RCRA HAZARDOUS WASTE FACILITY OPERATING PERMIT
CLASS 3 PERMIT MODIFICATION APPLICATION
With Solid Waste Permit Modification

Safety-Kleen Systems, Inc.

Linden, NJ

EPA ID No. NJD 002 182 897

December 2023

(DEP Copy)

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Sent via Fed Ex and eMail

Dana Lawson, Bureau Chief (Mail Code 401-02C)
Bureau of Recycling and Hazardous Waste Management
New Jersey Department of Environmental Protection
P.O. Box 420
401 East State Street
Trenton, NJ 08625-0420
(609) 984-3438

Re: RCRA Class 3 & Solid Waste Permit Modification Request
New Mix Pit, Container Storage Area 3, and Truck Stations 11 - 13
Safety-Kleen Systems Inc., Linden, NJ
Permit #: HWP190002
EPA ID #: NJD002182897

Dear Ms. Lawson:

Pursuant to the requirements found at 40 CFR 270.42(c), please find the enclosed information for a Class 3 RCRA Permit Modification as classified in accordance with the "Modifications - General Permit Provisions", found in 40 CFR 270.42, Appendix I, F.1.a. and elsewhere therein. Additionally, you will find the facility's associated Solid Waste Permit modification application. The format of this request provides a Redline version of the revised application pages for convenience in reviewing the changes for the RCRA permit application followed by a Final version of the new information as replacement pages and replacement/new Exhibits to be inserted into the facility's existing RCRA Part B Permit Application.

The facility requests that the Department withdraw its 9/14/2023 RCRA Class 3 Permit Modification application and replace/accept the one herein, and apply the previous permit modification fee payment of $20,262 to this application. The difference between the 2 applications is as follows:

- The mix pit operations' design was changed to include a second mix pit and roll-off loading/container storage area;
- A larger building/enclosure to accommodate the new mix pit operation design;
- Due to the extra space the larger building will occupy one (1) of the proposed new truck stations had to be eliminated. This resulted in the renumbering of proposed new Truck Stations 13-14 (i.e., renumbered as Truck Stations 12-13.
- Incorporate a Solid Waste Permit modification application relative to non-hazardous waste (e.g., ID72 and ID27) treatment processes in the new mix pit operation since the facility's associated permit is incorporated into its existing RCRA permit.

All of these changes have been included within the enclosed permit modification application.

I. Summary of the Permit Modification Request

The facility is requesting authorization to treat hazardous waste via stabilization and solidification in an enclosed mix pit operation as well as approval for a new Container Storage Area 3 (CSA3) as well as 3 other container storage units identified as Truck Stations 11, 12 and 13. These new hazardous waste management units are needed in order to provide and treatment for hazardous wastes presently generated by utility companies and other industries and commercial businesses prior to offsite disposal. The additional container storage areas are needed to provide more storage capacity for offsite generated wastes as well as possibly wastes that will be generated onsite by the new mix pit operation. Due to increased interest by industrial and commercial customers for the treatment of hazardous waste via stabilization and solidification, this facility is experiencing more requests to manage wastes in new mix pits via stabilization and solidification, and anticipates more associated activity in the future.

II. Modification

- Add two (2) new mix pits and ancillary equipment (e.g., air pollution control devices) in/at an enclosed building for the treatment of metal-bearing hazardous wastes via stabilization/solidification.
- The new Mix Pit Building will also serve as a container storage area (i.e., CSA3).
- Add Truck Stations 11, 12 and 13 for RCRA hazardous waste container storage service.
- Add clarification to other existing text within the RCRA permit application.

III. Applicable Information Required by 40 CFR 270.13 through 270.22, 270.62, 270.63 and 270.66

A) Appropriate 40 CFR 270.13 through 270.22 Information/Data

Pursuant to 40 CFR 270.13, a replacement for the facility's Part A of the RCRA permit application are enclosed.

Pursuant to 40 CFR 270.14, replacement and new pages/information for the facility's Part B of the permit application are enclosed. Specifically, updates are provided herein applicable to 40 CFR 270.14(b) relative to Sections B, C, D, F, G, I, J and L of the facility's existing RCRA permit application.

This permit modification request does not require revision of any other information previously submitted to the Department pursuant to 40 CFR 270.13 through 270.22.

B) Appropriate 40 CFR 270.62 Information/Data

The incinerator standards under this regulation do not apply to this facility's RCRA permit.

C) Appropriate 40 CFR 270.63 Information/Data

The land treatment standards under this regulation do not apply to this facility's permit.

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(D) Appropriate 40 CFR 270.66 Information/Data

The boilers and industrial furnaces burning hazardous waste standards under this regulation do not apply to this facility's permit.

IV. Other

Pursuant to 40 CFR 270.42(c)(2), notification of this RCRA permit modification and scheduled public meeting will be conducted for those persons on the facility's mailing as well as being published in a major local newspaper. Proof of publication will be provided once available.

In accordance with 40 CFR 270.42(c)(3), a copy of this permit modification will be made accessible to the public at a location in the vicinity of the facility – i.e., the Linden Public Library.

Pursuant to 40 CFR 270.42(c)(4), the facility will hold a public meeting in the vicinity of the facility.

Thank you for the Department's time in considering this matter. If you have any questions regarding the information contained herein this document, please feel free to contact me at desha.david@cleanharbors.com or (423) 413-1218.

Best regards,

David A. DeSha
Director Environmental Compliance
Clean Harbors Environmental Services, Inc.

Enclosures

cc: William Greenlaw – Safety-Kleen Systems, Inc.
David Cornell – Clean Harbors Environmental Services, Inc.

Enclosure

Enclosure

Section A

Redline

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT PART A FORM

1. Facility Permit Contact

First Name	**William**	MI		Last Name	**Greenlaw**
Title	**Facility General Manager**				
Email	**greenlaw.william@cleanharbors.com**				
Phone	**(908) 862-2000**	Ext		Fax	**Cell 7816366522**

2. Facility Permit Contact Mailing Address

Street Address	**1200 Sylvan Street**	
City, Town, or Village	**Linden**	
State **NJ**	Country USA	Zip Code 07036

3. Facility Existence Date (mm/dd/yyyy)

1/1/1942

4. Other Environmental Permits

A. Permit Type	B. Permit Number	C. Description
E	**4 0 0 9 7**	**DEP Site ID# - multiple air permits**
N	**N J G 0 1 2 2 7 1 8**	**NJPDES Permit - Stormwater**
E	**0 3 6**	**Linden-Roselle Sewerage Authority**
R	**N J D 0 0 2 1 8 2 8 9 7**	**EPA HSWA Permit**

5. Nature of Business

Commercial TSDF and solvent/petroleum product recycling/storage/distribution, used oil transfer and Universal Waste storage/transfer. Hazardous waste container and tank storage conducted in support of hazardous waste and hazardous secondary material recycling as well as storage prior to shipment offsite to other authorized facilities for final disposition. Hazardous waste treatment in tanks conducted in support of onsite fuels' blending prior to shipment offsite for recycling/energy recovery.

Hazardous waste treatment via stabilization and solidification in an enclosed mix pit operation.

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity (1) Amount	B. Process Design Capacity (2) Unit of Measure	C. Process Total Number of Units	D. Unit Name
0	1	S	0	1	125,840	G	1	Container Storage Area 1*
0	2	S	0	1	17,600	G	1	Container Storage Area 2*
0	3	S	0	1	~~18,000~~	G	~~1~~	Container Storage Area 3 *
0	4	S	0	1	377,000~~246,000~~	G	16~~14~~	Truck Stations *
0	5	S	0	1	600	Y	1	Truck Stations *

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.		A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes (1) Process Codes								D. Processes (2) Process Description (if code is not entered in 7.D1))
0	1	D	0	0	1	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	2	D	0	0	2	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	3	D	0	0	3	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	4	D	0	0	4	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
0	5	D	0	0	5	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
0	6	D	0	0	6	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
0	7	D	0	0	7	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
0	8	D	0	0	8	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
0	9	D	0	0	9	100,000,000	P	S	0	1	S	0	2	T	0	1	
1	0	D	0	1	0	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04
1	1	D	0	1	1	100,000,000	P	S	0	1	S	0	2	T	0	1	And Process Code T04

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

10. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

11. Comments

Part A for Class 3 Permit Modification
Appendix A1 - Item 6. Continued; Appendix A2 - Item 7. Continued Attachment A1- Map; Attachment A2 - Facility Drawing; Attachment A3 - Photographs
~~Part A for Part B Class 3 Permit Modification~~
*Additional Details in Part B, Section D

Appendix A1 – Item 6. Continued

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
0	~~56~~	S	0	1	76,500	G	3	Rail Stations*
0	~~67~~	S	0	2	311,355	G	24	Tank Farm 2*
0	~~78~~	S	0	2	102,600	G	4	Tank Farm 4*
0	~~89~~	S	0	2	36,000	G	2	Tanks 40 & 41*
~~01~~	~~90~~	S	0	2	5,744	G	2	Tanks VR1 & VR2*
1	~~01~~	T	0	1	89,684	U	5	Tanks 213/214/215; VR1/2*
1	2	T	0	4	200	N	2	Mix Pit*

**Additional Details in Part B, Section D

Final

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☐	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17 below) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
	☐ Site was a TSD facility, a reverse distributor, and/or generator of ≥ 1,000 kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **one or more months of the reporting year** (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☑	Submitting a new or revised Part A (permit) Form

2. Site EPA ID Number

N	J	D	0	0	2	1	8	2	8	9	7

3. Site Name

Safety-Kleen Systems, Inc.

4. Site Location Address

Street Address	**1200 Sylvan Street**				
City, Town, or Village	**Linden**			County	**Union**
State	**NJ**	Country	**USA**	Zip Code	**07036**
Latitude	**40.6136767**	Longitude	**-74.2520401**	☐ Use Lat/Long as Primary Address	

5. Site Mailing Address ☑ Same as Location Street Address

Street Address		
City, Town, or Village		
State	Country	Zip Code

6. Site Land Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary)	**562211**	C.	
B.	**325998**	D.	

8. Site Contact Information

☑ Same as Location Address

First Name **William**	MI	Last Name **Greenlaw**
Title **Facility General Manager**		
Street Address		
City, Town, or Village		
State	Country	Zip Code
Email **greenlaw.william@cleanharbors.com**		
Phone **(908) 862-2000**	Ext	Fax **Cell 7816366522**

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner

☐ Same as Location Address

Full Name **Safety-Kleen Systems, Inc.**	Date Became Owner (mm/dd/yyyy) **1/1/1989**
Owner Type ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address **42 Longwater Drive**	
City, Town, or Village **Norwell**	
State **MA** / Country **USA**	Zip Code **02061**
Email **greenlaw.william@cleanharbors.com**	
Phone **(908) 862-2000** / Ext	Fax **Cell 7816366522**
Comments **Facility contact can be contacted on behalf of owner/operator**	

B. Name of Site's Legal Operator

☑ Same as Location Address

Full Name **Safety-Kleen Systems, Inc.**	Date Became Operator (mm/dd/yyyy)
Operator Type ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address	
City, Town, or Village	
State / Country	Zip Code
Email **greenlaw.william@cleanharbors.com**	
Phone **(908) 862-2000** / Ext	Fax **Cell 7816366522**
Comments **Facility contact can be contacted on behalf of owner/operator**	

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☑ Y ☐ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☑	a. LQG	-Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐ Y ☑ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☑ Y ☐ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☑ Y ☐ N	4. Receives Hazardous Waste from Off-site	
☑ Y ☐ N	5 Recycler of Hazardous Waste	
☑	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☑ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

See	**18.**					

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

NA						

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☑ Y ☐ N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☐	a. Transporter
☑	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Underground Injection Control
☑ Y ☐ N	3. United States Importer of Hazardous Waste
☐ Y ☑ N	4. Recognized Trader—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☑ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☑ Y ☐ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☑	a. Batteries
☑	b. Pesticides
☑	c. Mercury containing equipment
☑	d. Lamps
☑	e. Aerosol Cans
☑	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☑ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☑ Y ☐ N	1. Used Oil Transporter—If "Yes", mark all that apply.
☐	a. Transporter
☑	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Used Oil Processor and/or Re-refiner—If "Yes", mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☑ N	3. Off-Specification Used Oil Burner
☑ Y ☐ N	4. Used Oil Fuel Marketer—If "Yes", mark all that apply.
☑	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☑	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☐ Y ☑ N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals—if "Yes", mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☐	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☑ N	2. Withdrawing from operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K.

☐ Y ☑ N	A. Opting into or currently operating under 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories— If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☑ N	B. Withdrawing from 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☑ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator.

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☑ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☑ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
	A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility
	B. Expected closure date: _____ mm/dd/yyyy
	C. Requesting new closure date: _____ mm/dd/yyyy
	D. Date closed : _____ mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☑ Y ☐ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐ Y ☑ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

18. Comments (include item number for each comment)

10.B.: See attached list (i.e., Appendix A2 - Waste Codes for Federally Regulated Hazardous Wastes)

11.B.f.: Other Universal Wastes include non-PCB ballasts, oil-based finishes (e.g., oil-based paint wastes), consumer electronics and other NJDEP Universal Wastes allowed by state & federal regulations

19. Certification I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11).**

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
	12/8/2023
Printed Name (First, Middle Initial Last)	Title
David A. DeSha	**Director Environmental Compliance**
Email	
desha.david@cleanharbors.com	

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last)	Title
Email	

ADDENDUM TO THE SITE IDENTIFICATION FORM: NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY

ONLY fill out this form if:

- You are located in a State that allows you to manage excluded hazardous secondary material (HSM) under 40 CFR 260.30, 261.4(a)(23), (24), (25), or (27) (or state equivalent; See https://www.epa.gov/epawaste/hazard/dsw/statespf.htm for a list of eligible states; AND
- You are or will be managing excluded HSM in compliance with 40 CFR 260.30, 261.4(a)(23), (24), (25), or (27) (or state equivalent) or have stopped managing excluded HSM in compliance with the exclusion(s) and do not expect to manage any amount of excluded HSM under the exclusion(s) for at least one year. Do not include any information regarding your hazardous waste activities in this section. Note: If your facility was granted a solid waste variance under 40 CFR 260.30 prior to July 13, 2015, your management of HSM under 40 CFR 260.30 is grandfathered under the previous regulations and you are not required to notify for the HSM management activity excluded under 40 CFR 260.30.

1. Reason for Notification (Include dates where requested)

☐ Facility will begin managing excluded HSM as of _____ (mm/dd/yyyy).

☑ Facility is still managing excluded HSM/re-notifying as required by March 1 of each even-numbered year.

☐ Facility has stopped managing excluded HSM as of _____ (mm/dd/yyyy) and is notifying as required.

2. Description of Excluded HSM Activity. Please list the appropriate codes (see Code List section of the instructions) and quantities, in short tons, to describe your excluded HSM activity ONLY (do not include any information regarding your hazardous wastes). Use additional pages if more space is needed.

A. Facility Code	B. Waste Code(s) for HSM	C. Estimate Short Tons of excluded HSM to be managed annually	D. Actual Short Tons of excluded HSM that was managed during the most recent odd-numbered year	E. Land-based Unit Code
07	See Appendix A2	5,000	1,954	NA
08	U044,U122,D022	1,500	0	NA

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT PART A FORM

1. Facility Permit Contact

First Name	MI	Last Name
Title **Facility General Manager**		
Email		
Phone	Ext	Fax

2. Facility Permit Contact Mailing Address

Street Address **1200 Sylvan Street**		
City, Town, or Village **Linden**		
State **NJ**	Country **USA**	Zip Code **07036**

3. Facility Existence Date (mm/dd/yyyy)

1/1/1942

4. Other Environmental Permits

A. Permit Type	B. Permit Number	C. Description
E	**4 0 0 9 7**	**DEP Site ID# - multiple air permits**
N	**N J G 0 1 2 2 7 1 8**	**NJPDES Permit - Stormwater**
E	**0 3 6**	**Linden-Roselle Sewerage Authority**
R	**N J D 0 0 2 1 8 2 8 9 7**	**EPA HSWA Permit**

5. Nature of Business

Commercial TSDF and solvent/petroleum product recycling/storage/distribution, used oil transfer and Universal Waste storage/transfer. Hazardous waste container and tank storage conducted in support of hazardous waste and hazardous secondary material recycling as well as storage prior to shipment offsite to other authorized facilities for final disposition. Hazardous waste treatment in tanks conducted in support of onsite fuels' blending prior to shipment offsite for recycling/energy recovery.

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
0	1	S	0	1	125,840	G	1	Container Storage Area 1
0	2	S	0	1	17,600	G	1	Container Storage Area 2
0	3	S	0	1		G		
0	4	S	0	1	246,000	G	14	Truck Stations
0	5	S	0	1				

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.		A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes								
								(1) Process Codes								(2) Process Description (if code is not entered in 7.D1))
0	1	D	0	0	1	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	2	D	0	0	2	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	3	D	0	0	3	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	4	D	0	0	4	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	5	D	0	0	5	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	6	D	0	0	6	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	7	D	0	0	7	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	8	D	0	0	8	100,000,000	P	S	0	1	S	0	2	T	0	1	
0	9	D	0	0	9	100,000,000	P	S	0	1	S	0	2	T	0	1	
1	0	D	0	1	0	100,000,000	P	S	0	1	S	0	2	T	0	1	
1	1	D	0	1	1	100,000,000	P	S	0	1	S	0	2	T	0	1	

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

10. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

11. Comments

Appendix A1 - Item 6. Continued; Appendix A2 - Item 7. Continued
Attachment A1- Map; Attachment A2 - Facility Drawing; Attachment A3 - Photographs
Part A for Part B Class 3 Permit Modification

Appendix A1 – Item 6. Continued

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
0	6	S	0	1	76,500	G	3	Rail Stations*
0	7	S	0	2	311,355	G	24	Tank Farm 2*
0	8	S	0	2	102,600	G	4	Tank Farm 4*
0	9	S	0	2	36,000	G	2	Tanks 40 & 41*
0	10	S	0	2	5,744	G	2	Tanks VR1 & VR2*
1	11	T	0	1	89,684	U	5	Tanks 213/214/215; VR1/2*
1	12	T	0	4	200	N	2	Mix Pit*

**Additional Details in Part B, Section D

Appendix A2 – Item 6. Continued

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
	*	100,000,000	P	S 0 1 S 0 2 T 0 1	

*EPA Hazardous Waste Codes

D001	D004	D007	D010	D019	D023	D026	D029	D032	D035	D038	D041
D002	D005	D008	D011	D021	D024	D027	D030	D033	D036	D039	D042
D003	D006	D009	D013	D022	D025	D028	D031	D034	D037	D040	D043
			D018								

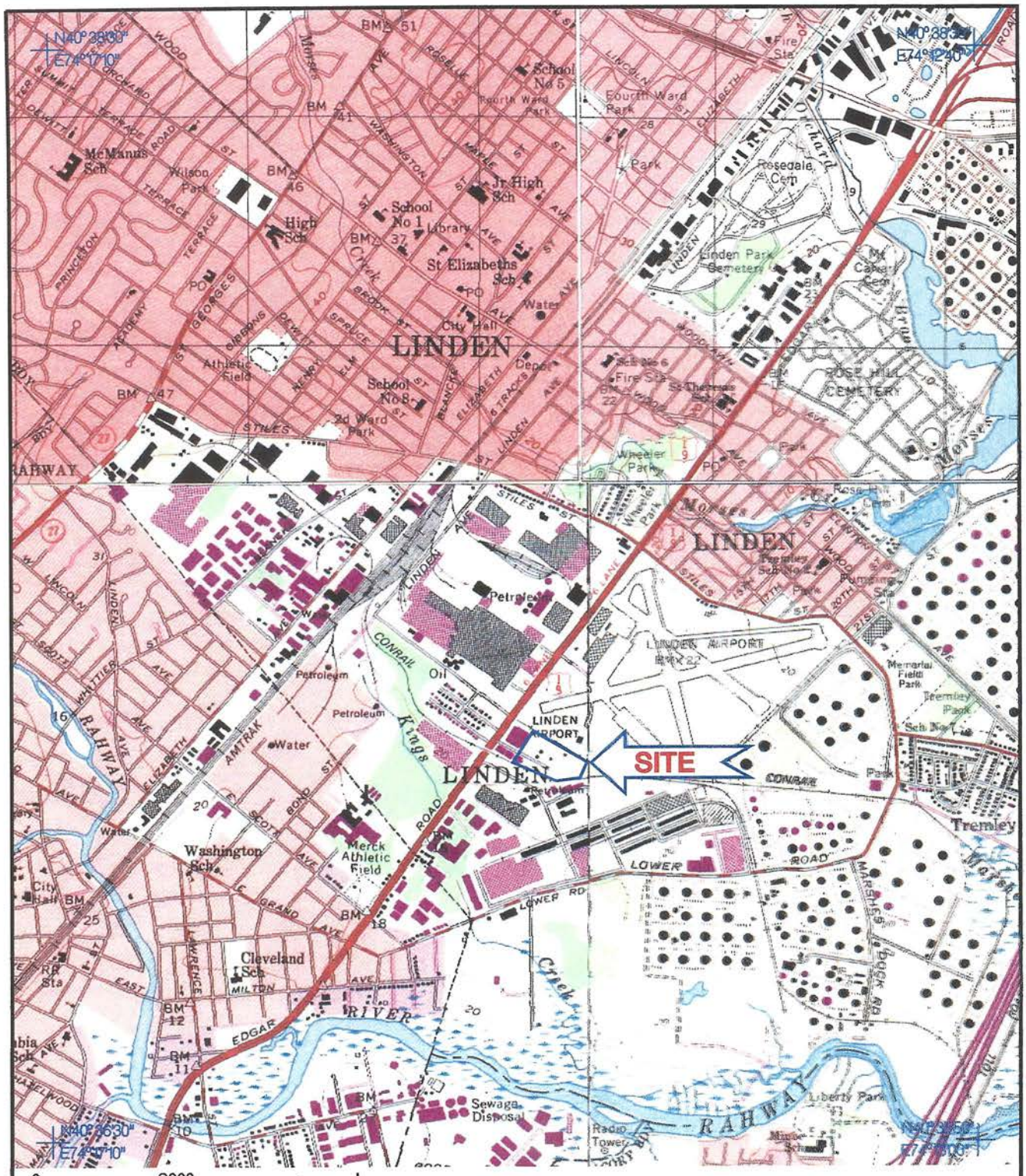
F001	F003	F005	F007	F009	F011	F019	F038				
F002	F004	F006	F008	F010	F012	F037	F039				

K001	K005	K011	K022	K050	K062	K071	K100	K111	K157		
K002	K006	K013	K027	K051	K064	K084	K104	K112	K158		
K003	K007	K015	K048	K052	K065	K086	K105	K117			
K004	K008	K021	K049	K060	K066	K087	K106	K156			

P001	P042	P075	P188								
P012	P046	P081	P204								

U001	U024	U046	U067	U087	U109	U128	U152	U172	U193	U221	U278
U002	U025	U047	U068	U088	U110	U129	U153	U173	U194	U222	U279
U003	U026	U048	U069	U089	U111	U130	U154	U174	U196	U225	U280
U004	U027	U049	U070	U090	U112	U131	U155	U176	U197	U226	U328
U005	U028	U050	U071	U091	U113	U132	U156	U177	U200	U227	U353
U007	U029	U051	U072	U092	U114	U136	U157	U178	U201	U228	U359
U008	U030	U052	U073	U093	U115	U137	U158	U179	U202	U235	U364
U009	U031	U053	U074	U094	U116	U138	U159	U180	U205	U236	U367
U010	U034	U055	U075	U095	U117	U140	U161	U181	U206	U237	U372
U011	U035	U056	U076	U097	U118	U141	U162	U182	U207	U238	U373
U012	U036	U057	U077	U098	U119	U142	U163	U183	U208	U239	U387
U014	U037	U058	U078	U099	U120	U143	U164	U184	U209	U240	U389
U015	U038	U059	U079	U101	U121	U144	U165	U185	U210	U243	U394
U016	U039	U060	U080	U102	U122	U145	U166	U186	U211	U244	U395
U017	U041	U061	U081	U103	U123	U147	U167	U187	U213	U246	U404
U018	U042	U062	U083	U105	U124	U148	U168	U188	U215	U247	U410
U019	U043	U063	U084	U106	U125	U149	U169	U190	U218	U248	U411
U021	U044	U064	U085	U107	U126	U150	U170	U191	U219	U249	
U022	U045	U066	U086	U108	U127	U151	U171	U192	U220	U271	

Attachment A1



0 2000 FEET

NEW JERSEY SITE

ADAPTED FROM (4) U.S.G.S. 7.5' SERIES QUADRANGLES
ARTHUR KILL, N.Y.-N.J, ELIZABETH, N.J.-N.Y.,
PERTH AMBOY, N.J.-N.Y., AND ROSELLE, N.J.

