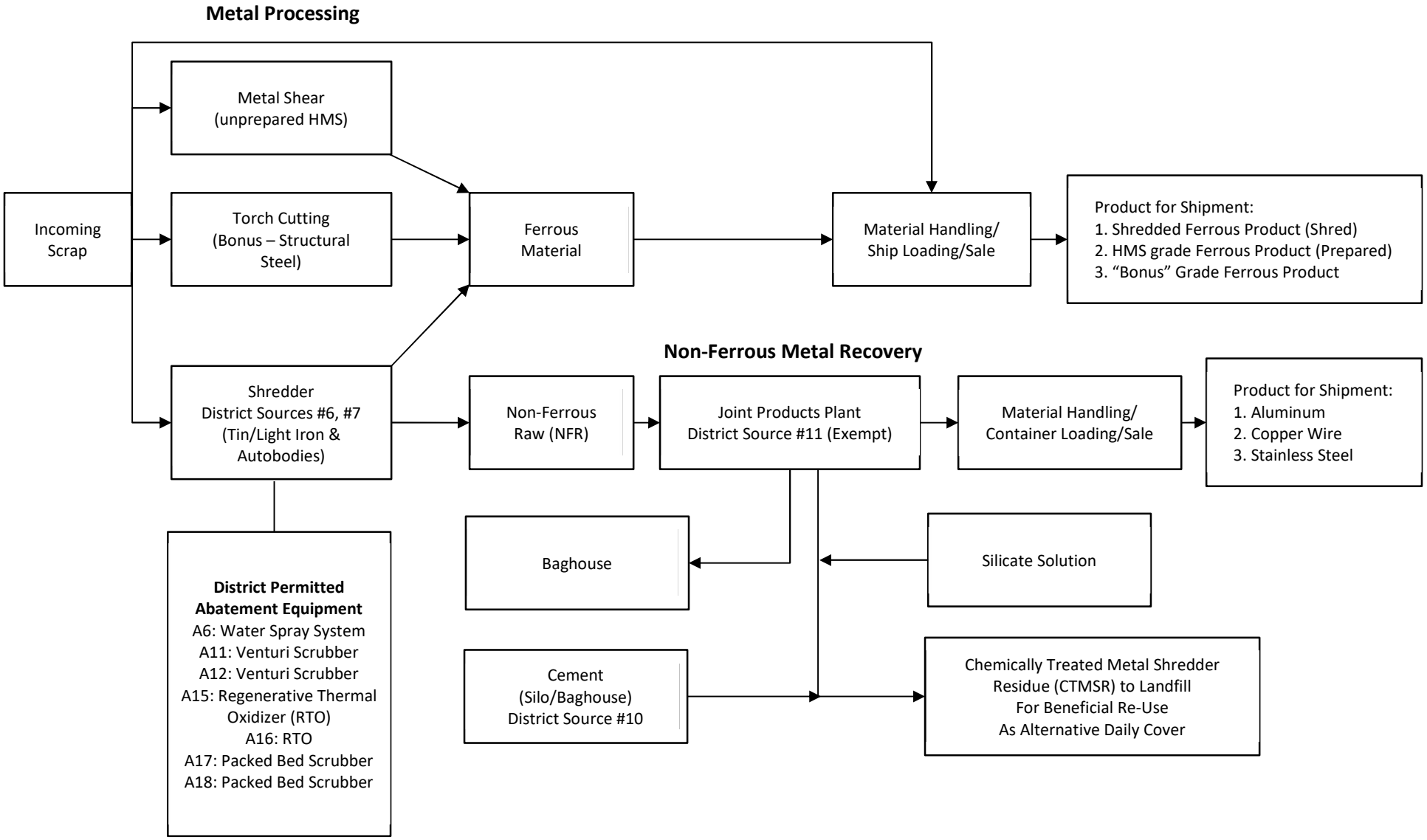
Schnitzer Steel’s operations maintain records of all transactions and cooperates fully with local law enforcement in the prosecution of metal theft.