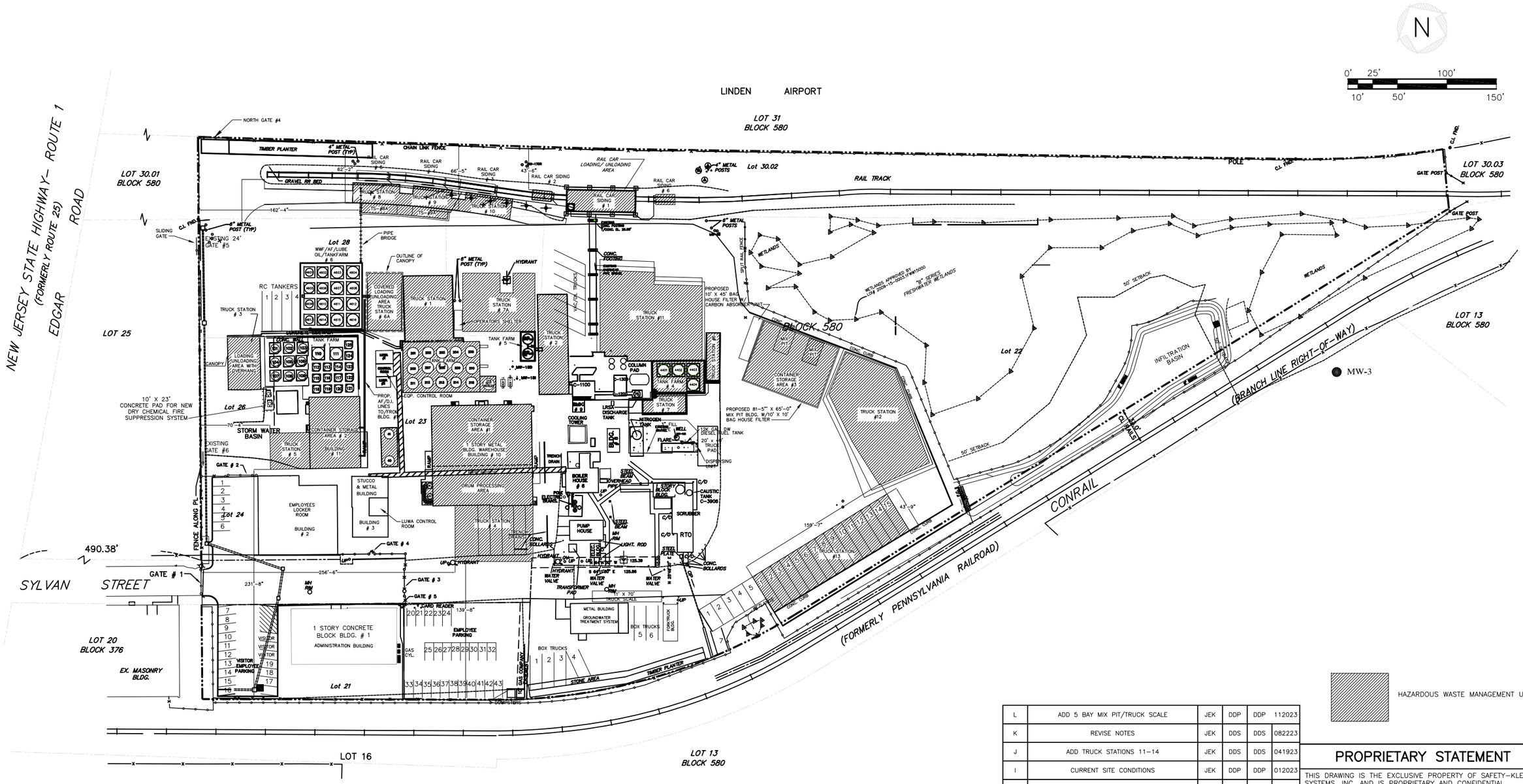
safety-kleen ®

XXXXXXXX

SITE LOCATION MAP
SAFETY-KLEEN FACILITY - LINDEN, NJ

SCALE:	DATE:	CC DWG NO.	1202-LOCMAPE4
1" = 2000'	10/10/03	SK DWG NO.	7404-0100-009

Attachment A2



HAZARDOUS WASTE MANAGEMENT UNIT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
L	ADD 5 BAY MIX PIT/TRUCK SCALE	JEK	DDP	DDP	112023
K	REVISE NOTES	JEK	DDS	DDS	082223
J	ADD TRUCK STATIONS 11–14	JEK	DDS	DDS	041923
I	CURRENT SITE CONDITIONS	JEK	DDP	DDP	012023
H	CURRENT SITE CONDITIONS	JEK	DAD	DAD	080222
G	ADD T-4505 & HX-4501	JEK	FR	FR	042921
F	ADD DEISEL TANK	JEK	DAD	DAD	102319
E	REVISED PER D.A.D. COMMENTS	JEK	DAD	DAD	121217
D	REVISED PER DEP RESPONSE	JEK	DDP	DDP	050317
C	REVISED PER DEP RESPONSE	JEK	DDP	DDP	011317
B	ADD OTHER CONCEPTUAL ITEMS	JEK	DDP	DDP	102015
A	ADD CONCEPTUAL ITEMS	JEK	DDP	DDP	092215
0	ISSUED FOR REVIEW	JEK	DDP	DDP	032015

REVISIONS

STATE OF NEW JERSEY
N. DENNIS ERVIOU
NO. GE34195
LICENSED PROFESSIONAL ENGINEER

PROPRIETARY STATEMENT

TITLE

SITE PLAN
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DRIVE, NORWELL, MA. 02061
PHONE: 781-792-5000

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=50'-0"	JEK	KJM	DP		3/20/15

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-SP00-010	L

Attachment A3

Container Storage (S01)

Photo 1 – CSA1 (External View)

Photo 2 – CSA1 (South Side)

Container Storage (S01)

Photo 3 – CSA1 (North Side)

Photo 4 – CSA2 (External View)

Container Storage (S01)

Photo 5 – CSA2 (South Side)

Photo 6 – CSA2 (Return & Fill Area)

Container Storage (S01)

Photo 7 – CSA2 (North Side)

Photo 8 – CSA3 & Mix Pit (T04): Area where CSA3 & Mix Pit will be located – not yet constructed; see Exhibits A45, A46, A47 and A48

Container Storage (S01)

Photo 9 – Truck Station 1

Photo 10 – Truck Station 2

Container Storage (S01)

Photo 11 – Truck Station 3

Photo 12 – Truck Station 4

Container Storage (S01)

Photo 13 - Truck Station 5

Photo 14 – Truck Station 6

Container Storage (S01)

Photo 15 – Truck Station 6A

Photo 16 – Truck Station 7

Container Storage (S01)

Photo 17 – Truck Station 7A

Photo 18 – Truck Stations 8, 8A, 9, 9A & 10 (West Side)

Container Storage (S01)

Photo 19 – Truck Stations 8, 8A, 9, 9A & 10 (East Side)

Photo 20 – Truck Station 11

Container Storage (S01)

Photo 21 – Truck Station 12

Container Storage (S01)

Photo 22 - Truck Station 13 - (no free liquids' storage)

Photo 23 – Rail Siding 1

Container Storage (S01)

Photo 24– Rail Siding 2

Photo 25 – Rail Siding 6

Tank Storage (S02) & Tank Treatment (T01 – Tanks 213/214/215)

Photo 26 – Tank Farm 2 (Southeast Side)

Photo 27 - Tank 2 (North Side)

Tank Storage (S02)

Photo 28 – Tanks 40 & 41

Photo 29 – Tank Farm 4

Tank Storage (S02)

Photo 30 – Tanks VR1 & VR2 (Also T01)

Photo 31 - Tank 216 (Not Installed)

Section B

Redline

SECTION B FACILITY DESCRIPTION

This section provides a general description of the Safety-Kleen Systems, Inc. operation at its Linden, New Jersey facility, known as Safety-Kleen Systems Inc. Linden Recycle Center. The section includes information on the location of the facility and description of the adjacent areas, including USGS, floodplain, survey plat and topographic maps, existing and planned facility site plans, and a legal description of the site land parcels. The section also contains a summary of facility operations, including site history, present and planned operations, wastes accepted and wastes generated at the facility, traffic patterns, and other relevant information. Discussion relative to compliance with floodplain and seismic standards applicable to hazardous waste facilities is also provided.

The information provided in this section is submitted in accordance with 40 CFR 270.14(b); 270.14(c); and 264.18.

B-1 GENERAL DESCRIPTION [40 CFR 270.14(b)(1)]

The Linden Recycle Center is a material recovery facility that accepts waste from Safety-Kleen customers and other industrial and commercial facilities and processes this waste material to recover reusable material for recycle or sale. The Linden Recycle Center also processes wastes received from other Safety-Kleen facilities, wastes generated on-site, and wastes received from Safety-Kleen customers into industrial furnace fuel and serves as a transfer and transship (store and reship) station for the movement of waste from waste generators to treatment and disposal facilities.

The Linden Recycle Center is located within the city limits of Linden, Union County, New Jersey. The address of the facility is:

Safety-Kleen Systems, Inc.
Linden Recycle Center
1200 Sylvan Street
Linden, New Jersey 07036

A USGS map for the Perth Amboy, NJ Quadrangle shows the location of the Linden Recycle Center and is included as **Exhibit B1**. The facility is situated on 8 contiguous surveyed lots comprising approximately 11.4 acres of land. A topographic map showing the Linden Recycle Center and adjacent areas is included as **Exhibit A1**. A site plan of the facility is shown in **Exhibit A2** and a deed and legal description of the property is included as **Attachment B-1**.

The site is zoned H-1, Heavy Industrial, the heaviest classification of industrial zoning in Union County. The site and surrounding area have historically been devoted to light to heavy industrial uses. The facility is bounded to the north by the Linden Municipal Airport, to the west by a metal and plastic fabricating plant and an industrial warehouse, and to the south and east by Conrail railroad tracks, and a shopping mall. Land-use for the facility and surrounding areas is shown on **Exhibit B2.** Surface drainage is generally towards Kings Creek. Site drainage is shown on **Exhibit B3.**

The present Linden Recycle Center was operated by Solvent Recovery Service of New Jersey (SRSNJ) from 1942 until 1988, when SRSNJ was acquired by Safety-Kleen Corp. The Linden Recycle Center and land parcels are owned by the Safety-Kleen Systems, Inc., headquartered in ~~Richardson, TX~~Norwell, MA. The address of Safety- Kleen Systems Inc. headquarters is:

Safety-Kleen Systems, Inc.
~~2600 N. Central Expressway~~42 Longwater Drive
~~Richardson, TX 75080~~Norwell, MA 02061

The Linden Recycle Center receives used material which includes, but is not limited to, solvent mixtures, aqueous waste and other liquid, semi-liquid and solid wastes from Safety-Kleen service centers, other Safety-Kleen Recycle Centers, and from industrial and commercial generators. Wastes accepted include, but are not limited to, chlorinated hydrocarbons, amines, alcohols, aliphatic and aromatic compounds, waste oils, and paint wastes. Industries served by the Linden Recycle Center include, but are not limited to, chemical manufacturers, pharmaceutical manufacturers, paint manufacturers, automobile, appliance, and electronics manufacturers, foundries, metal fabrication shops, maintenance shops, and aircraft manufacturers in New Jersey and other states. Wastes are received in containers, in trucks and railcars. Used solvents, solvent mixtures, aqueous waste and other materials are recovered by a combination of processes including, but not limited to, distillation, fractionation, and drying. Recovered products are either returned to the Safety-Kleen customer or marketed as recovered solvent. The facility also operates mix pit processes for the treatment of certain hazardous wastes via stabilization and solidification in an enclosed building.

Solid, liquid, and solid/liquid combination wastes may be generated by material recovery operations at the Linden Recycle Center. Distillation and fractionation of waste solvents may generate unusable material. These materials could be processed on-site or off-site into waste fuels for use off-site in boilers and industrial furnaces. Materials which otherwise cannot be processed into fuel and/or recovered on-site are shipped off-site for disposal.

Decanting and drying of aqueous/waste mixtures and distillation of some wastes with high water content may generate wastewater that may contain organic chemicals, metals, and other chemicals that are shipped offsite to approved offsite facilities. Wastewater generated by the Linden Recycle Center may be discharged to the sanitary sewer system in accordance with the Industrial User Discharge Permit or may be disposed of off-site.

See Section D for additional facility operational information and details.

B-2 TOPOGRAPHIC MAP [40 CFR 270.14]

The site of the Linden Recycle Center and adjacent areas is primarily flat land, lying entirely between the 22 and 24-foot contour lines, as shown on the USGS map provided in **Exhibit B1** and topographic map provided in **Exhibit A1**. The topographic map shows the facility and adjacent areas and land uses at a scale of 1 inch to 100 feet. Contour lines are shown at 2-foot intervals.

A site plan of the Linden Recycle Center is included as **Exhibit A2**. **Exhibit A2** illustrates facility buildings, structures, hazardous waste areas and process units, truck stations, rail lines, site boundary and fence line, utilities, groundwater monitoring wells, and controlled access points. Emergency equipment and evacuation routes for the site are shown in **Exhibit B4**. Details of the existing and planned facility are as indicated on the exhibit legends. A compilation of meteorological data by NJDEP and wind rose provided by the U.S. Weather Bureau at Newark Airport are shown on **Attachment B-2 and Exhibit A1** respectively.

B-2a Legal Boundaries [40 CFR 270.14(b)(19)(vii)] and Location of Solid Waste Management Units [40 CFR 270.14(d)(1)(i)]

A complete legal description of the property boundaries can be found in **Attachment B-1** along with copies of the property deeds.

The Linden Recycle Center has Hazardous waste storage tanks and container storage units. These units are identified in the site plan included as **Exhibit A2**, and in Section D (Process Description) of this application. See Section J for detailed information regarding solid waste management units.

B-2b Extent of any groundwater contamination plume [40 CFR 270.14(c)(4)(i)] and location of groundwater monitoring wells [40 CFR 270.14(c)(3); and 264.97]

Safety-Kleen Systems, Inc. has conducted a RCRA Facility Investigation (RFI) at the Linden Recycle Center. The objective of the RFI was to determine the nature, extent and rate of migration of hazardous waste or hazardous constituents into the soils, groundwater, surface water, or air in the area of five (5) solid waste management units (SWMU) and four (4) areas of concern at the facility. This work was carried out in accordance with the Hazardous and Solid Waste Amendments of 1984 (HSWA) permit, which was issued to Safety-Kleen by USEPA Region II on November 17, 1993. The facility has installed corrective measures to address groundwater contamination.

The Linden Recycle Center has no withdrawal or injection wells, other than wells associated with existing groundwater monitoring system, either on-site or off-site. The closest recorded well is at the Linden Airport, 2000 feet from the facility boundary. No wells fall within 1000 feet of the site.

See Section E for additional facility groundwater monitoring and associated corrective actions.

B-2c Groundwater Protection Standards [40 CFR 264.91 – 100]

The Linden Recycle Center is a solvent recovery and collection facility, and does not conduct any hazardous waste treatment or disposal in on-site surface impoundments, waste piles, land treatment units, or landfills. The Linden Recycle Center is therefore exempt from groundwater protection requirements under 40 CFR 264.91 through 100 in Subpart F, Releases from Solid Waste Management Units.

B-3 FACILITY LOCATION INFORMATION [40 CFR 270.14(b)(11); and 264.18]

B-3a Seismic Requirements [40 CFR 270.14(b)(11)(i)(ii); and 264.18(a)]

The Linden Recycle Center is located in Union County, New Jersey. This location is not listed in Appendix VI of 40 CFR Part 264 as a "Political Jurisdiction in which Compliance with Holocene Time Fault Displacement must be documented." Hence, the Linden Recycle Center is not located within 200 feet of any fault line which has had displacement during Holocene time, as indicated by 40 CFR 264.18(a) and 270.14(b).

B-3b Floodplain Requirements [40 CFR 270(b)(11)(ii); CFR 264.18(b)]

The Linden Recycle Center is not located within the 100-year floodplain of Kings Creek, which flows within 1500 feet of the southwest corner of the facility. Floodplain contours are shown on **Exhibits B5**. The Linden Recycle Center conducts no land disposal of waste, and is therefore not required to meet floodplain standards for land disposal facilities.

B-4 TRAFFIC PATTERNS [40 CFR 270.14(b)(10)]

Present over-the-road truck traffic access to the Linden Center is through Sylvan Street, as shown in **Exhibit B6**. Sylvan Street was built and has been maintained by the City of Linden to provide adequate load-bearing capacity for truck traffic to and from the facility. Trucks originating at industrial facilities, generally consisting of semi-trailers carrying containerized waste and tankers carrying material, will generally approach the facility from US Route 1 and proceed 500 feet in an easterly direction on Sylvan Street to the facility gate. Trucks generally exit the facility through the same gate.

Once within the facility, trucks are generally routed from the Gate 3 to one of the vehicle loading/unloading areas, and exit an available gate. Traffic control signs and signals, traffic patterns, and road and rail surfacing on-site and in the vicinity of the facility are shown in **Exhibit B6**.

The present traffic volume at the Linden Recycle Center has been estimated based on the total amount of containerized and bulk material received by the site, total amount of material shipped off-site, the number of employee vehicles, and amount of plant-related traffic. Daily traffic volumes of semi-trailers, tankers, service trucks, automobiles, and other vehicles are listed in Table B-1. Trucks are received at the facility 24 hours per day. The facility has operated between five and seven days per week, three shifts per day, depending on the amount of business available.

The construction of facility roads and loading/unloading areas varies from reinforced concrete aprons to 30” of trap rock topped by soil and stone to asphalt over 12” of gravel fill. The roads have been in use for periods of up to 50 years and have demonstrated their ability to bear the 80,000 pound weight of loaded tank trucks. There are no overhead high voltage transmission lines in the vicinity of the facility. This permit

includes several planned units. Upon start-up of the planned activities, the facility is expected to increase total semi-trailer, tanker, and service truck traffic approximately 30 percent from present levels. Vehicle traffic is also a function of business needs and may vary as a result of fluctuation in business needs.

Table B-1

ESTIMATED TRAFFIC VOLUME - LINDEN RECYCLE CENTER
(DAILY, Railcars are Monthly)

Truck Type	Load Description	Present	Future
Tanker Truck/ Semi-Trailer	Bulk/Containerized Incoming Waste	~~6~~5-~~8~~10	~~20~~ 5 - 30
Tanker Truck/ Semi-Trailer	Bulk/Containerized Outgoing Product/Material	5-10	~~5~~5-~~15~~20
Tanker Truck/ Semi-Trailer	Empty Drums, Virgin Blend Solvent, Solids for off-site disposal	0 - ~~2~~5	~~2~~ 0 - ~~4~~10
Automobiles	Employees, Salespeople, Vendors, Visitors	40-~~50~~60	~~100~~ 50 - 125
Utility Vehicles/ Light Trucks	Maintenance Trucks, Parts, Supplies and Mail Deliveries, etc.	~~2~~ 5 - ~~8~~15	5 - ~~10~~30
Single Box Trucks	Containerized Incoming Waste	1 – ~~4~~5	~~10~~5-15
Railcars	Bulk Loading/Unloading	~~1-2~~3-5	~~20-25~~3-10
Vacuum trucks	Bulk/Containerized Incoming Wastes	2-5	10-20
Roll-off Containers	Bulk Containerized Outgoing Wastes	0-5	1-20

Final

SECTION B FACILITY DESCRIPTION

This section provides a general description of the Safety-Kleen Systems, Inc. operation at its Linden, New Jersey facility, known as Safety-Kleen Systems Inc. Linden Recycle Center. The section includes information on the location of the facility and description of the adjacent areas, including USGS, floodplain, survey plat and topographic maps, existing and planned facility site plans, and a legal description of the site land parcels. The section also contains a summary of facility operations, including site history, present and planned operations, wastes accepted and wastes generated at the facility, traffic patterns, and other relevant information. Discussion relative to compliance with floodplain and seismic standards applicable to hazardous waste facilities is also provided.

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Safety-Kleen Systems, Inc.
42 Longwater Drive
Norwell, MA 02061

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A site plan of the Linden Recycle Center is included as **Exhibit A2**. **Exhibit A2** illustrates facility buildings, structures, hazardous waste areas and process units, truck stations, rail lines, site boundary and fence line, utilities, groundwater monitoring wells, and controlled access points. Emergency equipment and evacuation routes for the site are shown in **Exhibit B4**. Details of the existing and planned facility are as indicated on the exhibit legends. A compilation of meteorological data by NJDEP and wind rose provided by the U.S. Weather Bureau at Newark Airport are shown on **Attachment B-2 and Exhibit A1** respectively.

B-2a Legal Boundaries [40 CFR 270.14(b)(19)(vii)] and Location of Solid Waste Management Units [40 CFR 270.14(d)(1)(i)]

A complete legal description of the property boundaries can be found in **Attachment B-1** along with copies of the property deeds.

The Linden Recycle Center has Hazardous waste storage tanks and container storage units. These units are identified in the site plan included as **Exhibit A2**, and in Section D (Process Description) of this application. See Section J for detailed information regarding solid waste management units.

B-2b Extent of any groundwater contamination plume [40 CFR 270.14(c)(4)(i)] and location of groundwater monitoring wells [40 CFR 270.14(c)(3); and 264.97]

Safety-Kleen Systems, Inc. has conducted a RCRA Facility Investigation (RFI) at the Linden Recycle Center. The objective of the RFI was to determine the nature, extent and rate of migration of hazardous waste or hazardous constituents into the soils, groundwater, surface water, or air in the area of five (5) solid waste management units (SWMU) and four (4) areas of concern at the facility. This work was carried out in accordance with the Hazardous and Solid Waste Amendments of 1984 (HSWA) permit, which was issued to Safety-Kleen by USEPA Region II on November 17, 1993. The facility has installed corrective measures to address groundwater contamination.

The Linden Recycle Center has no withdrawal or injection wells, other than wells associated with existing groundwater monitoring system, either on-site or off-site. The closest recorded well is at the Linden Airport, 2000 feet from the facility boundary. No wells fall within 1000 feet of the site.

See Section E for additional facility groundwater monitoring and associated corrective actions.

B-2c Groundwater Protection Standards [40 CFR 264.91 – 100]

The Linden Recycle Center is a solvent recovery and collection facility, and does not conduct any hazardous waste treatment or disposal in on-site surface impoundments, waste piles, land treatment units, or landfills. The Linden Recycle Center is therefore exempt from groundwater protection requirements under 40 CFR 264.91 through 100 in Subpart F, Releases from Solid Waste Management Units.

B-3 FACILITY LOCATION INFORMATION [40 CFR 270.14(b)(11); and 264.18]

B-3a Seismic Requirements [40 CFR 270.14(b)(11)(i)(ii); and 264.18(a)]

The Linden Recycle Center is located in Union County, New Jersey. This location is not listed in Appendix VI of 40 CFR Part 264 as a "Political Jurisdiction in which Compliance with Holocene Time Fault Displacement must be documented." Hence, the Linden Recycle Center is not located within 200 feet of any fault line which has had displacement during Holocene time, as indicated by 40 CFR 264.18(a) and 270.14(b).

B-3b Floodplain Requirements [40 CFR 270(b)(11)(ii); CFR 264.18(b)]

The Linden Recycle Center is not located within the 100-year floodplain of Kings Creek, which flows within 1500 feet of the southwest corner of the facility. Floodplain contours are shown on **Exhibits B5**. The Linden Recycle Center conducts no land disposal of waste, and is therefore not required to meet floodplain standards for land disposal facilities.

B-4 TRAFFIC PATTERNS [40 CFR 270.14(b)(10)]

Present over-the-road truck traffic access to the Linden Center is through Sylvan Street, as shown in **Exhibit B6**. Sylvan Street was built and has been maintained by the City of Linden to provide adequate load-bearing capacity for truck traffic to and from the facility. Trucks originating at industrial facilities, generally consisting of semi-trailers carrying containerized waste and tankers carrying material, will generally approach the facility from US Route 1 and proceed 500 feet in an easterly direction on Sylvan Street to the facility gate. Trucks generally exit the facility through the same gate.

Once within the facility, trucks are generally routed from the Gate 3 to one of the vehicle loading/unloading areas, and exit an available gate. Traffic control signs and signals, traffic patterns, and road and rail surfacing on-site and in the vicinity of the facility are shown in **Exhibit B6**.

The present traffic volume at the Linden Recycle Center has been estimated based on the total amount of containerized and bulk material received by the site, total amount of material shipped off-site, the number of employee vehicles, and amount of plant-related traffic. Daily traffic volumes of semi-trailers, tankers, service trucks, automobiles, and other vehicles are listed in Table B-1. Trucks are received at the facility 24 hours per day. The facility has operated between five and seven days per week, three shifts per day, depending on the amount of business available.

The construction of facility roads and loading/unloading areas varies from reinforced concrete aprons to 30” of trap rock topped by soil and stone to asphalt over 12” of gravel fill. The roads have been in use for periods of up to 50 years and have demonstrated their ability to bear the 80,000 pound weight of loaded tank trucks. There are no overhead high voltage transmission lines in the vicinity of the facility. This permit

includes several planned units. Upon start-up of the planned activities, the facility is expected to increase total semi-trailer, tanker, and service truck traffic approximately 30 percent from present levels. Vehicle traffic is also a function of business needs and may vary as a result of fluctuation in business needs.

Table B-1

ESTIMATED TRAFFIC VOLUME - LINDEN RECYCLE CENTER
(DAILY, Railcars are Monthly)

Truck Type	Load Description	Present	Future
Tanker Truck/ Semi-Trailer	Bulk/Containerized Incoming Waste	5-10	5 - 30
Tanker Truck/ Semi-Trailer	Bulk/Containerized Outgoing Product/Material	5-10	5-20
Tanker Truck/ Semi-Trailer	Empty Drums, Virgin Blend Solvent, Solids for off-site disposal	0 - 5	0 -10
Automobiles	Employees, Salespeople, Visitors	40-60	50 - 125 Vendors,
Utility Vehicles/ Light Trucks	Maintenance Trucks, Parts, Supplies and Mail Deliveries, etc.	5 - 15	5 - 30
Single Box Trucks	Containerized Incoming Waste	1 – 5	5-15
Railcars	Bulk Loading/Unloading	3-5	3-10
Vacuum trucks	Bulk/Containerized Incoming Wastes	2-5	10-20
Roll-off Containers	Bulk Containerized Outgoing Wastes	0-5	1-20

Section C

Redline

SECTION C WASTE ANALYSIS PLAN

C-1 INTRODUCTION

This document presents the Waste Analysis Plan for the Safety-Kleen Linden Recycle Center. The Waste Analysis Plan describes the Material Profile Sheet evaluation process, sampling procedures, the review of waste shipments to safely and effectively handle, store and process wastes received at the Linden facility. The quality assurance and quality control program to be followed as needed for any internal laboratory testing requiring state certification is outlined as well. The purpose of the Waste Analysis Plan is to outline information generators must provide for the Material Profile Sheet and to verify certain information provided by the generator's Material Profile Sheet and shipping papers accompanying each waste shipment. This information is submitted in accordance with the requirements of 40 CFR 270.14(b) as incorporated by reference in N.J.A.C. 7:26 G-12.

The Linden Recycle Center specializes in solvent recycling. Therefore, the majority of wastes the facility manages is either from a Safety-Kleen Systems, Inc. closed-loop process where products are sold to customers and the spent materials are returned to the facility for recycling and reuse as recycled products, or from customers that use other solvents of their own that can be recycled at the facility and returned to them for reuse or sold in the marketplace as a recycling product. The raw materials for the plant are used (or spent) solvents received from industrial, pharmaceutical, appliance, electronic, paint, and metal fabrication, repair, manufacturing, distribution companies, etc. throughout North America. The products from the solvent recovery operations are specification solvents for reuse in industry.

The facility also handles chemical by-products, intermediates, off-specification, leftover, or surplus materials, and miscellaneous other items usable as components or ingredients in supplemental fuels. The fuels blending operation produces a specification waste fuel suitable for use as supplemental fuel in the production of cement or in other boilers and industrial furnaces. These fuels are sent offsite for energy recovery at permitted facilities that conduct their own testing for basic parameters needed for their recycling processes.

Additionally, the facility operates mix pit processes for the stabilization and solidification of hazardous wastes. The hazardous wastes treated in the mix pits are received from a variety of offsite generators (e.g., utility companies) from activities like manhole cleanouts, spill clean-ups, public transit property/pathway renovations, equipment repairs/clean-ups, etc.

In addition to waste from industrial and commercial generators, the Linden Recycle Center also receives wastes from Safety-Kleen's network of Service centers for recycle or reclamation. Through its Service Center network, Safety-Kleen serves parts washer customers, carburetor cleaners and auto body shops, oil change facilities, vehicle radiator service establishments, etc..

The Linden Service Center receives various spent solvents mainly from Safety-Kleen customers, the majority of whom are small generators. The wastes are ultimately transferred to a Safety-Kleen Recycle Center (such as the Linden

Recycle Center), and later sent back to the customers as product or incorporated into the fuels program. Occasionally, wastes accumulated and consolidated at the Service Center are sent to an alternate TSDF.

The Safety-Kleen Linden facility is designed and operated to allow the safe and efficient processing of hazardous and non-hazardous waste streams. Non-hazardous waste control is an essential part of the facility's procedures, for these materials are often valuable to reclaim or may provide desirable characteristics when blended with other types of wastes during fuel blending processes. The types of non-hazardous waste streams accepted include solvents and solvent bearing materials, oils and oil-bearing materials, aqueous wastes and other wastes which are amenable to reclamation or blending into fuels. Non-hazardous wastes will be accepted at the facility for storage, processing, and/or transfer prior to subsequent shipment to off-site facilities. Solid hazardous wastes generated on-site and un-processable wastes received from small quantity generators are transferred off-site to approved treatment or disposal facilities.

The majority of hazardous wastes shipped to the facility in containers are managed under 10-day transfer terms and regulations. Other containerized wastes might be stored only at the facility prior to shipment offsite for treatment and/or disposal. In either case containers that are not opened and will not be processed at the facility are not sampled and/or subjected to fingerprint analysis, however paperwork reviews are conducted to confirm proper shipping names and profile descriptions as well as quantities noted as being shipped on shipping documents.

Table 1 provides the facility's New Jersey Department of Environmental Protection's laboratory certification. If necessary for waste analysis plan (WAP) purposes, any additional testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

1.1 ACRONYMS AND DEFINITIONS

CENTRAL PROFILE GROUP - The Central Profile group (CPG) oversees the profile approval process which includes the review of the Waste Material Profile and other supporting documentation: analytical data, Material Safety Data Sheets, etc. for adherence to all Federal, State, Provincial and facility regulations and permit requirements. Each member of the Central Profile Group participates in mandatory training which includes both Regulatory; Annual RCRA training, Tri-annual DOT training and Tri-annual TDG training for Hazardous Materials employees as well as Technical, non-regulatory training, which includes an in-depth review of all pre-qualification requirements of each Clean Harbors facilities Waste Analyses Plan.

CLOSED LOOP SERVICES – A nominal term used by Safety-Kleen to indicate a service wherein Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop."

ENERGY RECOVERY – Used specifically to describe the beneficial to capture of heat value of spent materials via burning in cement kilns, boilers or industrial furnaces.

FINGERPRINT ANALYSIS - A limited set of tests used to screen incoming wastes for possible contamination and/or deviation from associated waste profiles and shipping documents. √Good

FUEL BLENDING – The controlled mixing of materials for burning to recover energy in cement kilns, boilers or industrial furnaces.

PAINT GUN CLEANER SOLVENT - A mixture of flammable solvents common to paints and varnishes used to clean paint spray guns. Typically this solvent will contain ketones, esters, aliphatic and aromatic solvents, and possibly glycol ethers.

PARTS WASHER SOLVENT - A fraction of petroleum naphtha with a distillation range of 315-400^{o}F. The flash point of this material is typically greater than 105^{o}F. It is commonly referred to as “Mineral Spirits” or “Stoddard Solvent.”

PCB - Polychlorinated biphenyls.

RECOVERY - This term is used in the Safety-Kleen Waste Analysis Plan to indicate the purification of a spent organic solvent by one or more operations. The solvent may be reused by the original generator or sold to other industrial customers.

RECYCLING - the use, reuse or recovery and reclamation of a spent material into a usable product or raw material.

TOLL RECYCLING - A recycling service in which the customer’s waste is segregated, reclaimed to the generator’s specifications, and returned directly for reuse by the original generator.

WASTE STREAM - A waste stream is defined as a source of waste material that, as a result of business- related contamination, can no longer serve the purpose for which it was produced without processing, and which can reasonably be expected to remain relatively consistent in composition during the period of the business relationship.

C-2 LINDEN RECYCLE CENTER WASTE ANALYSIS PLAN [40 CFR 270.14(b)(3); 264.13 (b)(1)]

Receipt control and acceptance procedures are important components of effective waste management at the Linden Recycle Center and the Linden Service Center. Proper knowledge of the material received at the Linden Recycle Center is of major importance to the safe and effective handling, storage, and processing of the accepted wastes. In addition, effective quality control assures the best product and the cost effectiveness of the operation.

Receipt control consists of two basic steps: Material Profile Sheet evaluation and shipment receipt control analysis.

2.1 MATERIAL PROFILE SHEET EVALUATION [40 CFR 270.14(a); 264.13(a)(1); 268.7; 268.9; 268.41; 268.41; 268.43; 268.45(a)]

Proper protection of human health and the environment require that waste streams be properly evaluated. Safety-Kleen requires knowledge of each particular waste before handling, storing or recycling those materials. This is achieved through historical data, knowledge of the industry or process generating the waste, or by individual evaluation for each generator stream, depending upon the waste stream source as described below.

Pre-acceptance of waste is required prior to shipment of material into the Linden Safety-Kleen facility. The decision to approve a waste is made based on a review of the physical and chemical characteristics of the material as described by the generator on the Material Profile form. All generators are required to use a company Material Profile Sheet, and the Central Technical Services Group (a.k.a. Central Profile Group) has been given authority to make profile approval decisions for all wastes into the facility unless objected by facility management.

The Linden Recycle Center receives wastes from three basic types of sources. The first is the Safety-Kleen closed loop services. The second type of source is referred to as industry-specific sources, and the third is termed industrial or other sources. The Linden Recycle center receives waste from Safety-Kleen service centers and/or generators/customers. These different sources are discussed below.

The parts washer and paint gun cleaner waste streams managed by the recycle center result from what Safety-Kleen calls its "closed loop services." In these services, Safety-Keen provides the equipment and clean solvent, takes back the spent solvent after use, recycles the solvent, and returns the recycled solvent back to the service. Hence, the term "closed loop." The solvents from these services are of a consistent nature, as evidenced by the historical data. This data is constantly renewed and updated as material is received and processed, and thus provides the necessary Material Profile Sheet information (see Figure C-1). Figure C-2 is a Material Profile Sheet evaluation flow chart.

Waste streams also result from what Safety-Kleen refers to as "industry specific sources." This includes such sources as waste paint from automotive and industrial sources; used oils from automotive and industrial services; solvents from industrial processes that are not part of any S-K closed-loop service; other industrial/source specific wastes; and machine and engine coolants. Safety-Kleen characterizes each such waste stream by the operation, and as necessary

with statistical analyses/methods, or chemical analyses of the general stream developed from knowledge of the industry and the uses of the material in that industry. This evaluation provides the information necessary to properly handle, store and recycle these waste streams.

The third general source of waste streams derives from "industrial and other sources". Due to the greater variability in the compositions; their application or use; and the source industries, Safety-Kleen evaluates each stream from each generator separately.

When a new industrial source waste stream is considered, the process begins with an interview between a Safety-Kleen representative and an authorized representative of the generator. The Safety-Kleen representative is responsible for obtaining ample and accurate information about the wastestream to ensure proper classification and to determine storage/treatment/disposal/recycle options for the material in compliance with applicable regulations and operating procedures. The Safety-Kleen representatives undergo an extensive training in the procedures necessary to complete a Material Profile Sheet.

The constituents and the process generating the wastestream are revealed during the discussion. After obtaining this information, the waste types, characteristics, and classification of the wastestream can be determined. After the initial review with the Safety-Kleen representative, the generator is required to complete and certify a Material Profile Sheet (see Figure C-1).

The parameters identified in the Material Profile Sheet provide the information required to classify, sample, transport, and treat or dispose of the material. The parameters in the Material Profile Sheet are selected in order to properly classify the wastes and to ensure compatibility with Safety-Kleen's storage/treatment/disposal/recycle processes. Based on the information supplied by the generator on the Material Profile Sheet, restricted wastes or incompatible wastes (i.e., PCBs or dioxin containing wastes, reactives, etc.) are identified in advance and prohibited from approval for shipment to the facility.

If upon completion of the Material Profile Sheet the Safety-Kleen representative is satisfied that there is enough information to accept the waste, it along with supporting information (SDS, any available analytical data, formulations, etc.) will be forwarded to the company's Central Profile Group (CPG) for review. The representative may also request a representative sample if there is not enough information to store/treat/dispose/ recycle the stream. This sample will be submitted to an offsite independent lab for analyses. In those cases where no sample was requested from generator by the representative, the facility reserves the right to request analytical data or a sample from the generator (if needed) as part the wastestream approval process for analyses at an offsite independent lab.

CPG waste review personnel consist of employees familiar with the storage/recycle/treatment methods used at the facility and with federal and state hazardous waste regulations, as well as US DOT regulations. The CPG personnel responsible for the waste review process will review the data and will make a decision to either accept, reject, or request additional information and/or confirm acceptability with facility management.

The Material Profile Sheet along with the support information is reviewed by the personnel responsible for the waste review process. First, a determination will be made whether the waste is approved for storage/treatment/recycle at the

Linden facility under the facility's hazardous waste permit. If the waste is not acceptable to the Linden facility, the generator will be notified and the Material Profile Sheet will be rejected. If the waste is acceptable to the Linden facility, then storage/treatment/recycle options available at the facility will be evaluated. If the waste is not amenable to storage/treatment/recycling at the facility, CPG personnel responsible for the waste review process will designate another approved final TSDF.

If a waste is determined to be acceptable to the Linden Recycle Center and Safety-Kleen, and the generator agree on terms such as acceptance criteria, procedures and fee agreement for handling the waste, the generator is notified and the shipment(s) are scheduled. The shipments are often arranged by Safety-Kleen and are conducted in accordance with all applicable requirements of the U.S. DOT, the NJDEP, and the U.S. EPA.

If a waste stream is not approved due to lack of information, further analytical data and/or a sample will be requested for analyses at an offsite independent lab. If treatability studies reveal that the wastestream can be treated/recycled at the facility and is approved for acceptance under the Part B, it may be approved.

Table 1 provides the certified analytical test methods employed by Safety-Kleen. Any other testing conducted for confirmation of authorized wastes receipts will be performed by offsite certified labs.

The final evaluation of the waste stream by Safety-Kleen is based on a comparison of the waste information against:

1. Permit limitations and conditions;
2. Safety and health provisions;
3. New Jersey waste authorization for receipt;
4. Process capability and availability;
5. Compatibility of the material to the facility storage and operations:
6. Storage volume availability; and
7. Market factors for recycled products.

2.1.1 SAMPLING, SAMPLE HANDLING AND RECORD-KEEPING [40 CFR 270.14(a);264.13(b)(6); 268.4(a)(2)(i)(iv)]

Generators are required to initially provide information on the source, nature and characteristics of the waste stream. If a customer provides samples of waste for wastestream prequalification analyses or other analytical services at independent labs, the customer is required to certify that the sample is representative of the waste.

Table 2 presents sampling devices used to obtain waste samples onsite from different types of incoming vessels and wastes. Composite samples are taken wherever appropriate. When a customer provides samples of waste for qualification analyses or analytical services, the customer is required to certify that the sample is representative and that SW-846 methods were used. Basically, coliwasa samples will be taken from drums and tankers containing liquids; scoop samples will be taken from drums containing high percentages of solids and sludges; and liquid samples from tanks will be taken from top, bottom, or side valves.

A record of all samples received by the laboratory for onsite analysis is kept in a computerized database called Laboratory Information Management System (LIMS). Each sample is identified by Number, Retain ID, Volume Receipt, Customer or Source, Waste Type, and Date received. Upon completion of lab analysis, the chemist records the

date. In this way, all samples can be tracked through the laboratory using the LIMS database and the current status of all samples can be determined also through the LIMS program.

Hazardous waste samples are usually retained for a nominal of three months (twelve weeks) after analyses are completed and then properly disposed of at the end of the retention period. Waste samples and/or waste containers are properly disposed of in accordance with applicable regulations.

Information provided from generators on the Material Profile Sheet and/or analytical results from waste stream prequalification analyses are used to determine the specifics of the waste disposition. To keep the waste evaluation data current for waste streams which are not of a generic nature, Safety-Kleen repeats the Material Profile Sheet evaluations, minimally, when the generator notifies Safety-Kleen of changes in the customer's (generator's) waste generating process.

If samples are received at the facility from the customer for wastestream prequalification analyses they are forwarded to an offsite certified lab.