Attachment 3

Process Flow Diagrams

Attachment #3
Process Flow Diagrams

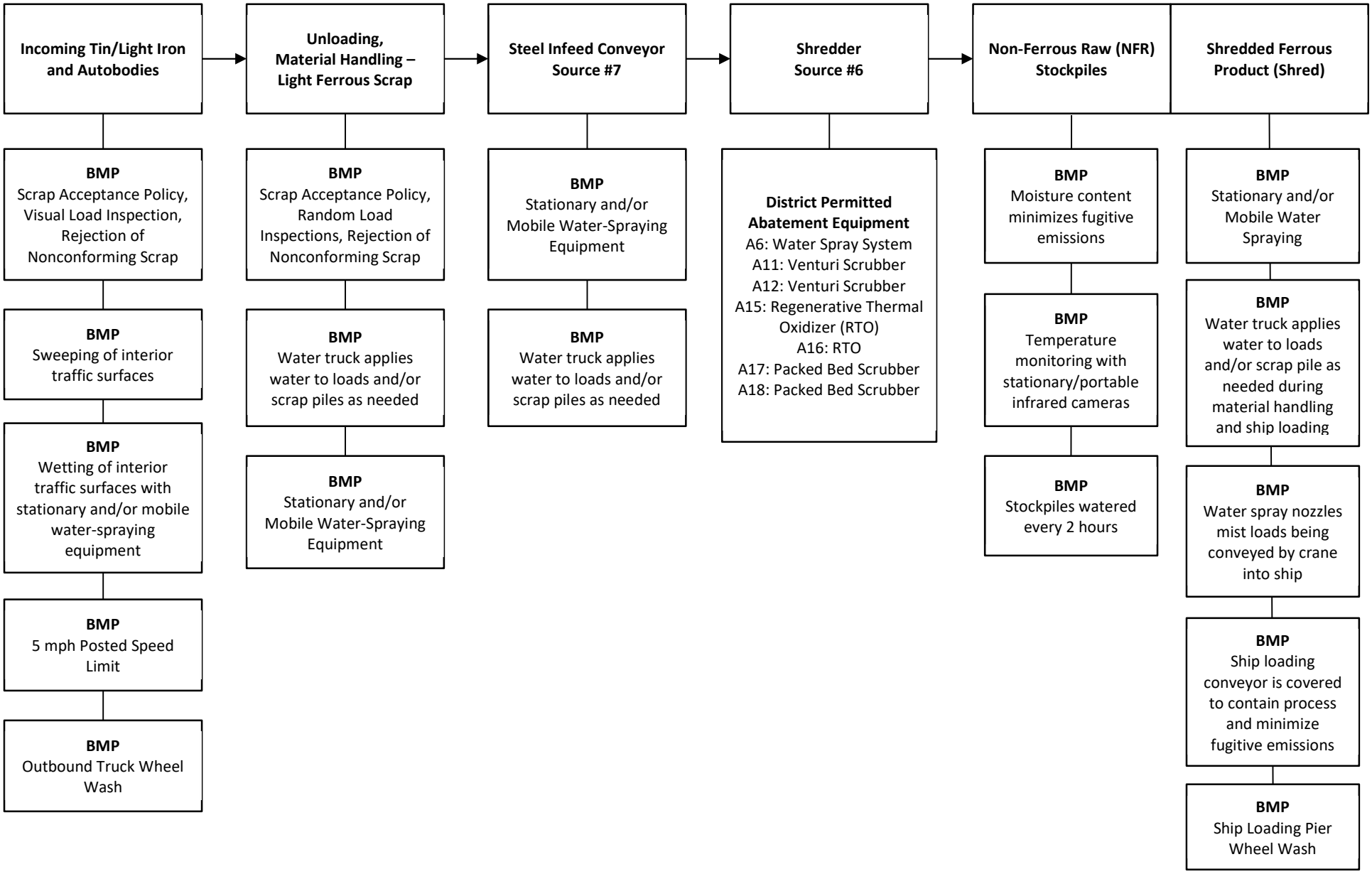
Facility Process Flow Diagram