2.1.2 MATERIAL PROFILE SHEET Evaluation (Characterization), ANALYTICAL PARAMETERS, RATIONALE AND TEST METHODS [40 CFR 270.14(b)(3); 264.13(b)(1,2)]

The processing capabilities at the Linden Recycle Center are broad and flexible, and thus allow for a wide range of acceptability of wastes. The waste streams typically received for processing at the Linden facility are designated as hazardous by the U.S. EPA and NJDEP due to their ignitability and/or toxicity. The facility also accepts non-hazardous waste streams. Both hazardous (listed and characteristic) and non-hazardous wastes are accepted for storage, solvent recovery, fuels blending, storage prior to shipment to off-site facilities, or transfer to other trucks for shipping to off-site facilities. Therefore, the wastes received may exhibit a wide variety of characteristics. Various parameters are used to initially characterize wastes and to further confirm (e.g., upon shipment) that the waste matches the Material Profile Sheet, manifest/shipping papers, waste characterization, previous shipments, or any combination of identifying data/information. Laboratory analyses for the Material Profile Sheet are not conducted on-site, but rather off-site as arranged by the generator or the company. Example methods for the onsite fingerprint analysis of specific parameters are shown in Table 1.

For Material Profile Sheet evaluation (characterization), the information/data provided by the generator is intended to be used in lieu of individual sample analysis. If sufficient information/data is not available or if either Safety-Kleen or the generator requests prequalification analyses for a representative sample, the information/data provided by the generator is then supplemented with analysis of the representative sample. Shipping documents are received and a preliminary disposition determination made by receiving personnel as to whether a waste is recoverable or to be used for fuels, or transferred offsite to another permitted facility. Any samples are first assessed for phase description.

Phase Character:

* Single Phase Liquids (includes semi-stable mixable multiphase);
* Multiphase Liquids;

* Solids - Minimal Liquids;
* Solids - Significant Amount of Liquid;
* Oils; and
* Coolants and Other Wastes.

Safety-Kleen's procedures describe the approach for prequalification evaluations as well as receiving and handling procedures to be used for any samples of waste streams that are collected for fingerprint analysis. The Linden facility does not conduct any testing on prequalification samples if needed for the completion of the Material Profile Sheet. Included in these procedures are the rationales for choosing the parameters each type of sample will be evaluated for the specific uses of the information generated and acceptance criteria where appropriate, and the specific procedures to be used to evaluate each parameter. Fingerprint analysis test methods are updated upon onsite laboratory certification changes (e.g., changes in SW-846, add or remove an approved method, etc.).

2.1.3 ANNUAL RECHARACTERIZATION [40 CFR 270.14(b)(3); 264.13(a)]

As previously discussed, there are several waste streams which Linden Recycle Center will receive which fall into the categories of "closed-loop" or Industry specific source wastes. These wastes are sufficiently predictable that there is no need for a detailed compositional evaluation of each incoming shipment. For those waste streams, a core Material Profile Sheet evaluation will be utilized in lieu of an individual Material Profile Sheet or representative sample from each individual generator. The basis for use of the "uniform" Material Profile Sheet is determined by the results of Annual Recharacterization Analyses.

The Annual Recharacterization Analyses consist of a comprehensive analytical program which analyzes representative samples collected from various closed-loop or industry-specific waste streams throughout the Safety-Kleen network of Branch and Recycling facilities. All samples are taken by Safety-Kleen employees and shipped to designated laboratory facilities. The tests performed include: TCLP (metals, volatiles, semi-volatiles), specific gravity, flash point and pH. The results of the analytical program are then tabulated for all facilities to provide a cross-sectional view of the waste characteristics associated with the closed-loop or industry-specific waste streams. Based on these results, Safety-Kleen determines which waste codes to assign to these waste streams. In this manner, closed loop and industry specific source waste may safely arrive at the Recycle Center without having an individual pre-shipment Material Profile Sheet evaluation or analysis.

Attachment C-2 provides example Annual Recharacterization information.

2.2 SPENT SOLVENT AND DIOXIN WASTES, SHIPMENT RECEIPT [40 CFR 270.14(a); 264.13(a)(1); 268.2(f)(1); 268.2(f)(1); 268.7; 268.3; 268.31]

2.2.1 ACCEPTANCE PROCEDURES [40 CFR 270.14(a); 264.13; 264.73; 268.9(d)]

Having previously determined, through Material Profile Sheet evaluation that the waste is acceptable, the second receipt control step occurs upon actual delivery to the Linden Recycling Center facility. When a shipment arrives at the

Recycling Center, the manifest(s) accompanying the shipment is (are) reviewed for completeness and for accuracy against the material actually arriving at the facility. Information that is checked includes:

* Generator Name, Address, EPA ID and Phone Number
* Transporter Name and EPA ID;
* Facility Name, Address, EPA ID and Phone Number;
* DOT Shipping Description;
* EPA Waste Code;
* Quantity;
* Names, Signature and Date of Generator, Transporter and Designated Facility
* State specific regulations/requirements.

Simultaneously, the waste shipment is inspected for leaks or other packaging problems. If a problem is identified, the facility office is notified and appropriate measures are taken to correct, clean-up and (if necessary) return the waste to the generator, in compliance with applicable U.S. DOT, NJDEP, and U.S. EPA regulations.

Waste drums accepted at the facility must be properly labeled and marked. Containerized waste shipments are checked for proper labeling and marking, and the information on the hazardous waste label is checked against the manifest.

After or while checking the paperwork, a sample of the waste is obtained and fingerprint analysis performed. Sample analysis results are compared against the acceptance criteria set out in the waste Material Profile Sheet and against permit/authorization limitations. Any additional testing conducted for waste acceptance in addition to the fingerprint analysis outlined on Table 5 will be performed by an offsite independent certified laboratory.

In accordance with regulations concerning manifesting, any discrepancy is first discussed with the generator and resolved within 15-days of detection. If it cannot be reconciled, but the material can otherwise be accepted, a manifest discrepancy report is filed with the NJDEP. Alternately, the shipment may be rejected back to the generator or shipped an alternate facility. If it is determined the shipment can be received, the manifest is signed and a copy of the manifest is given or sent to the transporter. Within 45 days of delivery and acceptance, a copy of the completed manifest is returned to the generator.

Safety-Kleen reserves the right that if, based upon information or analyses obtained at any time, the waste material is found to be different from what was represented to be shipped, or it cannot be managed at the facility, the shipment acceptance may be revoked and the shipment rejected and returned to the generator or sent to an alternate facility for proper disposal. This may occur even after the manifest has been signed, the shipment unloaded and release of the transporter. The information review process covers the following items:

1. Safety and health provisions;
2. Permit limitations and conditions;
3. Process capability and availability;
4. Compatibility of the material to the facility storage and operations;
5. Storage volume availability;
6. Generator Name and ID
7. Transporter Name and ID;

8. Facility Name and ID;
9. DOT Shipping Description;
10. EPA Waste Code;
11. Quantity;
12. Fingerprint Analyses;
13. State Specific Regulations; and
14. Notice of Land Disposal Restriction (if applicable).

When a bulk load is accepted, it is assigned to a storage tank and off-loaded into that tank. The facility maintains records of the receiving tank for each off-loaded shipment. The facility also maintains current data on the contents of each tank.

The facility does not accept wastes that are not compatible with the materials of construction of the waste storage tanks at the Linden facility. Compatibility of incoming wastes with the receiving tanks is ensured during the Material Profile Sheet evaluation and through verification with shipping documents. The receiving shipping papers, Material Profile Sheet review, and fingerprint analysis verify that the waste received corresponds to the waste characterized during the Material Profile Sheet development, evaluation and approval process.

When a containerized (drum) load of industrial waste is accepted, a tracking number is assigned electronically to each drum, and the drums are transferred from the unloading area to one of the permitted drum storage areas. The specific storage area used for each shipment is also enter electronically.

Drums of Safety-Kleen solvent received back from Safety-Kleen customers of "closed loop services" or industry specific sources are not marked with a control number; however, the storage area in which the drums are placed is noted. These containers are properly labeled and marked, and are handled separately from industrial and other wastes. (See section 2.2.4)

Drummed liquid waste is stored inside a container storage area, out of direct sunlight and within secondary containment.

2.2.2 SAMPLING, SAMPLE HANDLING AND RECORD-KEEPING [40 CFR 270.14(a); 264.13; 264.73; 268.4(a)(2)(i),(iv); 268.7(a)(5),(a)(6),(a)(7),(d)]

Safety-Kleen uses standard procedures for sampling hazardous waste and handling samples of that waste. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, are considered by the U.S. EPA to be representative of the waste.

Tables 2 and indicates sampling methods used by Safety-Kleen for sampling wastes. All drums and tankers are sampled following Safety-Kleen's standard procedure, except for the "closed loop services" and "industry specific services as described in Section 2.2.4. Waste receipts from those services are combined into a holding tank and a sample of the holding tank is evaluated.

When a customer provides samples of waste for waste stream prequalification analyses or analytical services, the customer is required to certify that the sample is representative of the waste generated. The sample is forwarded to an offsite independent lab for analysis. Laboratory analyses for the Material Profile Sheet are not conducted on-site, but rather off-site as arranged by the generator or the company.

The following paragraphs describe the sample handling procedures for the Linden facility. Prior to and during analysis, samples are stored in the laboratory or laboratory sampling area. The label information assures that samples are properly tracked and easily identified. The sample label identifies the company name, waste type, sample date, and the sampler.

A record of all samples received by the laboratory are kept in a logbook or in a computerized database. Each sample is identified by number, customer or source, waste type, and date received. Upon completion of lab analysis, the analyst records the date. In this way, all samples can be tracked through the laboratory and the current status of all samples can be determined. The results from the analytical testing are recorded in LIMS and/or on standard Safety-Kleen worksheets and forms. Table 1 contains laboratory analyses for which the onsite lab is certified. Any hazardous waste samples for fingerprint analysis are retained for a nominal of three months (twelve weeks) after the analysis is completed and then disposed of at the end of the retention period. Sample and/or sample container disposal is conducted in accordance with federal and local regulations.

2.2.3 RECEIPT ANALYSIS

A number of checks and reviews of a shipment are performed when the shipment is received at the facility. In addition to the paperwork, labels, descriptions and permit checks, a “fingerprint” analysis is done. Once samples information are obtained from the shipment, they are submitted to the facility laboratory for composite or individual analysis. The laboratory then conducts the appropriate tests, as described in Sections 2.2.4 and 2.2.5. All out-sourced testing is performed by a NJDEP certified environmental laboratory~~certified lab~~ which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

The analytical test methods used to evaluate shipment samples are identified in Table 1. The Linden facility is permitted to accept certain waste codes. The waste codes for this facility are identified in Table 7. The waste streams typically received for handling and processing at the Linden Recycling Center facilities are designated as hazardous wastes by the U.S. EPA and the State of New Jersey, due to their ignitability and/or toxicity. In addition, the facility accepts non-hazardous waste streams for solvent recovery or fuel blending, for storage on-site prior to shipment to another facility for other transfer or final disposition. Therefore, the wastes received may exhibit a wide variety of characteristics and listed properties.

The primary purpose of the receipt analyses is to confirm that the site is receiving the material described on the waste manifest and that the material can be safely handled at the facility. Therefore, a limited set of analyses, referred to as the "fingerprint analyses," are used to perform this confirmation analysis. The fingerprint analyses, which must be performed on every waste stream accepted at the Linden Recycle Center, are listed for each waste type in the next sections of this waste analysis plan.

Samples for receipt analyses are obtained using sampling instruments such as those listed in Table 2. For bulk shipments, one representative sample is obtained and analyzed for each bulk load, or for each compartment of a bulk tanker with multiple compartments. For multi-compartment tankers, samples from those compartments containing the same waste stream will be composited prior to analysis, while samples from compartments containing different waste streams will be analyzed individually.

For drum receipts, all drums are sampled. Container samples are composited according to waste description (e.g., different containers of USEPA and/or NJDEP waste codes from various generators may be compositely sampled). A maximum of twenty drums is represented in a composite sample analyzed for the fingerprint analyses. If the fingerprint analyses identify a problem, the composite is broken down as described below, until the problem drum(s) can be determined. The waste contained in the drums is not composited into bulk tanks until the results of the fingerprint analysis is received.

In cases where composites of drum samples are made for the purposes of analysis, should the analysis identify non-conforming waste material or a problem in its character and a suspect shipment cannot be identified, a new composite of half of the first drum sample count is made and analyzed. This composite-halving process is done until the problem source is identified. If the analysis identifies a problem with a bulk load, the shipment will be resampled and tested. If the problem is confirmed, the generator will be notified and the load rejected or sent to an alternate TSD facility. If the material was delivered in containers and the analyses identify a problem with the contents of the day receipts holding tank, the tank is quarantined until the problem source is identified and/or appropriate disposal arrangements can be made. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its Annual Recharacterization, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.4 RECEIPT ANALYSIS - "CLOSED LOOP" AND INDUSTRY SPECIFIC WASTES

This subsection outlines the analysis to which the waste solvents from the various Safety-Kleen businesses are subjected for receipt control. Solvents received from "closed loop sources" include, but are not limited to, parts washer solvent, gun cleaner solvent and other similar solvents. Solvents received from "industry specific sources" vary. After the facility's fingerprint analysis is conducted, if any additional analysis must be performed it will be conducted by an offsite NJDEP certified environmental laboratory. All out-sourced testing must be performed by a NJDEP certified environmental laboratory~~certified lab~~ which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

2.2.4.1 PARTS WASHER SOLVENT

The Parts Washer Services is a "Closed Loop" service in which Safety-Kleen provides equipment and equipment service, including clean for spent solvent exchange. In these services, Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop." Customers using this service include automobile dealers, auto repair shops, garages, fleet maintenance shops, manufacturers of automobiles, trucks, airplanes, heavy and light manufacturing equipment, and other businesses. The parts washer machine is used for a specific purpose, to clean and degrease parts in specific locations and is serviced by a Safety-Kleen representative on a scheduled basis. Because of the integrity of this service and its uniform use, the contaminants, e.g. oil, grease, carbon deposits, in parts washer solvent are of a consistent nature. Analytical data is renewed and updated as material is received and processed.

The predominance of waste parts washer solvent is received in bulk at the recycle centers. The remainder of the waste parts washer solvent is received in drums.

For each bulk receipt, a sample is taken before unloading and sent to the laboratory for analysis. Bulk receipts of parts washer solvent may be composited for analysis. While analysis is underway, the materials may be unloaded into a dedicated tank where it is held until the analysis results are available. Bulking of the Parts Washer Solvent within a dedicated tank is an acceptable practice because the potential for contamination is so minimal as to make isolation unnecessary. For receipts of containerized parts washer solvent, the drums are emptied into a receptacle vat and pumped into a tank. Because of the low risk of contamination as explained above, one representative sample from no less than 10 % of containerized parts washer solvent will be collected. Containers up to 35 gallons in size will have a representative sample taken from each 350 gallons of total volume received. These multiple samples may be composited for analysis. Tanks are used to isolate a batch of receipts and to begin the recovery process of separating emulsion, water and sediments. Bulk shipments and tank samples are both analyzed as follows:

Fingerprint Tests:

PCB and pH Analysis

If the results of the analyses meet an acceptance criteria, the laboratory releases the material in the tank to be processed. The recovered parts washer solvent is returned to the Safety-Kleen service centers for reuse by Safety-Kleen customers. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.4.2 PAINT GUN CLEANER SOLVENT

The paint gun cleaner is a "Closed Loop" service. In these services, Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop." In the paint gun cleaner service Safety-Kleen provides equipment specifically designed to clean

spray gun equipment, a solvent exchange service, and collects the excess waste paint generated by this industry. The solvents recovered from both the solvent and the paint are recycled by distillation and reused in the cleaning system. The solvent waste received through the paint gun cleaner service consists of paint thinners used to clean paint applicator equipment and waste paints. This waste contains organic solvents typical of the paint and thinner industry (e.g. toluene, acetone, MEK). The wastes are described as waste paint related materials and are normally received by the Linden facility in various containers ranging from five-gallon to fifty five-gallon containers. Because of the integrity of the service and its uniform use, the contaminants are of a consistent nature. Analytical data is reviewed and updated as material is received and processed.

Upon receipt, each load of containers is kept together. The containers are pumped out or emptied into a vat and pumped into a tank. The tank isolates a batch of receipts. Tank samples are analyzed as follows:

Fingerprint Tests:

PCB and pH Analysis

If the analyses' results meet an acceptance criteria, the tank is approved for processing. The recycled gun cleaner solvent is pumped into containers and distributed to Safety-Kleen customers through the Safety-Kleen service centers. If the particular acceptance criteria for paint gun cleaner solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.5 RECEIPT ANALYSES - INDUSTRIAL SOURCE

Safety-Kleen services fluid wastes generated by industrial generators in bulk quantities or in containers. These wastes might fall into such categories as: toll recycling (Safety-Kleen provides recovery services to customers); solvent recycling or recovery (Safety-Kleen resells recovered material to customer); or fuels blending (low value flammable, combustible, and halogenated solvents are blended to specification for energy recovery as kiln fuel for the cement industry). The specific receipt analyses associated with each of these waste management techniques are addressed below.

2.2.5.1 TOLL RECYCLING [40 CFR 270.14(a); 264.13; 268.7(b)(6)]

Safety-Kleen provides toll recycling for large quantity users of organic solvents. In toll recycling, an amount of waste solvent is shipped from the customer to the recycle center. The specific material is isolated, processed separately and the reclaimed solvent is shipped back to that customer. For toll recycling work, generally an agreement is reached as to the grade of the recovered finished product as well as fees or charges for the work. Safety-Kleen does not take ownership of tolling material, but rather, only provides a service.

The material may be shipped in bulk, or in containers. Upon receipt of a shipment, the load is sampled and the sample is submitted to the laboratory for shipment receipt analysis (Sampling is described in Subsection 2.2.2). Because of the low risk of contamination in toll recycling, one representative sample from bulk shipments, or no less than 10 % of containers of same shipment will be collected. The individual samples may be composited into one sample for all containers received in one shipment. The sample is analyzed at a minimum for the fingerprint tests below, to establish that the waste material received matches the manifest description and the Material Profile Sheet evaluation.

Fingerprint Tests:

PCB and pH Analysis

The recovered material is then returned to the customer in accordance with any agreement. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.5.2 SOLVENTS AND AQUEOUS FLUID RECYCLING OR RECOVERY [40 CFR 270.14(a); 264.13; 268.7(b)(6)]

Safety-Kleen provides recycling services to industrial generators of waste organic fluids, whereby Safety-Kleen collects the waste material, processes the wastes, and in turn sells the recovered product in the general industrial market. The material may be shipped in bulk, or in drums.

Upon receipt of a shipment, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. If received in containers, at least ~~25~~ 10 % of containers are sampled. Bulk streams to be recycled may be composited for PCB analysis. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below, to establish that the waste material received matches the manifest description and the Material Profile Sheet evaluation.

Fingerprint Tests;

PCB and pH Analysis

The recovered finished product is sold either in drums or bulk. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.5.3 FUEL BLENDING [40 CFR 270.66 (c); 266.102(b)]

Many wastes are not economical or cannot be physically recycled into products for reuse. These materials are suitable for Safety-Kleen's fuels blending program, where the energy contained in the waste is recovered by burning as industrial furnace or boiler fuel.

The waste material may be shipped in bulk, or in drums. Upon receipt, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. Bulk streams to be recycled may be composited for PCB analysis. If received in containers, at least ~~25~~ 10 % of containers are sampled. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below to establish that the waste material received matches the manifest description.

Fingerprint Tests:

PCB and pH Analysis

If the particular acceptance criteria for fuel blending material are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.5.4 DRY SOLID & LIQUID NON-HAZARDOUS WASTE (NJ ID27 & ID72)

For dry solid and liquid wastes (NJ ID27 & ID72 wastes), a visual inspection rather than analysis will be performed. Containers containing material different than those described in Material Profile Sheet will either be rejected, or have the discrepant materials removed if practical and agreeable between generator and facility. Unopened containers to be transshipped will not be inspected, they will be transshipped as received. Containers to be commingled will be inspected at time of dumping and any materials not conforming with Material Profile Sheet will be separated. Materials separated will be segregated and rejected to an alternate facility or back to the generator, tested for proper classification and disposal at a NJDEP certified environmental laboratory~~certified lab~~.

2.2.5.5 LIQUID/SEMI-SOLID/SOLID HAZARDOUS WASTES FOR STABILIZATION AND/OR SOLIDIFICATION

For hazardous wastes it is not feasible or possible to recycle/recover/reclaim such as liquids, sludges or other wastes from certain activities that will be treated in the mix pits the materials may be shipped in bulk or in drums. Upon receipt, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. If received in containers, at least 10 % of containers are sampled. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below to establish that the waste material received matches the manifest description.

Fingerprint Tests:

PCB and pH Analysis

If the particular acceptance criteria for mix pits' materials are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to a NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.6 WASTE GENERATED BY THE FACILITY

Regulations that govern safe and effective management of waste require in 40 CFR 262 that a generator must determine if the waste is a hazardous waste. To do this, the generator must first determine if the waste is excluded from regulations under 40 CFR 261.4, Exclusions. The generator must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR Part 261. If the waste is not listed as a hazardous waste in Subpart D of 40 CFR Part 261, he must determine whether the waste is identified in Subpart C of 40 CFR 261 by either 1) testing the waste, or 2) applying knowledge of the hazard characteristic of the waste in light of the material or the process he's used. If the waste is determined to be hazardous, the generator must determine what requirements there are for the proper and safe management of his specific waste.

The Safety-Kleen Linden Recycle Center is a RCRA TSD facility that receives waste from off-site generators. The Linden Recycle Center generates several waste streams that are residuals of the recovery/recycling of clean solvents, liquids and useable products from waste materials. Therefore, the Linden Recycle Center is also a large quantity generator of hazardous wastes. Waste streams generated at the Safety-Kleen Linden Recycle Center include, but not limited to, such wastes as:

Still-Bottoms Oils:

The residual liquid (usually oil) or sludge remaining from the distillation or fractionation of a material to recover an overhead product.

Miscellaneous Solids:

The solids that result from various handling steps such as mix pit solidification and stabilization operations, pipeline filters, settling or emptying of drums, etc. These solids are those that cannot be suspended and processed or blended for recovery or recycling.

Other waste might be generated from the recovery, recycling, or other processing of materials at this facility. It is not possible nor necessary to predict all possible wastes that might be generated, but rather identify that the facility will

comply with 40 CFR 261 and determine if the wastes generated by the facility are hazardous and what steps must be taken to manage the wastes in a safe and environmentally sound manner.