December 2023

Attachment #3
Process Flow Diagrams

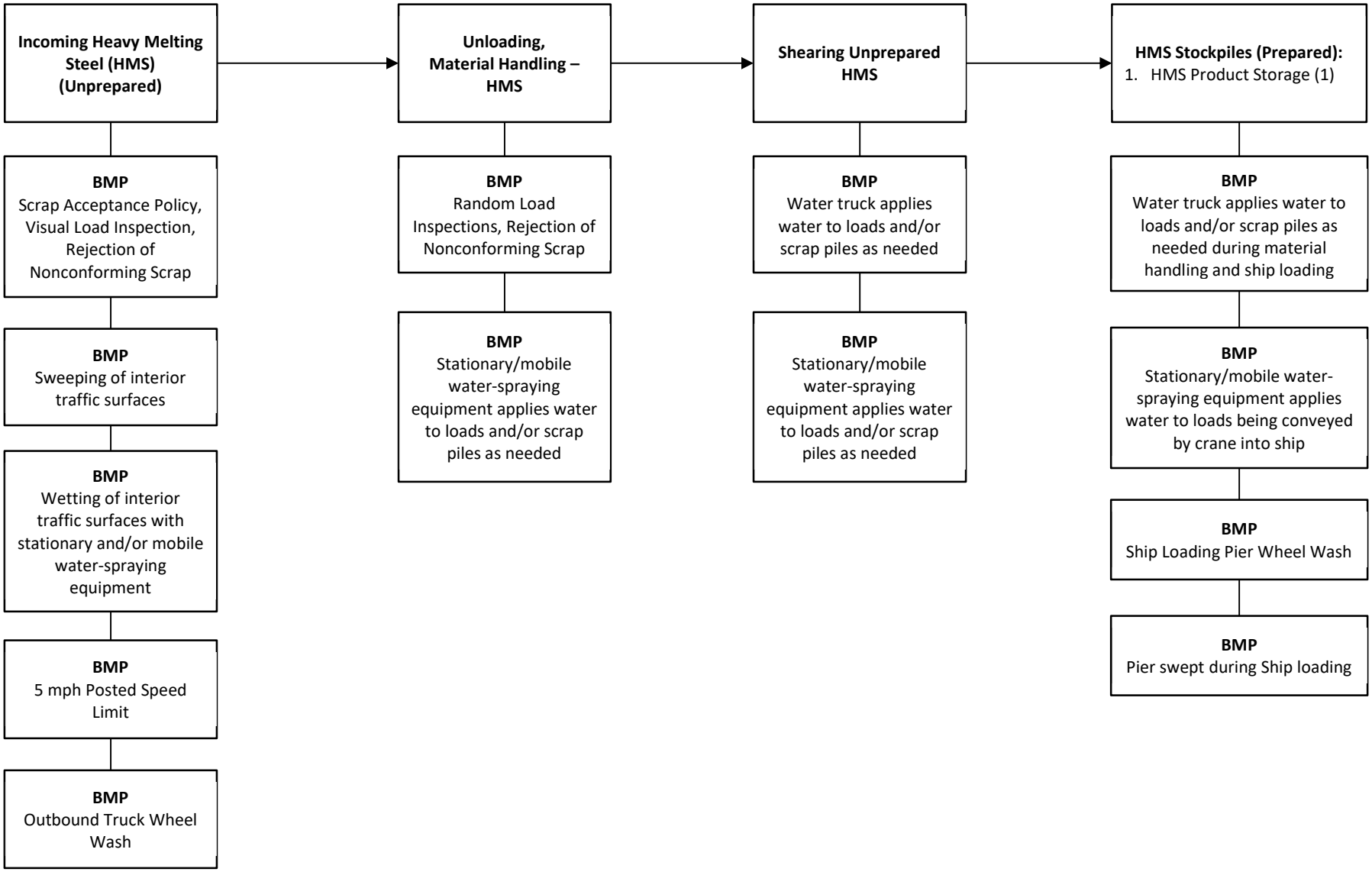
Shredding Process Diagram with BMPs



December 2023

Attachment #3
Process Flow Diagrams

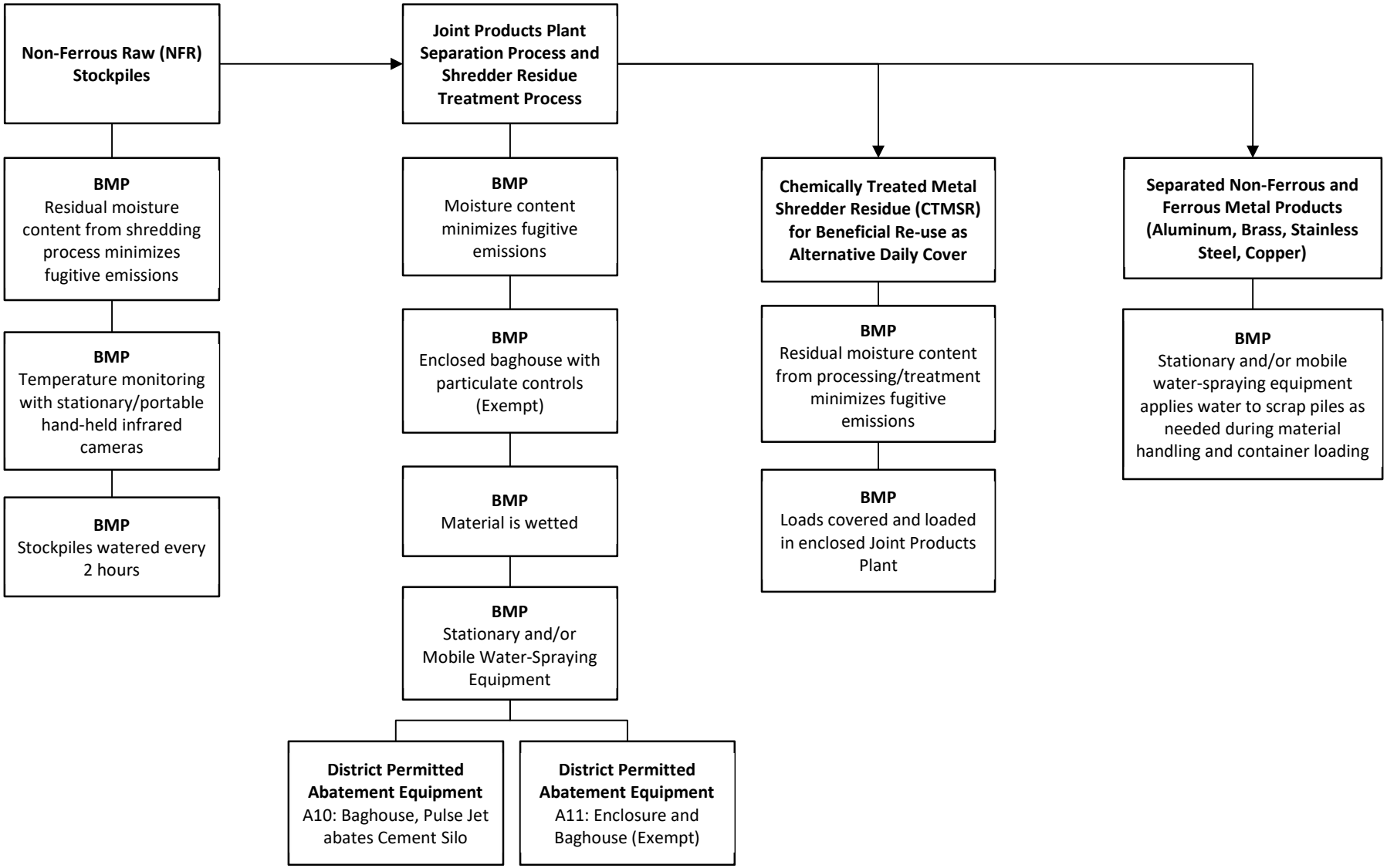
Shearing Process Diagram with BMPs



December 2023