The majority of waste generated on-site at the Linden facility is amenable to processing through the fuel blending operations. However, based on market conditions, Safety-Kleen may choose to send on-site generated waste for offsite storage, treatment, processing, recovery, or disposal. When a waste stream is generated, the facility will refer to 40 CFR Part 261 as specified to determine if the generated waste is indeed a hazardous waste by being either a listed waste or a characteristic waste and is not otherwise excluded from regulation. Consideration is given to the source of the process that generates the waste. For instance, a still-bottoms oil from the distillation and recovery of a listed solvent, such as F001, F002, F003, F004, or F005 is itself by definition a hazardous waste with the same code. In another example, the hazardous waste and/or residuals resulting from the processing of a characteristic waste may be tested by a NJDEP certified environmental laboratory to determine if the material no longer exhibits that characteristic and can be disposed of as a non-hazardous waste (e.g., ID27 or ID72) or in fact~~, may~~ must be handled and managed as that characteristic type of waste if determined by the appropriate analysis to still exhibit characteristics of hazardous waste.

The facility takes every step to maximize the recovery of useable materials and the recycling of wastes in accordance with waste minimization requirements. Indeed, if a residual material from one process step can be processed or otherwise recycled in yet another process step, it will be done. Whenever possible, this is done at this recycle center. It may be necessary for reasons of capability, capacity or logistics, that further processing or recycling be done at another Safety-Kleen or other properly authorized facility.

Wastes generated by the Linden Recycle Center may be managed as generator accumulated waste for up to 90-days at the facility. If the material is still at the site after 90 days, it will be placed in properly permitted storage areas at the recycle center.

2.2.7 LAND DISPOSAL RESTRICTIONS [40 CFR 270.20(b)(4); 264.271(a)(1),(2); 264.272; 264.276, Part 271 Appendix VIII]

In its characterization of the material and determination of proper handling, it is necessary that the Linden Recycle Center consider whether or not this material is restricted from land disposal under 40 CFR Part 268. If a waste is determined to be of the type restricted from land disposal, it is necessary to determine if the material meets the appropriate treatment standard, or the material must go for treatment or otherwise dispositioned, not land disposed, as identified in the land disposal restrictions. For Instance, the best demonstrated available technology for the processing of non-recoverable, non-recyclable materials that are listed as an F001, F002, F003, or F005 wastes is thermal destruction. The major portion of the materials handled by the Linden Recycle Center are those F-codes wastes. Therefore, those materials that do not meet the treatment standards and are non-recyclable, non-recoverable are sent for thermal destruction.

If a material restricted from land disposal is to be sent to a treatment facility, a notice identifying the material as restricted from land disposal, along with identification of the treatment standard associated with that restriction accompanies the waste shipment to the treatment facility. If a waste restricted from land disposal meets the treatment

standard and will be sent to a land disposal unit, a certification that the material meets the treatment standard and can be land disposed will accompany the shipment. For the purposes of land disposal restrictions an incinerator or thermal destruction devices are considered treatment and therefore, shipments to such facilities are accompanied by a Notice of Land Disposal Restriction as specified in Part 268 of 40 CFR.

As noted in subsection 2.2.1, the paperwork that accompanies the waste shipment into the Linden Recycle Center is checked for the appropriate Notice of Land Disposal Restriction. The Notices of Land Disposal Restriction received with shipments to the Linden Recycle Center and copies of notices or certification sent with shipments out of the Linden Recycle Center are kept on file as required by 40 CFR 268.7.

C-3 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

Safety-Kleen uses standard quality control procedures as part of the overall Quality Assurance Program. These quality control procedures specify that QC checks must be conducted to verify that all analyses are accurate and precise. Each Safety-Kleen laboratory has a Laboratory Quality Assurance Manual tailored to the analyses done at the laboratory. In addition, the analytical methods used by the Linden Recycle Center Laboratory are taken from EPA SW846. The Laboratory Quality Assurance Manual may be modified or changed for a particular situation, or to improve their usefulness or data collection abilities for certification purposes. Each Safety-Kleen certified analytical procedure uses the QA/QC checks outlined in Attachment C-1 (Laboratory Quality Assurance Manual).

C-4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when analytical methods change. In the event additional methods are certified Table 1 will be updated by the facility. In the event any certified test methods are to be removed, a permit modification will be obtained as part of the waste analysis plan update.

C-5 TABLES, FIGURES AND ATTACHMENTS

TABLE 1 ANNUAL CERTIFIED PARAMETER LIST – SW846 METHODS

TABLE 2 WASTE SAMPLING DEVICES

TABLE 3 EXAMPLE INFORMATION FOR THE MATERIAL PROFILE SHEET

TABLE 4 INSTRUMENTATION AT LINDEN RECYCLE CENTER

TABLE 5 PARAMETERS AND RATIONALE FOR HAZARDOUS WASTE FINGERPRINT ANALYSIS

TABLE 6 SUMMARY OF SAMPLING/TESTING

TABLE 7 LIST OF WASTE CODES

FIGURE C-1 EXAMPLE MATERIAL PROFILE SHEET
FIGURE C-2 MATERIAL PROFILE SHEET EVALUATION PROCESS FLOW DIAGRAM

ATTACHMENT C-1 LABORATORY QUALITY ASSURANCE MANUAL
ATTACHMENT C-2 EXAMPLE ANNUAL RECHARACTERIZATION INFORMATION

APPENDIX C-1 40 CFR 264.13(b) LISTING

TABLE 1

DEP ANNUAL CERTIFIED PARAMETER LIST – SW846 APPROVED METHODS

TABLE 2

WASTE SAMPLING DEVICES

Type of Vessel	Sample Device
Drum or Container (Liquid)	Composite Drum Sample (Coliwasa Sampler)
Drum or Container (Solid, sludge)	Scoop Sampler
Tanker (Liquid)	Composite (Coliwasa)
Tank (Liquid)	Coliwasa Sampler or composite From top, bottom or side valves
Roll Off Box (Solid, Sludge)	Scoop Sampler

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. The following sampling protocols considered by the U.S. EPA to be representative of the waste are commonly utilized:

1. Extremely viscous liquid - ASTM Standard Dl 40;
2. Crushed or powdered material - ASTM Standard D346;
3. Soil or rock-like material ASTM Standard D420;
4. Soil-like material - ASTM Standard Dl 452;
5. Fly-ash-like material - ASTM Standard D2234;
6. Containerized liquid wastes – “COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", SW846, U.S. Environmental Protection Agency.

TABLE 3

EXAMPLE INFORMATION FOR THE MATERIAL PROFILE SHEET – SEE FIGURE C-1

Parameter	Restrictions
Waste Description	-----
Process Generating Waste	-----
Appearance - Visually Determined Characteristics (e.g., color, obvious viscosity)	-----
PCBs	<50 ppm
Specific Gravity	Except solids and high Viscosity samples
pH	Aqueous phase only in multiphase materials
Viscosity	------
Flash Point	------

TABLE 4

INSTRUMENTATION AT LINDEN RECYCLE CENTER*

INSTRUMENT	INSPECTION FREQUENCY
GC	For PCB Testing Only Check Standard Twice Every Day
pH	Calibrate Every Day; Checked with Buffers Every 2 Hours

*For Fingerprint Analysis

TABLE 5

PARAMETERS AND RATIONALE FOR HAZARDOUS WASTE FINGERPRINT ANALYSES

Parameter	Rationale
PCB	Assure that TSCA limit is not Exceeded
pH	Evaluation of Recyclability and Compatibility

TABLE 6
SUMMARY OF SAMPLING/TESTING

Waste*	**Bulk Sampling & Compositing**	**Container Sampling & Compositing**	**Fingerprint Test(s) / SW-846 Test Methods**
Spent Parts Washer Solvent (i.e., Mineral Spirits Parts Washer Solvent)	One sample collected from each load and analyzed. May composite several shipments for PCB analysis.	100% bulk; 10% sampling and all samples of mineral spirits may be composited into one sample.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Paint Gun Cleaner / Thinner	One sample collected.	Containers emptied into tank. Tank sampled and analyzed.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Toll Recycling (e.g., Furaldehydes, Deca-hydronaphthalene, Waste Xylene, Mineral Spirits, etc.)	One sample collected and analyzed.	100% bulk; 10% sampling of same stream of same generator in batch containers. Samples of such may be composited into one sample.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Solvents Recycling and Recovery (e.g., Acetone, Propylene Glycol Mono Methyl Ether Acetone, Toluene, Hexane, etc.)	One sample collected. May composite several shipments for PCB analysis.	100% bulk; 10% sampling and all containers of same stream from same generator may be composited.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
ID27 & ID72 Solid Waste	Visual inspection.	Appearance	

*See Table 7 for possible waste codes

TABLE 7

WASTE CODE LIST
SAFETY-KLEEN SYSTEMS, INC.
LINDEN RECYCLE CENTER

Figure C-1
EXAMPLE MATERIAL PROFILE SHEET

Figure C-2
MATERIAL PROFILE SHEET EVALUATION PROCESS FLOW DIAGRAM

Attachment C-1
LABORATORY QUALITY ASSURANCE MANUAL

Attachment C-2

EXAMPLE ANNUAL RECHARACTERIZATION INFORMATION

Appendix C-1

40 CFR 264.13(b) Listing

1(a) Parameters for which each hazardous waste, or non-hazardous waste if applicable under §264.113(d), will be analyzed: See Tables 1 and 6.

(b) Rationale for the selection of parameters: See Table 5.

2. The test methods which will be used to test for these parameters: See Tables 1 and 6.

3. The sampling method which will be used to obtain a representative sample of the waste to be analyzed: See Table 2.

4. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date: Material Profiles are reviewed and fingerprint testing (see Table 6) is performed each time a shipment is shipped to the facility.

5. For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply: See Figure C-1.

6. Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in:
(a) §264.17 (Ignitable, Reactive or Incompatible Wastes): Not applicable – testing for ignitable, reactive or incompatible waste testing for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). However, an administrative and electronic review of waste compatibility is conducted for each shipment, tracked and proper incompatible waste segregation performed.

(b) §264.314 (Landfills – Bulk and Containerized Liquids): not applicable – no onsite landfill.

(c) §264.341 (Incinerators – Waste Analysis): not applicable – no onsite incinerator.

(d) §264.1034(d) (Subpart AA – Test Methods & Procedures for Determining Hazardous Waste Process Vent Total Organic Concentration is <10ppmw: Not applicable – total organic concentration is >10ppmw. Also see Section M herein this application.

e) §264.1063(d) (Subpart BB – Monitoring Test Methods & Procedures): 40 CFR 60 Reference Method 21. Also see Section N herein this application.

(f) 264.1083 (Subpart CC – Waste Determination Procedures):
(1) Average VO concentration: Not applicable - testing for VO concentration in wastes for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). Also see Section O herein this application.

(2) Treated Hazardous Waste: ~~Not applicable - t~~Testing on treated hazardous wastes for WAP purposes ~~is not~~is conducted ~~onsite~~by a NJDEP certified environmental laboratory. If necessary, such testing is out-sourced to third-party certified NJDEP certified environmental laboratories. All onsite and out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

(3) Maximum organic vapor in tanks: Not applicable - testing for VO concentration in wastes for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). However, the facility uses SDSs and other available and accepted chemical property information to ensure tanks are properly designed and operated for wastes being stored in tanks. Also see Section O herein this application.

(4) No detectable organic emissions from tanks: 40 CFR 60 Reference Method 21. Also see Sections N and O herein this application.

(g) §268.7 (Land Disposal Restrictions Testing, Tracking and Recordkeeping): No LDR testing is conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has

received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). Tracking is conducted for each shipment for which generator LDR notifications are provided. LDR notifications are retained for a 3-years.

7. For surface impoundments exempted from land disposal restrictions under §268.4(a), the procedures and schedules: Not applicable – no hazardous waste surface impoundments onsite.

8. Exemption to the air emission standards of subpart CC in accordance with §264.1082: Not applicable – facility is not claiming any subpart CC exemptions.

Final

SECTION C WASTE ANALYSIS PLAN

C-1 INTRODUCTION

This document presents the Waste Analysis Plan for the Safety-Kleen Linden Recycle Center. The Waste Analysis Plan describes the Material Profile Sheet evaluation process, sampling procedures, the review of waste shipments to safely and effectively handle, store and process wastes received at the Linden facility. The quality assurance and quality control program to be followed as needed for any internal laboratory testing requiring state certification is outlined as well. The purpose of the Waste Analysis Plan is to outline information generators must provide for the Material Profile Sheet and to verify certain information provided by the generator's Material Profile Sheet and shipping papers accompanying each waste shipment. This information is submitted in accordance with the requirements of 40 CFR 270.14(b) as incorporated by reference in N.J.A.C. 7:26 G-12.

The Linden Recycle Center specializes in solvent recycling. Therefore, the majority of wastes the facility manages is either from a Safety-Kleen Systems, Inc. closed-loop process where products are sold to customers and the spent materials are returned to the facility for recycling and reuse as recycled products, or from customers that use other solvents of their own that can be recycled at the facility and returned to them for reuse or sold in the marketplace as a recycling product. The raw materials for the plant are used (or spent) solvents received from industrial, pharmaceutical, appliance, electronic, paint, and metal fabrication, repair, manufacturing, distribution companies, etc. throughout North America. The products from the solvent recovery operations are specification solvents for reuse in industry.

The facility also handles chemical by-products, intermediates, off-specification, leftover, or surplus materials, and miscellaneous other items usable as components or ingredients in supplemental fuels. The fuels blending operation produces a specification waste fuel suitable for use as supplemental fuel in the production of cement or in other boilers and industrial furnaces. These fuels are sent offsite for energy recovery at permitted facilities that conduct their own testing for basic parameters needed for their recycling processes.

Additionally, the facility operates mix pit processes for the stabilization and solidification of hazardous wastes. The hazardous wastes treated in the mix pits are received from a variety of offsite generators (e.g., utility companies) from activities like manhole cleanouts, spill clean-ups, public transit property/pathway renovations, equipment repairs/clean-ups, etc.

In addition to waste from industrial and commercial generators, the Linden Recycle Center also receives wastes from Safety-Kleen's network of Service centers for recycle or reclamation. Through its Service Center network, Safety-Kleen serves parts washer customers, carburetor cleaners and auto body shops, oil change facilities, vehicle radiator service establishments, etc.

The Linden Service Center receives various spent solvents mainly from Safety-Kleen customers, the majority of whom are small generators. The wastes are ultimately transferred to a Safety-Kleen Recycle Center (such as the Linden

Recycle Center), and later sent back to the customers as product or incorporated into the fuels program. Occasionally, wastes accumulated and consolidated at the Service Center are sent to an alternate TSDF.

The Safety-Kleen Linden facility is designed and operated to allow the safe and efficient processing of hazardous and non-hazardous waste streams. Non-hazardous waste control is an essential part of the facility's procedures, for these materials are often valuable to reclaim or may provide desirable characteristics when blended with other types of wastes during fuel blending processes. The types of non-hazardous waste streams accepted include solvents and solvent bearing materials, oils and oil-bearing materials, aqueous wastes and other wastes which are amenable to reclamation or blending into fuels. Non-hazardous wastes will be accepted at the facility for storage, processing, and/or transfer prior to subsequent shipment to off-site facilities. Solid hazardous wastes generated on-site and un-processable wastes received from small quantity generators are transferred off-site to approved treatment or disposal facilities.

The majority of hazardous wastes shipped to the facility in containers are managed under 10-day transfer terms and regulations. Other containerized wastes might be stored only at the facility prior to shipment offsite for treatment and/or disposal. In either case containers that are not opened and will not be processed at the facility are not sampled and/or subjected to fingerprint analysis, however paperwork reviews are conducted to confirm proper shipping names and profile descriptions as well as quantities noted as being shipped on shipping documents.

Table 1 provides the facility's New Jersey Department of Environmental Protection's laboratory certification. If necessary for waste analysis plan (WAP) purposes, any additional testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

1.1 ACRONYMS AND DEFINITIONS

CENTRAL PROFILE GROUP - The Central Profile group (CPG) oversees the profile approval process which includes the review of the Waste Material Profile and other supporting documentation: analytical data, Material Safety Data Sheets, etc. for adherence to all Federal, State, Provincial and facility regulations and permit requirements. Each member of the Central Profile Group participates in mandatory training which includes both Regulatory; Annual RCRA training, Tri-annual DOT training and Tri-annual TDG training for Hazardous Materials employees as well as Technical, non-regulatory training, which includes an in-depth review of all pre-qualification requirements of each Clean Harbors facilities Waste Analyses Plan.

CLOSED LOOP SERVICES – A nominal term used by Safety-Kleen to indicate a service wherein Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop."

ENERGY RECOVERY – Used specifically to describe the beneficial to capture of heat value of spent materials via burning in cement kilns, boilers or industrial furnaces.

FINGERPRINT ANALYSIS - A limited set of tests used to screen incoming wastes for possible contamination and/or deviation from associated waste profiles and shipping documents. √Good

FUEL BLENDING – The controlled mixing of materials for burning to recover energy in cement kilns, boilers or industrial furnaces.

PAINT GUN CLEANER SOLVENT - A mixture of flammable solvents common to paints and varnishes used to clean paint spray guns. Typically this solvent will contain ketones, esters, aliphatic and aromatic solvents, and possibly glycol ethers.

PARTS WASHER SOLVENT - A fraction of petroleum naphtha with a distillation range of 315-400^{o}F. The flash point of this material is typically greater than 105^{o}F. It is commonly referred to as “Mineral Spirits” or “Stoddard Solvent.”

PCB - Polychlorinated biphenyls.

RECOVERY - This term is used in the Safety-Kleen Waste Analysis Plan to indicate the purification of a spent organic solvent by one or more operations. The solvent may be reused by the original generator or sold to other industrial customers.

RECYCLING - the use, reuse or recovery and reclamation of a spent material into a usable product or raw material.

TOLL RECYCLING - A recycling service in which the customer’s waste is segregated, reclaimed to the generator’s specifications, and returned directly for reuse by the original generator.

WASTE STREAM - A waste stream is defined as a source of waste material that, as a result of business- related contamination, can no longer serve the purpose for which it was produced without processing, and which can reasonably be expected to remain relatively consistent in composition during the period of the business relationship.

C-2 LINDEN RECYCLE CENTER WASTE ANALYSIS PLAN [40 CFR 270.14(b)(3); 264.13 (b)(1)]

Receipt control and acceptance procedures are important components of effective waste management at the Linden Recycle Center and the Linden Service Center. Proper knowledge of the material received at the Linden Recycle Center is of major importance to the safe and effective handling, storage, and processing of the accepted wastes. In addition, effective quality control assures the best product and the cost effectiveness of the operation.

Receipt control consists of two basic steps: Material Profile Sheet evaluation and shipment receipt control analysis.

2.1 MATERIAL PROFILE SHEET EVALUATION [40 CFR 270.14(a); 264.13(a)(1); 268.7; 268.9; 268.41; 268.41; 268.43; 268.45(a)]

Proper protection of human health and the environment require that waste streams be properly evaluated. Safety-Kleen requires knowledge of each particular waste before handling, storing or recycling those materials. This is achieved through historical data, knowledge of the industry or process generating the waste, or by individual evaluation for each generator stream, depending upon the waste stream source as described below.

Pre-acceptance of waste is required prior to shipment of material into the Linden Safety-Kleen facility. The decision to approve a waste is made based on a review of the physical and chemical characteristics of the material as described by the generator on the Material Profile form. All generators are required to use a company Material Profile Sheet, and the Central Technical Services Group (a.k.a. Central Profile Group) has been given authority to make profile approval decisions for all wastes into the facility unless objected by facility management.

The Linden Recycle Center receives wastes from three basic types of sources. The first is the Safety-Kleen closed loop services. The second type of source is referred to as industry-specific sources, and the third is termed industrial or other sources. The Linden Recycle center receives waste from Safety-Kleen service centers and/or generators/customers. These different sources are discussed below.

The parts washer and paint gun cleaner waste streams managed by the recycle center result from what Safety-Kleen calls its "closed loop services." In these services, Safety-Keen provides the equipment and clean solvent, takes back the spent solvent after use, recycles the solvent, and returns the recycled solvent back to the service. Hence, the term "closed loop." The solvents from these services are of a consistent nature, as evidenced by the historical data. This data is constantly renewed and updated as material is received and processed, and thus provides the necessary Material Profile Sheet information (see Figure C-1). Figure C-2 is a Material Profile Sheet evaluation flow chart.

Waste streams also result from what Safety-Kleen refers to as "industry specific sources." This includes such sources as waste paint from automotive and industrial sources; used oils from automotive and industrial services; solvents from industrial processes that are not part of any S-K closed-loop service; other industrial/source specific wastes; and machine and engine coolants. Safety-Kleen characterizes each such waste stream by the operation, and as necessary

with statistical analyses/methods, or chemical analyses of the general stream developed from knowledge of the industry and the uses of the material in that industry. This evaluation provides the information necessary to properly handle, store and recycle these waste streams.

The third general source of waste streams derives from "industrial and other sources". Due to the greater variability in the compositions; their application or use; and the source industries, Safety-Kleen evaluates each stream from each generator separately.

When a new industrial source waste stream is considered, the process begins with an interview between a Safety-Kleen representative and an authorized representative of the generator. The Safety-Kleen representative is responsible for obtaining ample and accurate information about the wastestream to ensure proper classification and to determine storage/treatment/disposal/recycle options for the material in compliance with applicable regulations and operating procedures. The Safety-Kleen representatives undergo an extensive training in the procedures necessary to complete a Material Profile Sheet.

The constituents and the process generating the wastestream are revealed during the discussion. After obtaining this information, the waste types, characteristics, and classification of the wastestream can be determined. After the initial review with the Safety-Kleen representative, the generator is required to complete and certify a Material Profile Sheet (see Figure C-1).

The parameters identified in the Material Profile Sheet provide the information required to classify, sample, transport, and treat or dispose of the material. The parameters in the Material Profile Sheet are selected in order to properly classify the wastes and to ensure compatibility with Safety-Kleen's storage/treatment/disposal/recycle processes. Based on the information supplied by the generator on the Material Profile Sheet, restricted wastes or incompatible wastes (i.e., PCBs or dioxin containing wastes, reactives, etc.) are identified in advance and prohibited from approval for shipment to the facility.