Attachment #3
Process Flow Diagrams

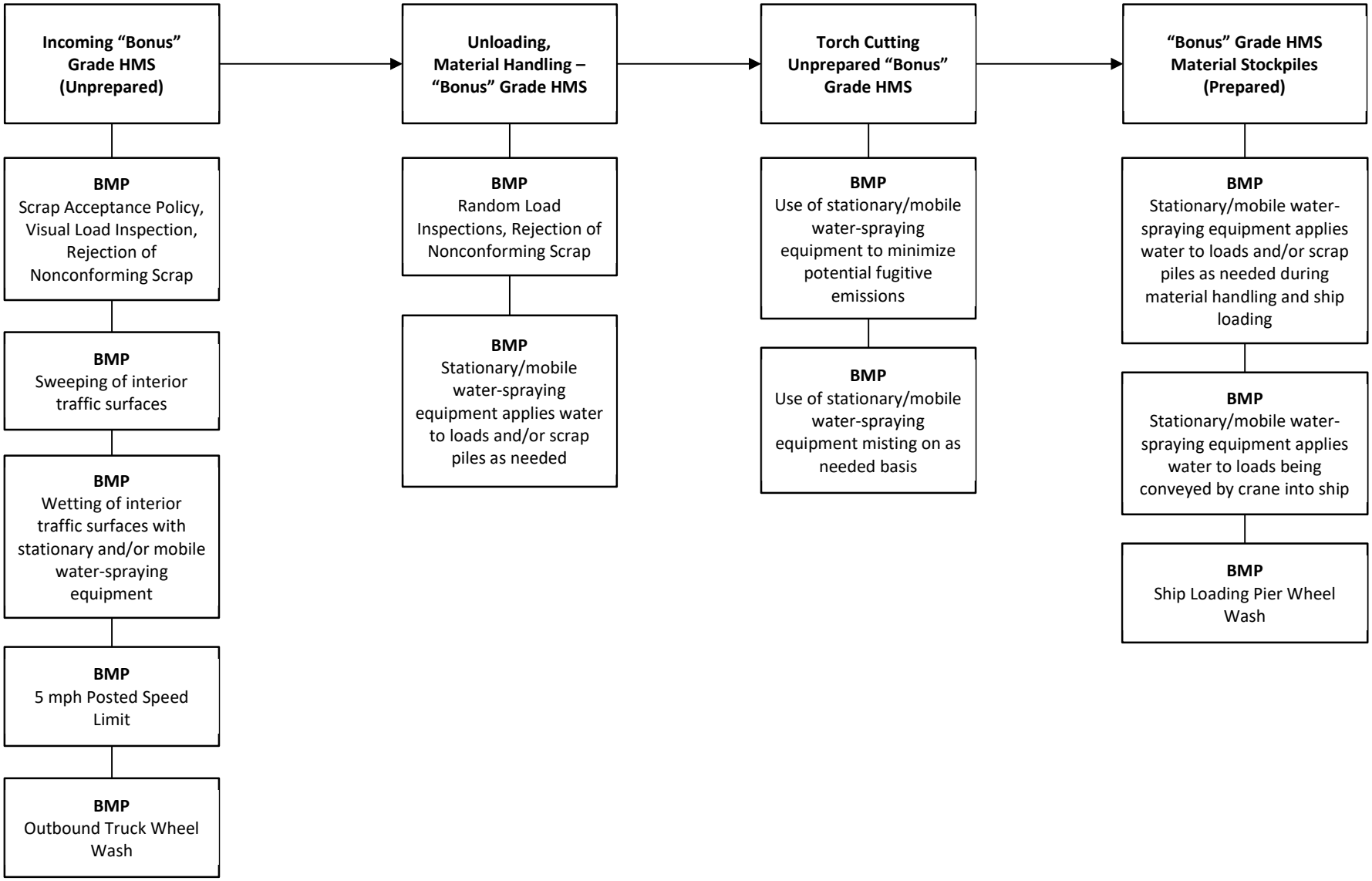
Joint Products Plant Separation Process Diagram with BMPs



December 2023

Attachment #3
Process Flow Diagrams

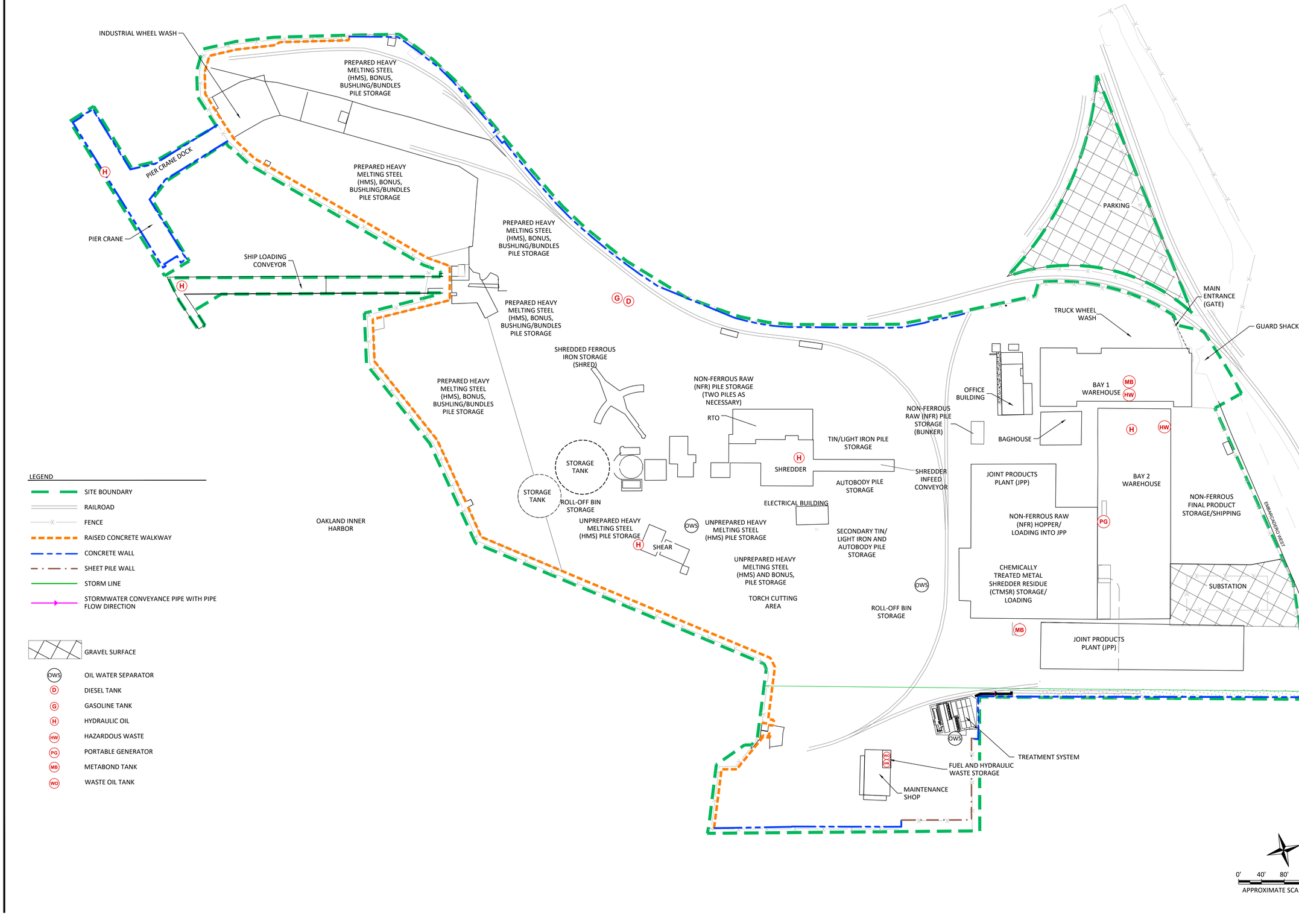
Torch Cutting Process Diagram with BMPs



December 2023

Attachment 4

Facility Layout / Floor Plan



DRAWN BY: KL
REVIEWED BY: HWK
APPROVED BY: HWK
SCALE: SEE SCALE
DATE: 12-5-2023
PROJECT NO: 0055.001.005

SHEET NO: FIGURE 1

FACILITY LAYOUT MAP

SAFETY FIRST

terraphase engineering
1404 Franklin Street, Suite 600
Oakland, California 94612
Phone: 510-645-1850
www.terraphase.com