If upon completion of the Material Profile Sheet the Safety-Kleen representative is satisfied that there is enough information to accept the waste, it along with supporting information (SDS, any available analytical data, formulations, etc.) will be forwarded to the company's Central Profile Group (CPG) for review. The representative may also request a representative sample if there is not enough information to store/treat/dispose/ recycle the stream. This sample will be submitted to an offsite independent lab for analyses. In those cases where no sample was requested from generator by the representative, the facility reserves the right to request analytical data or a sample from the generator (if needed) as part the wastestream approval process for analyses at an offsite independent lab.

CPG waste review personnel consist of employees familiar with the storage/recycle/treatment methods used at the facility and with federal and state hazardous waste regulations, as well as US DOT regulations. The CPG personnel responsible for the waste review process will review the data and will make a decision to either accept, reject, or request additional information and/or confirm acceptability with facility management.

The Material Profile Sheet along with the support information is reviewed by the personnel responsible for the waste review process. First, a determination will be made whether the waste is approved for storage/treatment/recycle at the

Linden facility under the facility's hazardous waste permit. If the waste is not acceptable to the Linden facility, the generator will be notified and the Material Profile Sheet will be rejected. If the waste is acceptable to the Linden facility, then storage/treatment/recycle options available at the facility will be evaluated. If the waste is not amenable to storage/treatment/recycling at the facility, CPG personnel responsible for the waste review process will designate another approved final TSDF.

If a waste is determined to be acceptable to the Linden Recycle Center and Safety-Kleen, and the generator agree on terms such as acceptance criteria, procedures and fee agreement for handling the waste, the generator is notified and the shipment(s) are scheduled. The shipments are often arranged by Safety-Kleen and are conducted in accordance with all applicable requirements of the U.S. DOT, the NJDEP, and the U.S. EPA.

If a waste stream is not approved due to lack of information, further analytical data and/or a sample will be requested for analyses at an offsite independent lab. If treatability studies reveal that the wastestream can be treated/recycled at the facility and is approved for acceptance under the Part B, it may be approved.

Table 1 provides the certified analytical test methods employed by Safety-Kleen. Any other testing conducted for confirmation of authorized wastes receipts will be performed by offsite certified labs.

The final evaluation of the waste stream by Safety-Kleen is based on a comparison of the waste information against:

1. Permit limitations and conditions;
2. Safety and health provisions;
3. New Jersey waste authorization for receipt;
4. Process capability and availability;
5. Compatibility of the material to the facility storage and operations:
6. Storage volume availability; and
7. Market factors for recycled products.

2.1.1 SAMPLING, SAMPLE HANDLING AND RECORD-KEEPING [40 CFR 270.14(a);264.13(b)(6); 268.4(a)(2)(i)(iv)]

Generators are required to initially provide information on the source, nature and characteristics of the waste stream. If a customer provides samples of waste for wastestream prequalification analyses or other analytical services at independent labs, the customer is required to certify that the sample is representative of the waste.

Table 2 presents sampling devices used to obtain waste samples onsite from different types of incoming vessels and wastes. Composite samples are taken wherever appropriate. When a customer provides samples of waste for qualification analyses or analytical services, the customer is required to certify that the sample is representative and that SW-846 methods were used. Basically, coliwasa samples will be taken from drums and tankers containing liquids; scoop samples will be taken from drums containing high percentages of solids and sludges; and liquid samples from tanks will be taken from top, bottom, or side valves.

A record of all samples received by the laboratory for onsite analysis is kept in a computerized database called Laboratory Information Management System (LIMS). Each sample is identified by Number, Retain ID, Volume Receipt, Customer or Source, Waste Type, and Date received. Upon completion of lab analysis, the chemist records the

date. In this way, all samples can be tracked through the laboratory using the LIMS database and the current status of all samples can be determined also through the LIMS program.

Hazardous waste samples are usually retained for a nominal of three months (twelve weeks) after analyses are completed and then properly disposed of at the end of the retention period. Waste samples and/or waste containers are properly disposed of in accordance with applicable regulations.

Information provided from generators on the Material Profile Sheet and/or analytical results from waste stream prequalification analyses are used to determine the specifics of the waste disposition. To keep the waste evaluation data current for waste streams which are not of a generic nature, Safety-Kleen repeats the Material Profile Sheet evaluations, minimally, when the generator notifies Safety-Kleen of changes in the customer's (generator's) waste generating process.

If samples are received at the facility from the customer for wastestream prequalification analyses they are forwarded to an offsite certified lab.

2.1.2 MATERIAL PROFILE SHEET Evaluation (Characterization), ANALYTICAL PARAMETERS, RATIONALE AND TEST METHODS [40 CFR 270.14(b)(3); 264.13(b)(1,2)]

The processing capabilities at the Linden Recycle Center are broad and flexible, and thus allow for a wide range of acceptability of wastes. The waste streams typically received for processing at the Linden facility are designated as hazardous by the U.S. EPA and NJDEP due to their ignitability and/or toxicity. The facility also accepts non-hazardous waste streams. Both hazardous (listed and characteristic) and non-hazardous wastes are accepted for storage, solvent recovery, fuels blending, storage prior to shipment to off-site facilities, or transfer to other trucks for shipping to off-site facilities. Therefore, the wastes received may exhibit a wide variety of characteristics. Various parameters are used to initially characterize wastes and to further confirm (e.g., upon shipment) that the waste matches the Material Profile Sheet, manifest/shipping papers, waste characterization, previous shipments, or any combination of identifying data/information. Laboratory analyses for the Material Profile Sheet are not conducted on-site, but rather off-site as arranged by the generator or the company. Example methods for the onsite fingerprint analysis of specific parameters are shown in Table 1.

For Material Profile Sheet evaluation (characterization), the information/data provided by the generator is intended to be used in lieu of individual sample analysis. If sufficient information/data is not available or if either Safety-Kleen or the generator requests prequalification analyses for a representative sample, the information/data provided by the generator is then supplemented with analysis of the representative sample. Shipping documents are received and a preliminary disposition determination made by receiving personnel as to whether a waste is recoverable or to be used for fuels, or transferred offsite to another permitted facility. Any samples are first assessed for phase description.

Phase Character:

* Single Phase Liquids (includes semi-stable mixable multiphase);
* Multiphase Liquids;

* Solids - Minimal Liquids;
* Solids - Significant Amount of Liquid;
* Oils; and
* Coolants and Other Wastes.

Safety-Kleen's procedures describe the approach for prequalification evaluations as well as receiving and handling procedures to be used for any samples of waste streams that are collected for fingerprint analysis. The Linden facility does not conduct any testing on prequalification samples if needed for the completion of the Material Profile Sheet. Included in these procedures are the rationales for choosing the parameters each type of sample will be evaluated for the specific uses of the information generated and acceptance criteria where appropriate, and the specific procedures to be used to evaluate each parameter. Fingerprint analysis test methods are updated upon onsite laboratory certification changes (e.g., changes in SW-846, add or remove an approved method, etc.).

2.1.3 ANNUAL RECHARACTERIZATION [40 CFR 270.14(b)(3); 264.13(a)]

As previously discussed, there are several waste streams which Linden Recycle Center will receive which fall into the categories of "closed-loop" or Industry specific source wastes. These wastes are sufficiently predictable that there is no need for a detailed compositional evaluation of each incoming shipment. For those waste streams, a core Material Profile Sheet evaluation will be utilized in lieu of an individual Material Profile Sheet or representative sample from each individual generator. The basis for use of the "uniform" Material Profile Sheet is determined by the results of Annual Recharacterization Analyses.

The Annual Recharacterization Analyses consist of a comprehensive analytical program which analyzes representative samples collected from various closed-loop or industry-specific waste streams throughout the Safety-Kleen network of Branch and Recycling facilities. All samples are taken by Safety-Kleen employees and shipped to designated laboratory facilities. The tests performed include: TCLP (metals, volatiles, semi-volatiles), specific gravity, flash point and pH. The results of the analytical program are then tabulated for all facilities to provide a cross-sectional view of the waste characteristics associated with the closed-loop or industry-specific waste streams. Based on these results, Safety-Kleen determines which waste codes to assign to these waste streams. In this manner, closed loop and industry specific source waste may safely arrive at the Recycle Center without having an individual pre-shipment Material Profile Sheet evaluation or analysis.

Attachment C-2 provides example Annual Recharacterization information.

2.2 SPENT SOLVENT AND DIOXIN WASTES, SHIPMENT RECEIPT [40 CFR 270.14(a); 264.13(a)(1); 268.2(f)(1); 268.2(f)(1); 268.7; 268.3; 268.31]

2.2.1 ACCEPTANCE PROCEDURES [40 CFR 270.14(a); 264.13; 264.73; 268.9(d)]

Having previously determined, through Material Profile Sheet evaluation that the waste is acceptable, the second receipt control step occurs upon actual delivery to the Linden Recycling Center facility. When a shipment arrives at the

Recycling Center, the manifest(s) accompanying the shipment is (are) reviewed for completeness and for accuracy against the material actually arriving at the facility. Information that is checked includes:

* Generator Name, Address, EPA ID and Phone Number
* Transporter Name and EPA ID;
* Facility Name, Address, EPA ID and Phone Number;
* DOT Shipping Description;
* EPA Waste Code;
* Quantity;
* Names, Signature and Date of Generator, Transporter and Designated Facility
* State specific regulations/requirements.

Simultaneously, the waste shipment is inspected for leaks or other packaging problems. If a problem is identified, the facility office is notified and appropriate measures are taken to correct, clean-up and (if necessary) return the waste to the generator, in compliance with applicable U.S. DOT, NJDEP, and U.S. EPA regulations.

Waste drums accepted at the facility must be properly labeled and marked. Containerized waste shipments are checked for proper labeling and marking, and the information on the hazardous waste label is checked against the manifest.

After or while checking the paperwork, a sample of the waste is obtained and fingerprint analysis performed. Sample analysis results are compared against the acceptance criteria set out in the waste Material Profile Sheet and against permit/authorization limitations. Any additional testing conducted for waste acceptance in addition to the fingerprint analysis outlined on Table 5 will be performed by an offsite independent certified laboratory.

In accordance with regulations concerning manifesting, any discrepancy is first discussed with the generator and resolved within 15-days of detection. If it cannot be reconciled, but the material can otherwise be accepted, a manifest discrepancy report is filed with the NJDEP. Alternately, the shipment may be rejected back to the generator or shipped an alternate facility. If it is determined the shipment can be received, the manifest is signed and a copy of the manifest is given or sent to the transporter. Within 45 days of delivery and acceptance, a copy of the completed manifest is returned to the generator.

Safety-Kleen reserves the right that if, based upon information or analyses obtained at any time, the waste material is found to be different from what was represented to be shipped, or it cannot be managed at the facility, the shipment acceptance may be revoked and the shipment rejected and returned to the generator or sent to an alternate facility for proper disposal. This may occur even after the manifest has been signed, the shipment unloaded and release of the transporter. The information review process covers the following items:

1. Safety and health provisions;
2. Permit limitations and conditions;
3. Process capability and availability;
4. Compatibility of the material to the facility storage and operations;
5. Storage volume availability;
6. Generator Name and ID
7. Transporter Name and ID;

8. Facility Name and ID;
9. DOT Shipping Description;
10. EPA Waste Code;
11. Quantity;
12. Fingerprint Analyses;
13. State Specific Regulations; and
14. Notice of Land Disposal Restriction (if applicable).

When a bulk load is accepted, it is assigned to a storage tank and off-loaded into that tank. The facility maintains records of the receiving tank for each off-loaded shipment. The facility also maintains current data on the contents of each tank.

The facility does not accept wastes that are not compatible with the materials of construction of the waste storage tanks at the Linden facility. Compatibility of incoming wastes with the receiving tanks is ensured during the Material Profile Sheet evaluation and through verification with shipping documents. The receiving shipping papers, Material Profile Sheet review, and fingerprint analysis verify that the waste received corresponds to the waste characterized during the Material Profile Sheet development, evaluation and approval process.

When a containerized (drum) load of industrial waste is accepted, a tracking number is assigned electronically to each drum, and the drums are transferred from the unloading area to one of the permitted drum storage areas. The specific storage area used for each shipment is also enter electronically.

Drums of Safety-Kleen solvent received back from Safety-Kleen customers of "closed loop services" or industry specific sources are not marked with a control number; however, the storage area in which the drums are placed is noted. These containers are properly labeled and marked, and are handled separately from industrial and other wastes. (See section 2.2.4)

Drummed liquid waste is stored inside a container storage area, out of direct sunlight and within secondary containment.

2.2.2 SAMPLING, SAMPLE HANDLING AND RECORD-KEEPING [40 CFR 270.14(a); 264.13; 264.73; 268.4(a)(2)(i),(iv); 268.7(a)(5),(a)(6),(a)(7),(d)]

Safety-Kleen uses standard procedures for sampling hazardous waste and handling samples of that waste. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, are considered by the U.S. EPA to be representative of the waste.

Tables 2 and indicates sampling methods used by Safety-Kleen for sampling wastes. All drums and tankers are sampled following Safety-Kleen's standard procedure, except for the "closed loop services" and "industry specific services as described in Section 2.2.4. Waste receipts from those services are combined into a holding tank and a sample of the holding tank is evaluated.

When a customer provides samples of waste for waste stream prequalification analyses or analytical services, the customer is required to certify that the sample is representative of the waste generated. The sample is forwarded to an offsite independent lab for analysis. Laboratory analyses for the Material Profile Sheet are not conducted on-site, but rather off-site as arranged by the generator or the company.

The following paragraphs describe the sample handling procedures for the Linden facility. Prior to and during analysis, samples are stored in the laboratory or laboratory sampling area. The label information assures that samples are properly tracked and easily identified. The sample label identifies the company name, waste type, sample date, and the sampler.

A record of all samples received by the laboratory are kept in a logbook or in a computerized database. Each sample is identified by number, customer or source, waste type, and date received. Upon completion of lab analysis, the analyst records the date. In this way, all samples can be tracked through the laboratory and the current status of all samples can be determined. The results from the analytical testing are recorded in LIMS and/or on standard Safety-Kleen worksheets and forms. Table 1 contains laboratory analyses for which the onsite lab is certified. Any hazardous waste samples for fingerprint analysis are retained for a nominal of three months (twelve weeks) after the analysis is completed and then disposed of at the end of the retention period. Sample and/or sample container disposal is conducted in accordance with federal and local regulations.

2.2.3 RECEIPT ANALYSIS

A number of checks and reviews of a shipment are performed when the shipment is received at the facility. In addition to the paperwork, labels, descriptions and permit checks, a “fingerprint” analysis is done. Once samples information are obtained from the shipment, they are submitted to the facility laboratory for composite or individual analysis. The laboratory then conducts the appropriate tests, as described in Sections 2.2.4 and 2.2.5. All out-sourced testing is performed by a NJDEP certified environmental laboratory which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

The analytical test methods used to evaluate shipment samples are identified in Table 1. The Linden facility is permitted to accept certain waste codes. The waste codes for this facility are identified in Table 7. The waste streams typically received for handling and processing at the Linden Recycling Center facilities are designated as hazardous wastes by the U.S. EPA and the State of New Jersey, due to their ignitability and/or toxicity. In addition, the facility accepts non-hazardous waste streams for solvent recovery or fuel blending, for storage on-site prior to shipment to another facility for other transfer or final disposition. Therefore, the wastes received may exhibit a wide variety of characteristics and listed properties.

The primary purpose of the receipt analyses is to confirm that the site is receiving the material described on the waste manifest and that the material can be safely handled at the facility. Therefore, a limited set of analyses, referred to as the "fingerprint analyses," are used to perform this confirmation analysis. The fingerprint analyses, which must be performed on every waste stream accepted at the Linden Recycle Center, are listed for each waste type in the next sections of this waste analysis plan.

Samples for receipt analyses are obtained using sampling instruments such as those listed in Table 2. For bulk shipments, one representative sample is obtained and analyzed for each bulk load, or for each compartment of a bulk tanker with multiple compartments. For multi-compartment tankers, samples from those compartments containing the same waste stream will be composited prior to analysis, while samples from compartments containing different waste streams will be analyzed individually.

For drum receipts, all drums are sampled. Container samples are composited according to waste description (e.g., different containers of USEPA and/or NJDEP waste codes from various generators may be compositely sampled). A maximum of twenty drums is represented in a composite sample analyzed for the fingerprint analyses. If the fingerprint analyses identify a problem, the composite is broken down as described below, until the problem drum(s) can be determined. The waste contained in the drums is not composited into bulk tanks until the results of the fingerprint analysis is received.

In cases where composites of drum samples are made for the purposes of analysis, should the analysis identify non-conforming waste material or a problem in its character and a suspect shipment cannot be identified, a new composite of half of the first drum sample count is made and analyzed. This composite-halving process is done until the problem source is identified. If the analysis identifies a problem with a bulk load, the shipment will be resampled and tested. If the problem is confirmed, the generator will be notified and the load rejected or sent to an alternate TSD facility. If the material was delivered in containers and the analyses identify a problem with the contents of the day receipts holding tank, the tank is quarantined until the problem source is identified and/or appropriate disposal arrangements can be made. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its Annual Recharacterization, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.4 RECEIPT ANALYSIS - "CLOSED LOOP" AND INDUSTRY SPECIFIC WASTES

This subsection outlines the analysis to which the waste solvents from the various Safety-Kleen businesses are subjected for receipt control. Solvents received from "closed loop sources" include, but are not limited to, parts washer solvent, gun cleaner solvent and other similar solvents. Solvents received from "industry specific sources" vary. After the facility’s fingerprint analysis is conducted, if any additional analysis must be performed it will be conducted by an offsite NJDEP certified environmental laboratory. All out-sourced testing must be performed by a NJDEP certified environmental laboratory which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

2.2.4.1 PARTS WASHER SOLVENT

The Parts Washer Services is a "Closed Loop" service in which Safety-Kleen provides equipment and equipment service, including clean for spent solvent exchange. In these services, Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop." Customers using this service include automobile dealers, auto repair shops, garages, fleet maintenance shops, manufacturers of automobiles, trucks, airplanes, heavy and light manufacturing equipment, and other businesses. The parts washer machine is used for a specific purpose, to clean and degrease parts in specific locations and is serviced by a Safety-Kleen representative on a scheduled basis. Because of the integrity of this service and its uniform use, the contaminants, e.g. oil, grease, carbon deposits, in parts washer solvent are of a consistent nature. Analytical data is renewed and updated as material is received and processed.

The predominance of waste parts washer solvent is received in bulk at the recycle centers. The remainder of the waste parts washer solvent is received in drums.

For each bulk receipt, a sample is taken before unloading and sent to the laboratory for analysis. Bulk receipts of parts washer solvent may be composited for analysis. While analysis is underway, the materials may be unloaded into a dedicated tank where it is held until the analysis results are available. Bulking of the Parts Washer Solvent within a dedicated tank is an acceptable practice because the potential for contamination is so minimal as to make isolation unnecessary. For receipts of containerized parts washer solvent, the drums are emptied into a receptacle vat and pumped into a tank. Because of the low risk of contamination as explained above, one representative sample from no less than 10 % of containerized parts washer solvent will be collected. Containers up to 35 gallons in size will have a representative sample taken from each 350 gallons of total volume received. These multiple samples may be composited for analysis. Tanks are used to isolate a batch of receipts and to begin the recovery process of separating emulsion, water and sediments. Bulk shipments and tank samples are both analyzed as follows:

Fingerprint Tests:

PCB and pH Analysis

If the results of the analyses meet an acceptance criteria, the laboratory releases the material in the tank to be processed. The recovered parts washer solvent is returned to the Safety-Kleen service centers for reuse by Safety-Kleen customers. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.4.2 PAINT GUN CLEANER SOLVENT

The paint gun cleaner is a "Closed Loop" service. In these services, Safety-Kleen provides the equipment and clean solvent, takes back the spent solvent, recycles the solvent and returns the recycled solvent back to the service. Hence, the term "closed loop." In the paint gun cleaner service Safety-Kleen provides equipment specifically designed to clean

spray gun equipment, a solvent exchange service, and collects the excess waste paint generated by this industry. The solvents recovered from both the solvent and the paint are recycled by distillation and reused in the cleaning system. The solvent waste received through the paint gun cleaner service consists of paint thinners used to clean paint applicator equipment and waste paints. This waste contains organic solvents typical of the paint and thinner industry (e.g. toluene, acetone, MEK). The wastes are described as waste paint related materials and are normally received by the Linden facility in various containers ranging from five-gallon to fifty five-gallon containers. Because of the integrity of the service and its uniform use, the contaminants are of a consistent nature. Analytical data is reviewed and updated as material is received and processed.

Upon receipt, each load of containers is kept together. The containers are pumped out or emptied into a vat and pumped into a tank. The tank isolates a batch of receipts. Tank samples are analyzed as follows:

Fingerprint Tests:

PCB and pH Analysis

If the analyses' results meet an acceptance criteria, the tank is approved for processing. The recycled gun cleaner solvent is pumped into containers and distributed to Safety-Kleen customers through the Safety-Kleen service centers. If the particular acceptance criteria for paint gun cleaner solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.5 RECEIPT ANALYSES - INDUSTRIAL SOURCE

Safety-Kleen services fluid wastes generated by industrial generators in bulk quantities or in containers. These wastes might fall into such categories as: toll recycling (Safety-Kleen provides recovery services to customers); solvent recycling or recovery (Safety-Kleen resells recovered material to customer); or fuels blending (low value flammable, combustible, and halogenated solvents are blended to specification for energy recovery as kiln fuel for the cement industry). The specific receipt analyses associated with each of these waste management techniques are addressed below.

2.2.5.1 TOLL RECYCLING [40 CFR 270.14(a); 264.13; 268.7(b)(6)]

Safety-Kleen provides toll recycling for large quantity users of organic solvents. In toll recycling, an amount of waste solvent is shipped from the customer to the recycle center. The specific material is isolated, processed separately and the reclaimed solvent is shipped back to that customer. For toll recycling work, generally an agreement is reached as to the grade of the recovered finished product as well as fees or charges for the work. Safety-Kleen does not take ownership of tolling material, but rather, only provides a service.