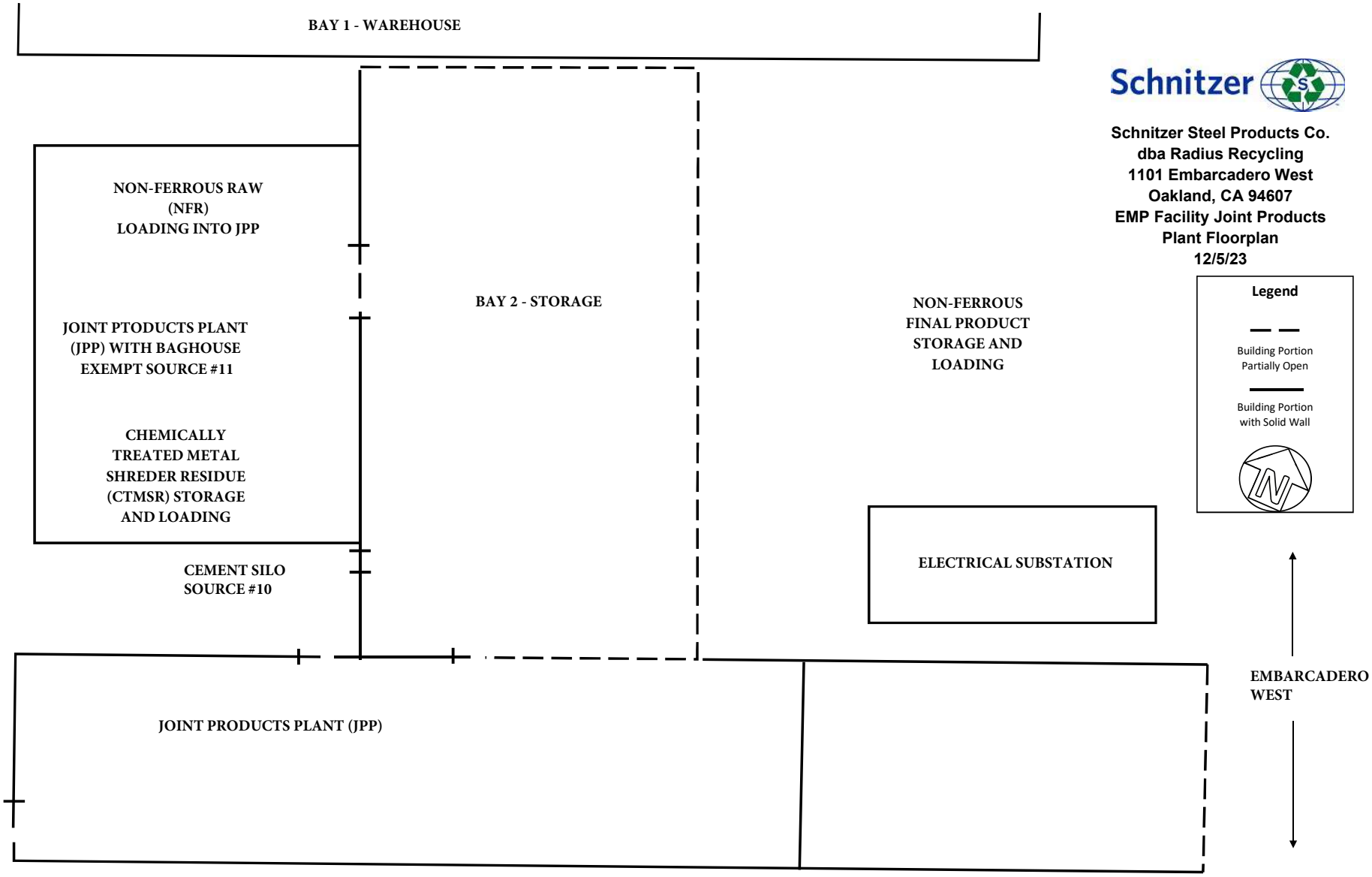
LICENSED PROFESSIONAL

SIGNATURE DATE

REVISION HISTORY

NO.	DESCRIPTION	DATE	APPROVED

Attachment #4
Facility Layout



Attachment 5

APCO Determination of Approvability

Facility Name: Schnitzer Date: April 11, 2022

APCO Recommendations to EMP and Determination of Approvability (12-13-405)

Provide determination of acceptance to APCO recommendations. Include the determination of acceptance by the facility's Responsible Manager and the basis for rejecting any APCO recommendations. If recommendation is accepted, include measures to implement APCO recommendation and the proposed date of implementation.

Section #	(AIR DISTRICT USE ONLY) APCO Recommendation	Acceptance of APCO Recommendation	If NO: Basis for Rejecting APCO Recommendation	If YES: Measures to Implement Recommendation	Proposed Date of Implementation	(AIR DISTRICT USE ONLY) Approval of Response
1	Increase schedule for more frequent temperature monitoring of stockpiles.	☐ Yes ☒ No	Per current Emissions Minimization Plan, Metal Management – Storage Pile Management, temperature monitoring of stockpiles is already conducted hourly, 24/7 days a week. Stockpiles are manually monitored via stationary infrared cameras which are continuously monitored by Facility's Security Command Center.			☒ Yes ☐ No
2	Conduct daily monitoring of the depollution area to ensure flammable materials are properly contained and removed offsite regularly.	☐ Yes ☒ No	Per current Emissions Minimization Plan, Depollution Operations, scrap is rarely depolluted at facility. Scrap suppliers must maintain a Hazardous Substance Removal Contract (HSRCC) which requires delivery of only depolluted scrap. If on rare occasion scrap is depolluted on-site, the scrap is segregated away from stockpiles and any generated wastes are handled per Federal and State regulations and are removed offsite within 90 days.			☒ Yes ☐ No
3	Continue to obtain and maintain visible emissions evaluation (VEE) certification(s) through California Air Resources Board in accordance with US EPA Method 9 and provide training to onsite staff.	☒ Yes ☐ No		Facility has two Environmental System Control Operators that are CARB VEE certified as of April 2022.	April 5, 2022	☒ Yes ☐ No
4	Continue to commit to shredding all scrap to the ground each day to minimize fugitive emissions.	☒ Yes ☐ No		Per current Emissions Minimization Plan, Metal Management – Storage Pile Management, it is Facility's goal to shred as much scrap as possible on any given day and thereby minimize scrap stockpile size. The following factors prevent the facility from always achieving this goal: Variable PG&E power usage curtailment schedule which can restrict the time of day we can operate the shredder. The facility does not shred every day of the week due to maintenance, staffing considerations, and variable incoming volume. Scrap is received throughout the day, even after shredding operations have ended for the day. The inflow scrap volume in a given day can exceed the facility's ability to shred all material in a standard shift.	Continuing	☒ Yes ☐ No
5	To reduce road dust, pave dirt roads/areas that are used by trucks or heavy-duty equipment to move or transport material.	☐ Yes ☒ No	Facility was fully paved by end of 2021 calendar year.			☒ Yes ☐ No

Attachment 6

VEE Certifications

CALIFORNIA
AIR RESOURCES BOARD

Air Quality Training Program

Awards This Certificate To

Grzegorz Bruski

For Completion Of

MM106 - Visible Emissions Evaluation: Day Certification

In
Sacramento

On
Thursday, June 29, 2023

This certificate expires six months after the evaluation completion date.

Dr. Todd P. Sax, Chief
Enforcement Division