The material may be shipped in bulk, or in containers. Upon receipt of a shipment, the load is sampled and the sample is submitted to the laboratory for shipment receipt analysis (Sampling is described in Subsection 2.2.2). Because of the low risk of contamination in toll recycling, one representative sample from bulk shipments, or no less than 10 % of containers of same shipment will be collected. The individual samples may be composited into one sample for all containers received in one shipment. The sample is analyzed at a minimum for the fingerprint tests below, to establish that the waste material received matches the manifest description and the Material Profile Sheet evaluation.

Fingerprint Tests:

PCB and pH Analysis

The recovered material is then returned to the customer in accordance with any agreement. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.5.2 SOLVENTS AND AQUEOUS FLUID RECYCLING OR RECOVERY [40 CFR 270.14(a); 264.13; 268.7(b)(6)]

Safety-Kleen provides recycling services to industrial generators of waste organic fluids, whereby Safety-Kleen collects the waste material, processes the wastes, and in turn sells the recovered product in the general industrial market. The material may be shipped in bulk, or in drums.

Upon receipt of a shipment, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. If received in containers, at least 10 % of containers are sampled. Bulk streams to be recycled may be composited for PCB analysis. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below, to establish that the waste material received matches the manifest description and the Material Profile Sheet evaluation.

Fingerprint Tests;

PCB and pH Analysis

The recovered finished product is sold either in drums or bulk. If the particular acceptance criteria for parts washer solvent are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly

2.2.5.3 FUEL BLENDING [40 CFR 270.66 (c); 266.102(b)]

Many wastes are not economical or cannot be physically recycled into products for reuse. These materials are suitable for Safety-Kleen's fuels blending program, where the energy contained in the waste is recovered by burning as industrial furnace or boiler fuel.

The waste material may be shipped in bulk, or in drums. Upon receipt, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. Bulk streams to be recycled may be composited for PCB analysis. If received in containers, at least 10 % of containers are sampled. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below to establish that the waste material received matches the manifest description.

Fingerprint Tests:

PCB and pH Analysis

If the particular acceptance criteria for fuel blending material are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to an offsite NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.5.4 DRY SOLID & LIQUID NON-HAZARDOUS WASTE (NJ ID27 & ID72)

For dry solid and liquid wastes (NJ ID27 & ID72 wastes), a visual inspection rather than analysis will be performed. Containers containing material different than those described in Material Profile Sheet will either be rejected, or have the discrepant materials removed if practical and agreeable between generator and facility. Unopened containers to be transshipped will not be inspected, they will be transshipped as received. Containers to be commingled will be inspected at time of dumping and any materials not conforming with Material Profile Sheet will be separated. Materials separated will be segregated and rejected to an alternate facility or back to the generator, tested for proper classification and disposal at a NJDEP certified environmental laboratory.

2.2.5.5 *LIQUID/SEMI-SOLID/SOLID HAZARDOUS WASTES FOR STABILIZATION AND/OR SOLIDIFICATION*

For hazardous wastes it is not feasible or possible to recycle/recover/reclaim such as liquids, sludges or other wastes from certain activities that will be treated in the mix pits the materials may be shipped in bulk or in drums. Upon receipt, the load is sampled. If received in bulk, the sample is submitted directly to the laboratory for shipment receipt analysis. If received in containers, at least 10 % of containers are sampled. All containers of same stream from same generator may be composited and submitted to the laboratory for shipment receipt analysis. The sample is analyzed at a minimum for the fingerprint tests below to establish that the waste material received matches the manifest description.

Fingerprint Tests:

PCB and pH Analysis

If the particular acceptance criteria for mix pits' materials are not met indicating the waste does not match its profile, additional analysis will be conducted by submitting a representative sample to a NJDEP certified environmental laboratory. Afterwards a determination will be made as to what processing technology or handling method is required, or the waste will be rejected to an alternate facility or the back to the generator. If the NJDEP certified environmental laboratory confirms the waste is acceptable at the facility the material will then be processed and handled accordingly.

2.2.6 WASTE GENERATED BY THE FACILITY

Regulations that govern safe and effective management of waste require in 40 CFR 262 that a generator must determine if the waste is a hazardous waste. To do this, the generator must first determine if the waste is excluded from regulations under 40 CFR 261.4, Exclusions. The generator must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR Part 261. If the waste is not listed as a hazardous waste in Subpart D of 40 CFR Part 261, he must determine whether the waste is identified in Subpart C of 40 CFR 261 by either 1) testing the waste, or 2) applying knowledge of the hazard characteristic of the waste in light of the material or the process he's used. If the waste is determined to be hazardous, the generator must determine what requirements there are for the proper and safe management of his specific waste.

The Safety-Kleen Linden Recycle Center is a RCRA TSD facility that receives waste from off-site generators. The Linden Recycle Center generates several waste streams that are residuals of the recovery/recycling of clean solvents, liquids and useable products from waste materials. Therefore, the Linden Recycle Center is also a large quantity generator of hazardous wastes. Waste streams generated at the Safety-Kleen Linden Recycle Center include, but not limited to, such wastes as:

Still-Bottoms Oils:

The residual liquid (usually oil) or sludge remaining from the distillation or fractionation of a material to recover an overhead product.

Miscellaneous Solids:

The solids that result from various handling steps such as mix pit solidification and stabilization operations, pipeline filters, settling or emptying of drums, etc. These solids are those that cannot be suspended and processed or blended for recovery or recycling.

Other waste might be generated from the recovery, recycling, or other processing of materials at this facility. It is not possible nor necessary to predict all possible wastes that might be generated, but rather identify that the facility will comply with 40 CFR 261 and determine if the wastes generated by the facility are hazardous and what steps must be taken to manage the wastes in a safe and environmentally sound manner.

The majority of waste generated on-site at the Linden facility is amenable to processing through the fuel blending operations. However, based on market conditions, Safety-Kleen may choose to send on-site generated waste for offsite storage, treatment, processing, recovery, or disposal. When a waste stream is generated, the facility will refer to 40 CFR Part 261 as specified to determine if the generated waste is indeed a hazardous waste by being either a listed waste or a characteristic waste and is not otherwise excluded from regulation. Consideration is given to the source of the process that generates the waste. For instance, a still-bottoms oil from the distillation and recovery of a listed solvent, such as F001, F002, F003, F004, or F005 is itself by definition a hazardous waste with the same code. In another example, the hazardous waste and/or residuals resulting from the processing of a characteristic waste may be tested by a NJDEP certified environmental laboratory to determine if the material no longer exhibits that characteristic and can be disposed of as a non-hazardous waste (e.g., ID27 or ID72) or in fact must be handled and managed as that characteristic type of waste if determined by the appropriate analysis to still exhibit characteristics of hazardous waste.

The facility takes every step to maximize the recovery of useable materials and the recycling of wastes in accordance with waste minimization requirements. Indeed, if a residual material from one process step can be processed or otherwise recycled in yet another process step, it will be done. Whenever possible, this is done at this recycle center. It may be necessary for reasons of capability, capacity or logistics, that further processing or recycling be done at another Safety-Kleen or other properly authorized facility.

Wastes generated by the Linden Recycle Center may be managed as generator accumulated waste for up to 90-days at the facility. If the material is still at the site after 90 days, it will be placed in properly permitted storage areas at the recycle center.

2.2.7 LAND DISPOSAL RESTRICTIONS [40 CFR 270.20(b)(4); 264.271(a)(1),(2); 264.272; 264.276, Part 271 Appendix VIII]

In its characterization of the material and determination of proper handling, it is necessary that the Linden Recycle Center consider whether or not this material is restricted from land disposal under 40 CFR Part 268. If a waste is determined to be of the type restricted from land disposal, it is necessary to determine if the material meets the appropriate treatment standard, or the material must go for treatment or otherwise dispositioned, not land disposed, as identified in the land disposal restrictions. For Instance, the best demonstrated available technology for the processing of non-recoverable, non-recyclable materials that are listed as an F001, F002, F003, or F005 wastes is thermal destruction. The major portion of the materials handled by the Linden Recycle Center are those F-codes wastes. Therefore, those materials that do not meet the treatment standards and are non-recyclable, non-recoverable are sent for thermal destruction.

If a material restricted from land disposal is to be sent to a treatment facility, a notice identifying the material as restricted from land disposal, along with identification of the treatment standard associated with that restriction accompanies the waste shipment to the treatment facility. If a waste restricted from land disposal meets the treatment standard and will be sent to a land disposal unit, a certification that the material meets the treatment standard and can be land disposed will accompany the shipment. For the purposes of land disposal restrictions an incinerator or thermal

destruction devices are considered treatment and therefore, shipments to such facilities are accompanied by a Notice of Land Disposal Restriction as specified in Part 268 of 40 CFR.

As noted in subsection 2.2.1, the paperwork that accompanies the waste shipment into the Linden Recycle Center is checked for the appropriate Notice of Land Disposal Restriction. The Notices of Land Disposal Restriction received with shipments to the Linden Recycle Center and copies of notices or certification sent with shipments out of the Linden Recycle Center are kept on file as required by 40 CFR 268.7.

C-3 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

Safety-Kleen uses standard quality control procedures as part of the overall Quality Assurance Program. These quality control procedures specify that QC checks must be conducted to verify that all analyses are accurate and precise. Each Safety-Kleen laboratory has a Laboratory Quality Assurance Manual tailored to the analyses done at the laboratory. In addition, the analytical methods used by the Linden Recycle Center Laboratory are taken from EPA SW846. The Laboratory Quality Assurance Manual may be modified or changed for a particular situation, or to improve their usefulness or data collection abilities for certification purposes. Each Safety-Kleen certified analytical procedure uses the QA/QC checks outlined in Attachment C-1 (Laboratory Quality Assurance Manual).

C-4 WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when analytical methods change. In the event additional methods are certified Table 1 will be updated by the facility. In the event any certified test methods are to be removed, a permit modification will be obtained as part of the waste analysis plan update.

C-5 TABLES, FIGURES AND ATTACHMENTS

TABLE 1 ANNUAL CERTIFIED PARAMETER LIST – SW846 METHODS

TABLE 2 WASTE SAMPLING DEVICES

TABLE 3 EXAMPLE INFORMATION FOR THE MATERIAL PROFILE SHEET

TABLE 4 INSTRUMENTATION AT LINDEN RECYCLE CENTER

TABLE 5 PARAMETERS AND RATIONALE FOR HAZARDOUS WASTE FINGERPRINT ANALYSIS

TABLE 6 SUMMARY OF SAMPLING/TESTING

TABLE 7 LIST OF WASTE CODES

FIGURE C-1 EXAMPLE MATERIAL PROFILE SHEET
FIGURE C-2 MATERIAL PROFILE SHEET EVALUATION PROCESS FLOW DIAGRAM

ATTACHMENT C-1 LABORATORY QUALITY ASSURANCE MANUAL
ATTACHMENT C-2 EXAMPLE ANNUAL RECHARACTERIZATION INFORMATION

APPENDIX C-1 40 CFR 264.13(b) LISTING

TABLE 1

DEP ANNUAL CERTIFIED PARAMETER LIST – SW846 APPROVED METHODS

TABLE 2

WASTE SAMPLING DEVICES

Type of Vessel	Sample Device
Drum or Container (Liquid)	Composite Drum Sample (Coliwasa Sampler)
Drum or Container (Solid, sludge)	Scoop Sampler
Tanker (Liquid)	Composite (Coliwasa)
Tank (Liquid)	Coliwasa Sampler or composite From top, bottom or side valves
Roll Off Box (Solid, Sludge)	Scoop Sampler

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. The following sampling protocols considered by the U.S. EPA to be representative of the waste are commonly utilized:

1. Extremely viscous liquid - ASTM Standard Dl 40;
2. Crushed or powdered material - ASTM Standard D346;
3. Soil or rock-like material ASTM Standard D420;
4. Soil-like material - ASTM Standard Dl 452;
5. Fly-ash-like material - ASTM Standard D2234;
6. Containerized liquid wastes – “COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", SW846, U.S. Environmental Protection Agency.

TABLE 3

EXAMPLE INFORMATION FOR THE MATERIAL PROFILE SHEET – SEE FIGURE C-1

Parameter	Restrictions
Waste Description	-----
Process Generating Waste	-----
Appearance - Visually Determined Characteristics (e.g., color, obvious viscosity)	-----
PCBs	<50 ppm
Specific Gravity	Except solids and high Viscosity samples
pH	Aqueous phase only in multiphase materials
Viscosity	------
Flash Point	------

TABLE 4

INSTRUMENTATION AT LINDEN RECYCLE CENTER*

INSTRUMENT	INSPECTION FREQUENCY
GC	For PCB Testing Only Check Standard Twice Every Day
pH	Calibrate Every Day; Checked with Buffers Every 2 Hours

*For Fingerprint Analysis

TABLE 5

PARAMETERS AND RATIONALE FOR HAZARDOUS WASTE FINGERPRINT ANALYSES

Parameter	Rationale
PCB	Assure that TSCA limit is not Exceeded
pH	Evaluation of Recyclability and Compatibility

TABLE 6
SUMMARY OF SAMPLING/TESTING

Waste*	**Bulk Sampling & Compositing**	**Container Sampling & Compositing**	**Fingerprint Test(s) / SW-846 Test Methods**
Spent Parts Washer Solvent (i.e., Mineral Spirits Parts Washer Solvent)	One sample collected from each load and analyzed. May composite several shipments for PCB analysis.	100% bulk; 10% sampling and all samples of mineral spirits may be composited into one sample.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Paint Gun Cleaner / Thinner	One sample collected.	Containers emptied into tank. Tank sampled and analyzed.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Toll Recycling (e.g., Furaldehydes, Deca-hydronaphthalene, Waste Xylene, Mineral Spirits, etc.)	One sample collected and analyzed.	100% bulk; 10% sampling of same stream of same generator in batch containers. Samples of such may be composited into one sample.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
Solvents Recycling and Recovery (e.g., Acetone, Propylene Glycol Mono Methyl Ether Acetone, Toluene, Hexane, etc.)	One sample collected. May composite several shipments for PCB analysis.	100% bulk; 10% sampling and all containers of same stream from same generator may be composited.	PCBs (3580A, 3620C & 8082A) and pH (9041A & 9045D)
ID27 & ID72 Solid Waste	Visual inspection.	Appearance	

*See Table 7 for possible waste codes

TABLE 7

WASTE CODE LIST
SAFETY-KLEEN SYSTEMS, INC.
LINDEN RECYCLE CENTER

Figure C-1
EXAMPLE MATERIAL PROFILE SHEET

Figure C-2
MATERIAL PROFILE SHEET EVALUATION PROCESS FLOW DIAGRAM

Attachment C-1
LABORATORY QUALITY ASSURANCE MANUAL

Attachment C-2
EXAMPLE ANNUAL RECHARACTERIZATION INFORMATION

Appendix C-1

40 CFR 264.13(b) Listing

1(a) Parameters for which each hazardous waste, or non-hazardous waste if applicable under §264.113(d), will be analyzed: See Tables 1 and 6.

(b) Rationale for the selection of parameters: See Table 5.

2. The test methods which will be used to test for these parameters: See Tables 1 and 6.

3. The sampling method which will be used to obtain a representative sample of the waste to be analyzed: See Table 2.

4. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date: Material Profiles are reviewed and fingerprint testing (see Table 6) is performed each time a shipment is shipped to the facility.

5. For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply: See Figure C-1.

6. Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in:
(a) §264.17 (Ignitable, Reactive or Incompatible Wastes): Not applicable – testing for ignitable, reactive or incompatible waste testing for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). However, an administrative and electronic review of waste compatibility is conducted for each shipment, tracked and proper incompatible waste segregation performed.

(b) §264.314 (Landfills – Bulk and Containerized Liquids): not applicable – no onsite landfill.

(c) §264.341 (Incinerators – Waste Analysis): not applicable – no onsite incinerator.

(d) §264.1034(d) (Subpart AA – Test Methods & Procedures for Determining Hazardous Waste Process Vent Total Organic Concentration is <10ppmw: Not applicable – total organic concentration is >10ppmw. Also see Section M herein this application.

e) §264.1063(d) (Subpart BB – Monitoring Test Methods & Procedures): 40 CFR 60 Reference Method 21. Also see Section N herein this application.

(f) 264.1083 (Subpart CC – Waste Determination Procedures):
(1) Average VO concentration: Not applicable - testing for VO concentration in wastes for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). Also see Section O herein this application.

(2) Treated Hazardous Waste: Testing on treated hazardous wastes for WAP purposes is conducted by a NJDEP certified environmental laboratory. If necessary, such testing is out-sourced to third-party certified NJDEP certified environmental laboratories. All onsite and out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c).

(3) Maximum organic vapor in tanks: Not applicable - testing for VO concentration in wastes for WAP purposes is not conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). However, the facility uses SDSs and other available and accepted chemical property information to ensure tanks are properly designed and operated for wastes being stored in tanks. Also see Section O herein this application.

(4) No detectable organic emissions from tanks: 40 CFR 60 Reference Method 21. Also see Sections N and O herein this application.

(g) §268.7 (Land Disposal Restrictions Testing, Tracking and Recordkeeping): No LDR testing is conducted onsite. If necessary, such testing is out-sourced to third-party certified laboratories. All out-sourced testing is performed by a certified lab which has

received the proper certification or approval for the test methods it is employing in accordance to N.J.A.C. 7:18-1.4(b) and N.J.A.C. 7:18-1.4(c). Tracking is conducted for each shipment for which generator LDR notifications are provided. LDR notifications are retained for a 3-years.

7. For surface impoundments exempted from land disposal restrictions under §268.4(a), the procedures and schedules: Not applicable – no hazardous waste surface impoundments onsite.

8. Exemption to the air emission standards of subpart CC in accordance with §264.1082: Not applicable – facility is not claiming any subpart CC exemptions.

Section D

Redline

SECTION D PROCESS INFORMATION

D-1 INTRODUCTION [40 CFR 270.15; 264.170; 270.16; 264.190]

This section describes existing hazardous waste management units and procedures for the Safety-Kleen Systems, Inc. Linden Recycle Center in accordance with 40 CFR 270.14 through 270.16. These units include loading/unloading areas and storage areas as well as treatment units. Each of the key waste handling areas of the facility are described in this section. Based on the normal flow of hazardous waste into and through the facility, this section first describes all the existing and proposed loading/unloading areas (truck stations and railcar facility), then addresses the storage units (container storage areas ~~and,~~ tank farms and treatment units). Table D-1 provides a breakdown of the overall facility ~~capacity~~hazardous waste storage and treatment capacities.

The Linden Recycle Center receives used solvents, solvent mixtures, and other liquid and solid wastes from industrial and commercial generators/ customers, local, State and Federal agencies, Safety-Kleen service centers, and other Safety-Kleen Recycle Centers. Wastes accepted are described in Section C. Waste Characteristics, and include but not limited to chlorinated hydrocarbons, amines, alcohols, aliphatic and aromatic compounds, waste oils, oil filters, paint wastes, aqueous wastes, and other hazardous and non-hazardous wastes. Wastes are received in various containers, in tank trucks and railcars. Used solvents, solvent mixtures, and other wastes are managed in several ways. These include recovery, fuel blending for off-site use, storage, transfer and shipment off-site. The recovery processes include but not limited to distillation, fractionation, and drying. Recovered products are either returned or distributed for use by Safety-Kleen customers or marketed as recovered solvent.

Distillation and fractionation of waste solvents may generate waste streams. Waste streams not suitable for recovery are generally processed on-site into waste fuels for use off-site in industrial boilers and furnaces. Wastes which otherwise cannot be processed into fuel are shipped off-site for proper disposition.

Decanting and drying of aqueous/solvent mixtures and distillation of some wastes with high water content generate wastewater that may contain organic and/or inorganic chemicals. Wastewater generated by the Linden Recycle Center is discharged in accordance with the facility's wastewater discharge permit or is disposed off-site.

The treatment of hazardous wastes in the mix pits will generate non-hazardous wastes confirmed by analytical testing at a NJDEP certified environmental laboratory either on or off-site. Wastes not confirmed to be rendered non-hazardous by the appropriate analytical testing will be properly managed as hazardous waste for either further approved onsite treatment or shipped off-site for final disposition.

See **Exhibit A2** for a facility site plan. **Exhibit B7** provides a facility process flow diagram for the primary operations at the facility.

TABLE D - 1
SAFETY-KLEEN SYSTEMS, INC. LINDEN, NJ RECYCLE CENTER
FACILITY HAZARDOUS WASTE CAPACITIES

I.	Vehicle Loading/Unloading/Storage (S01)	Gallons
	Truck Station No. 1 (TS1)	37,500
	Truck Station No. 2 (TS2)	30,000
	Truck Station No. 3 (TS3)	15,000
	Truck Station No. 4 (TS4)	35,700
	Truck Station No. 5 (TS5)	15,300
	Truck Station No. 6 (TS6)	7,500
	Truck Station No. 6A (TS6A)	15,000
	Truck Station No. 7 (TS7)	7,500
	Truck Station No. 7A (TS7A)	45,000
	Truck Station No. 8 (TS8)	7,500
	Truck Station No. 8A (TS8A)	7,500
	Truck Station No. 9 (TS9)	7,500
	Truck Station No. 9A (TS9A)	7,500
	Truck Station No. 10 (TS10)	7,500
	Truck Station No. 11 (TS11)	67,500
	Truck Station No. 12 (TS12)	82,500
	Rail Station No. 1 (RS1)	25,500
	Rail Station No. 2 (RS2)	25,500
	Rail Station No. 6 (RS6)	25,500
	Subtotal	~~322,500~~472,500
II.	Container Storage (S01)	
	Container Storage Area No. 1 (CSA1)	125,840
	Container Storage Area No. 2 (CSA2)	17,600
	Container Storage Area No. 3 (CSA3)	18,000
	Subtotal	~~143,440~~161,440
III.	Tank Storage (S02)	
	Tank Farm No. 2 (TF2)	299,000*
	Tank 40 (T40)	18,000
	Tank 41 (T41)	18,000
	VR-1	2,872*
	VR-2	2,872*
	Tank 216 (T216 - Double-Walled Tank)	12,355**
	Tank Farm No. 4 (TF4)	102,600
	Total	455,699*
IV.	Tank Treatment Units (T01)~~–~~	Gallons per Day~~)~~
	Tanks VR1 & VR2	5,684*
	Tank 213	32,000*
	Tank 214	32,000*
	Tank 215	20,000*
	T~~t~~otal	89,684

V. Container Storage (S01)	Cubic Yards
Truck Station No. 13 (TS13)	600
Total	600

VI. Other Treatment (T04)	Short Tons per Day
Mix Pits (2)	200
Total	200

Total S01	~~465,940~~633,940 ~~gallons~~Gallons
Total S01	600 Cubic Yards
Total S02	455,699 ~~gallons~~Gallons
Total T01	89,684 ~~gallons~~ Gallons per ~~day~~Day
Total T04	200 Short Tons per Day

*Tanks 213, 214, 215, VR-1 and VR-2 included as storage capacity for waste inventory purposes
** Tank 216 is physically on-site, however not installed

Safety-Kleen receives waste from small and large quantity generators. Wastes are shipped to a Safety-Kleen facility for recycling incorporated into the fuels program, or stored and shipped offsite. Wastes accepted include, but are not limited to, parts washer solvents, and chlorinated and non-chlorinated hydrocarbons.

The Linden Recycle Center facility operates with the flexibility to use any combination of handling, processing, and management of waste received at the facility. That is to say, given the wastes permitted to be received at the facility (See Section C - Waste Characteristics) and the processes and handling methods identified in this section, the facility may strategically determine which activity or combination of activities will be utilized to best handle the waste received at the facility. This flexibility is necessary for the facility to best accomplish and improve its recycling efforts, which ultimately result in better protection of human health and the environment. All drawings/exhibits are subject to field modifications by the facility at time of construction to facilitate construction implementation. If these modifications result in a change to the approved unit design or operation, these modifications will require prior Department approval.

D-1a Description of Containers [40 CFR 270.15; 264.171,172]

The containers used by large industries served by Safety-Kleen Systems are generally 55-gallon steel drums, although other DOT approved containers are also received including, but not limited to, tanker trucks, rail cars, roll-off box containers, etc. Dry cleaning service customers package their wastes on their own premises and generally ship these wastes to the Linden Recycle Center in 16-gallon drums and in lined fiber-board boxes, although other DOT approved containers are also received. Other customers ship paint wastes to the Linden facility most often in 5-gallon and in 16-gallon containers, although other type containers are also received. Many types of containers are received at the facility, all of which are required to meet DOT requirements. Management and inspection procedures are described in the Inspection Plan, Section F.

D-1b Container Storage/Loading/Unloading Areas [40 CFR 270.14(b)(8)(I)]

There are ~~seventeen~~ twenty-one (~~17~~20) areas designated for loading/unloading and storage at the Linden Recycle Center (Truck Station Nos. 1, (formally the recovery pad), 2, 3, 4, 5, 6, 6A, 7, 7A, 8, 8A, 9, 9A, 10, 11, 12, 13, and Railcar Siding Nos. 1, 2 and 6). All hazardous waste management areas are concrete or asphalt with curbs and containment to hold the nominal capacity of the largest compartment in a truck. Run-on is prevented from entering truck stations Nos. 2 , 3, 4, 5, 6, 6A, 7, 7A, 8, 8A, 9, 9A ~~and~~, 10, 11 and 12 by the presence of ramps on each side that are sloped toward the loading/unloading area. Truck station Nos. 3 and 6A are also equipped with a roof. Truck Station 13 is for the parking of roll-off box containers and other transportation units holding only wastes with no free liquids. Land immediately surrounding the containment areas is graded to provide drainage away from the area. Railcar Siding No. 1 is equipped with a concrete pad and containment sump to contain any spilled wastes and is equipped with a roof. Rail Siding Nos. 2 and 6 are equipped with metal spill pans with hinged covers and is connected to the same containment diversion system as Rail Siding No. 1. All areas are shown on the site plan (see **Exhibit A2**).

1. Truck Station No. 1 (TS1), is located on the north side of Tank Farm No. 2. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. This area has room for five trucks and is approximately 75 feet long by 50 feet wide. Truck Station No. 1 has a concrete base, which slopes in a southwesterly direction to a concrete swale. This swale is isolated from the secondary containment by a manual valve. This swale winds around Tank Farm No. 1 and eventually empties into a basin located to the southeast of Truck Station No. 3 (see **Exhibits A3 and B8**)

2. Truck Station No. 2 (TS2) is a loading/unloading area for bulk shipments. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Truck Station No. 2 is located along the west side of the Distillation Column Process Area and is shown in **Exhibit A4**. This truck station has concrete containment with a manual pump to remove excess liquids by pumping it to an adjacent secondary containment. This truck station can hold 4 tankers or approximately 30,000 gallons of hazardous waste.

3. Truck Station No. 3 (TS3) is a loading/unloading area, located on the west side of the Recycle Center, adjacent to Tank Farm No. 1. Truck Station No. 3 is a covered truck facility used primarily for the loading/ unloading of bulk shipments of Safety-Kleen closed-loop Parts Washer Solvent. Truck Station No. 3 currently has a concrete base, which slopes eastward toward a concrete swale. This swale empties into a basin located to the southeast of the truck station, which is isolated from secondary

containment by a manual valve. This truck station can hold 15,000 gallons of hazardous waste (see **Exhibits A5a through A5d and B8**).

4. Truck Station No. 4 (TS4) is the set of truck docks located on the south side of Container Storage Area 1. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Containers are unloaded, loaded, and stored in the area. This truck station has 3 truck bays and is approximately 54 feet long and 44 feet wide (see **Exhibit A6**).

5. Truck Station No. 5 (TS5) is located on the west side of the Container Storage Area 2. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes.~~Truck Station No. 5 is used to load/unload and store hazardous wastes~~ (see **Exhibit A7**).

6. Truck Station No. 6 (TS6) is located on the east side of, and adjacent to, Tank Farm No. 4 (utilized for used oil transfer, hazardous and non-regulated wastes). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A8**.

7. Truck Station 6A (TS6A) is located on the east side of, and adjacent to, Tank Farm No. 1 (utilized for recycled solvent products). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, non-regulated wastes, hazardous secondary materials as well as products. Details for this area are shown in **Exhibit A9**.

8. Truck Station No. 7 (TS7) is located to the south of, and adjacent to, Tank Farm No. 4 (utilized for used oil transfer and hazardous as well as non-regulated wastes and hazardous secondary materials). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A10**.

9. Truck Station 7A (TS7A) is located on the east side of, and adjacent to/between, Tank Farm No. 2 (utilized for hazardous waste storage) and Truck Station No. 2. This area is used for hazardous waste storage, loading and unloading, as well as for

the loading, unloading and temporary storage of used oil, non-regulated wastes, hazardous secondary materials as well as products. Details for this area are shown in **Exhibit A11**.

10. Truck Station No. 8 (TS8) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

11. Truck Station No. 8A (TS8A) is located adjacent to the south edge of TS8. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

12. Truck Station No. 9 (TS9) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

13. Truck Station No. 9A (TS9A) is located adjacent to the south edge of TS9. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

14. Truck Station No. 10 (TS10) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12b**.

15. Truck Station No. 11 (TS11) is located on the north side of, and adjacent to, Tank Farm No. 4. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A43**.

16. Truck Station No. 12 (TS12) is located on the east side of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading,

unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A44**.

18. Truck Station 13 No. (TS13) is located on the southeast side of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Since TS13 will not be used to store hazardous wastes with free liquids it does not have complete secondary containment therefore its dimensions are as shown on the facility's site plan – see **Exhibit A2**.

~~15~~19. Railcar Siding No. 1 (RS1) and its access platform construction details are shown in **Exhibits A13 (A13a through A13d)**. Materials at the Linden Recycle Center are shipped out by rail to customers, cement kilns, or industrial furnaces as applicable, or other appropriate facilities. The facility receives waste by rail for recycling, storage, transfer, or incorporation into the fuels program. The railcar loading/unloading canopy is located in the northeastern part of the Recycle Center, north of the Distillation Column Pad Area.

~~16~~20. Railcar Siding No. 2 (RS2) is located in the northeast corner of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil and non-regulated wastes. Details for this area are shown in **Exhibits A13 (A13a and A13e)**.

~~17~~21. Railcar Siding No. 6 (RS6) is located along the north edge of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil and non-regulated wastes. Details for this area are shown in **Exhibits A13 (A13a and A13e)**.

Capacities of the vehicle loading/unloading areas are summarized below:

Loading/unloading Area	Maximum Capacity
Truck Station No. 1	Five (5) x 7500 gallon in containers
Truck Station No. 2	Four (4) x 7500 gallons in containers
Truck Station No. 3	Two (2) x 7500 gallons in containers
Truck Station No. 4	Seven (7) x 5100 gallons in container
Truck Station No. 5	Three (3) x 5100 gallons in containers
Truck Station No. 6	One (1) x 7500 gallons in containers

Truck Station No. 6A	Two (2) x 7500 gallons in containers
Truck Station No. 7	One (1) x 7500 gallons in containers
Truck Station No. 7A	Six (6) x 7500 gallons in containers
Truck Station No. 8	One (1) x 7500 gallons in containers
Truck Station No. 8A	One (1) x 7500 gallons in containers
Truck Station No. 9	One (1) x 7500 gallons in containers
Truck Station No. 9A	One (1) x 7500 gallons in containers
Truck Station No. 10	One (1) x 7500 gallons in containers
Truck Station No. 11	Nine (9) x 7,500 gallons in containers
Truck Station No. 12	Eleven (11) x 7500 gallons in containers
Railcar Siding No. 1	One (1) x 25,500 gallon rail car
Railcar Siding No. 2	One (1) x 25,500 gallon rail car
Railcar Siding No. 6	One (1) x 25,500 gallon rail car
Total	472,500~~322,500~~ gallons

Truck Station No. 13 Fifteen (15) x 40 yd^3 roll-off containers*

Total 600 Cubic Yards*

*Or ton/pound/gallon equivalents of hazardous wastes with no free liquids

The configuration of the railcar loading/unloading station is designed to prevent run-on of stormwaters or other liquids. In addition, the facility is not located in a flood plain and is therefore not subject to flooding. The design of the railcar loading/ unloading station secondary containment system involves use of a concrete pad that flows into an accumulation sump. The railcar loading/ unloading areas are designed to hold up to 7,000 gallons of liquid. The accumulation sump is equipped with a dedicated high rate pump, which is hard-piped to stormwater tanks T-4501 & T-4502 (10,000 gal capacity for each tank) located next to Truck Station No.2. This system will prevent large spills (>7,000 gal.) from a railcar in the loading/unloading station from being released outside of secondary containment.

The management of railcars at the Linden facility is subject to scheduling by the railroad companies for deliveries and pickups. Safety-Kleen will work with the railroad companies to try to schedule delivery and pickup days and times that coincide with the operations of the facility. Railcars are generally used to transport wastes for recovery or fuel blending to and from the facility, but any of the waste types accepted at the facility may be received via railcar.

D-1c Container Management Practices [40 CFR 270.14(a); 264.173]

The maximum inventory of containers of wastes that can be stored at the permitted Linden facility is ~~2,608~~2,935 55-gallon drums (161,440~~143,440~~ gallons), or the equivalent capacity in smaller or larger containers in CSA1, CSA2 and CSA 3. That capacity is in addition to ~~the~~ other amounts indicated in ~~D-1b~~Table D-1 above. Other container storage areas (i.e., truck and rail stations) are utilized to load/unload/consolidate/bulk/store hazardous wastes in various sized approved containers with

maximum inventories as indicated in Table D-1 above. Containers accepted at the Linden facility meet applicable DOT specifications for hazardous waste.

The Linden Recycle Center receives containerized hazardous wastes in the form of liquid, solid, and semi-solid/semi-liquid. For wastes received by the facility for storage and/or transfer, the manifest or Bill of Lading are terminated at the facility and a new manifest or Bill of Lading is completed showing the Linden facility as the generator. The Linden facility may receive hazardous wastes for consolidation purposes. The consolidated material may be accumulated and stored at the facility until more than a full truck is accumulated, prior to shipping the material to its final destination for proper treatment and/or disposal.

There are ~~two~~ three (3) buildings at the facility designed ~~exclusively~~ for storage of containers of waste material. These locations are designated on the Site Plan in **Exhibit A2**.

1. Container Storage Area No. 1 (CSA1) at the Linden Recycle Center can store up to 2,288, 55-gallon (125,840 gallons) equivalent drums in compliance with the National Fire Protection Association code for storage of Class 1B flammable liquids. Manual container movements within CSA1 are conducted using manual placement by authorized employees using hand trucks, forktrucks and manual movements. Roller conveyors may be used to provide container conveyance within the process area described below. However, containers movements/placements are conducted with and without the roller conveyors installed and/or operational. CSA1 floor plan is shown on **Exhibit A14a** with conveyors and on **Exhibit A14b** without conveyors.

2. Container Storage Area No. 2 (CSA2) at the Linden Recycle Center is used for storage and processing approximately 320, 55-gallon drum equivalents of approved hazardous wastes (17,600 gallons). The Safety-Kleen Systems Return and Fill system is also located in this area. This system is utilized to transfer the contents of containers of crude mineral spirits (hazardous wastes) into permitted hazardous waste storage tanks prior to recycling/recovery via fractional distillation, washing of the containers, and then refilling of the containers with product mineral spirits. The total containment capacity within CSA2is 4,082 gallons, greater than 10% of the total volume of material stored in the area at any given time. CSA2 floor plan is shown on **Exhibit A15**. Exhibit A15 provides a diagram showing the placement of the Return and Fill system (i.e., Drum Washer subject to RCRA permitting requirements) within CSA2. Manual container movements within CSA2 are conducted using manual placement by authorized employees using hand trucks, forktrucks and manual movements. Roller conveyors may be used to provide container conveyance to the Return and Fill. However, containers movements/placements are conducted with and without the roller conveyors installed and/or operational.

Exhibit B9 provides a P&ID for the flow of hazardous waste from the Drum Washer to an appropriate hazardous waste storage tank. Other ancillary equipment (i.e., not subject to

RCRA permitting requirements) shown on this P&ID is for the drying of chemical products processed from the facility's thin film evaporator (LUWA). The filling of containers with product mineral spirits, tolling, antifreeze, or windshield wiper fluid manufactured onsite may also occur in CSA2.

Exhibit B10 provides an example diagram for the actual Drum Washer. This unit is not used to store any hazardous waste but rather transfer it from batch containers to bulk tanks, however it does have a sump that can temporarily hold approximately 40 gallons of crude mineral spirits that is recirculated and used to rinse-out emptied containers.

3. Container Storage Area No. 3 (CSA3) can store up 9,000 gallons in Area D and 9,000 gallons in Area E of hazardous waste in various containers to include 25 cubic yard (approximately 5,000 gallons each) roll-off box containers/vac boxes, 3,500 gallon Cuscos/vac trucks, etc., or ~327, 55-gallon drums or other proper containers, or a combination thereof equal to a maximum of 18,000 gallons. **Exhibit 45** provides a drawing for CSA3.

Containers are inspected during pick-up at the generator's plant, during unloading at the Linden facility and also daily during storage. Safety-Kleen Systems Inc. haulers have been advised of their responsibility to assure non-leaking drums. Drums found to be leaking at time of unloading are either immediately pumped into a storage tank, over packed, or repacked; drums found to be leaking in storage are treated similarly.

Containers received by truck are unloaded by fork trucks using container clamps or other such equipment. After unloading, containers are counted or electronically scanned to ensure agreement with the manifest or shipping papers and inspected to ensure that the containers are structurally sound and are labeled in compliance with RCRA and applicable regulations.

The storage location of each shipment of waste is established at time of receipt, and an inventory record is maintained in the facility's records showing the generator's name, receipt date, and storage location.

Containers are arranged with a nominal aisle space of 30 inches. **Exhibits A14a, A14b and A15** present typical aisle layouts in the container storage areas and is shown for illustrative purposes only. Exact arrangements, configuration, and distribution of types of drums may vary, but are done in accordance with the applicable requirements, including minimum aisle space, maximum pile size, inspection necessities, and accessibility.

Drum transfer/processing is nominally performed in the drum processing areas in Container Storage Area Nos. 1 and 2 as shown in **Exhibits A14a and A15**. Operations involve emptying drums of pumpable wastes, sludge consolidation, drum washing and filling, and other physical handling. The removed materials are transferred to the appropriate bulk storage tank. The exact configuration of this equipment is a function of the types of wastes being processed at any given time.

D-1d Container Storage Area No. 1 Processing Equipment

Containerized waste is brought off trucks and into Container Storage Area No. 1 (CSA1) by forklift, drum dollies, manual movement, etc., and staged for sampling. The staging of containers takes place for the purpose of container inspection and waste receipt sampling. After the containers are sampled, they are moved by forklift, drum dollies, manual movement, etc., and placed into their properly designated rows. The row designations are determined by the intended container handling method: i) fuel blending, ii) solvent recovery for resale, ii) solvent recovery for return to customer, iv) transfer to storage tanks for subsequent shipment off-site to authorized facilities, and v) container storage and transfer only. Row designations are determined by compatibility and indicated in on-site records. With the exception of v) above, all intended management methods require utilization of the container processing line.

Containerized waste is moved to the processing line by forklift, drum dollies, manual movement, etc., and set on the drum conveyor. Containers travel along the conveyor line and arrive at the pump-out station. The pump station may be operated with or without the installation or operation of the roller conveyors. The containers are then opened and free liquids are pumped out and the liquid materials maybe transferred to any tank in Tank Farm 2 or Tank Farm 4.. A suction wand is inserted into the drum to pump out the liquids.

Containers which have been completely emptied travel along to the end of the conveyor, where an empty drum label is placed on the containers and the container loaded onto the designated empty container trailer or storage area.

Any solids, semi-solids, sludges or liquids remaining in the container are cleaned out and are consolidated into containers and eventually transferred to authorized off-site facilities for final disposal.

D-1e Container Inspection [40 CFR 270.14(b)(5); 264.174]

Drums received at the Linden facility are checked at time of unloading to ensure that they are properly marked/labeled and that the marking/label matches the manifest. In addition to the drum inspection at time of unloading a daily inspection is made of the container storage area specifically to ensure that any leaking drums are immediately corrected. A record is kept of these inspections and the action taken to remedy a leaking drum. These procedures are described in the Inspection Plan in Section F of this permit application.

Containers received at Linden Recycle Center must meet the following general criteria:

- must meet DOT construction requirements
- approved for the type of material being shipped
- must be in good condition (including properly sealed and not leaking), and
- must be of a type which S-K has the equipment to safely handle.

D-1f Requirements for Secondary Containment and Leak Detection [40 CFR 270.15(a); 264.175(b)]

Container Storage Area No. 1 is built with a floor approximately 45" above exterior grade to facilitate truck loading and unloading. The floor of the warehouse is surrounded by a curb and ramped at the doors, to provide spill containment for greater than 10% of the total volume of the containers. In addition, floor drains leading to a collection tank outside Container Storage Area No. 1, are located

along the center line of each bay of the warehouse. The floor is sloped toward these drains so that any leak or spill runs to the center of the bay is immediately visible. This provides instant recognition of leaks or spills and the opportunity for prompt correction by isolation of the leaking drum and repacking to avoid generating a hazardous condition in the building. Should a spill occur, the spilled material would flow to the collection tank located outside the building, which can be immediately emptied by vacuum truck or by use of a suction hose connected to the drum pump. Spilled solvents will be pumped to a waste storage tank.

Container Storage Area No. 2 is built with a concrete floor surrounded by a curb to provide spill containment for greater than 10% of the total volume of containers. The floor is sloped toward floor drains leading to a collection tank outside of Container Storage Area 2. Should spills occur, the spilled material will flow into the collection tank.

Container Storage Area No. 3 is built with a concrete floor surrounded by a curb to provide spill containment for the largest container which is greater than 10% of the total volume of containers. The floor is sloped toward blind floor sumps. Should spills occur, the spilled material will flow into the blind floor sumps.

Truck Station No. 1 is constructed of concrete, sloping to the south and is bordered to the east and west by a dike.

Truck Station No. 2 is constructed of concrete, sloping toward the center of the station and is bordered to the east and west by a dike. The entrance and exit is sloped toward the center of the station.

Truck Station No. 3 is constructed of concrete, sloping to the east and is bordered to the east and west by a dike. The entrance and exit is sloped toward the center of the station. Truck Station No. 3 is also covered by a roof.

Truck Station No. 4 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 5 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 6 and No. 6A are constructed of concrete and is bordered by a dike on all sides. Truck Station No. 6A is covered.

Truck Station No. 7 and No. 7A are constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 8 and 8A are constructed of concrete and is bordered by a dike on all sides. This area encompasses Truck Station 9 as well.

Truck Station No. 9 and 9A are constructed of concrete and is bordered by a dike on all sides. This area encompasses Truck Station 8 as well.

Truck Station No. 10 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 11 is constructed of asphalt and is bordered and fully contained by a dike on all sides.

Truck Station No. 12 is constructed of asphalt and is bordered and fully contained by a dike on all sides.

Truck Station No. 13 is constructed of asphalt but is not fully contained since hazardous wastes with free liquids are not stored there.

Railcar Siding No. 1, 2 and 6 construction details are shown in **Exhibit A13**. Materials at the Linden Recycle Center are shipped out by rail to customers, cement kilns, or industrial furnaces as applicable, or other appropriate facilities. The facility receives waste by rail for recycling, storage, transfer, or incorporation into the fuels program. The railcar loading/unloading canopy is located in the northeastern part of the Recycle Center, north of the Distillation Column Pad Area. All railcar sidings have a capacity of 25,500-gallons each.

The containment capacity of each of the container storage areas is shown below. Containment calculations for each storage area are included in Attachment D-1 and corresponding exhibits. In the event that product and material will be stored within the same container storage area, both volumes will be counted towards the area inventory.

Storage Area	Storage Capacity (Gal.)	Equivalent 55-Gallon Drums	Secondary Cont. Vol. (Gal)	Exhibit #
CSA1	125,840	2,288	17,676	A14
CSA2	17,600	320	4,006	A15
CSA3	18,000	327	17,247	A45
		Equivalent Tankers/Vans/Rail Cars		
TS1	37,500	5 x 7,500 gallons	21,315	A3
TS2	30,000	4 x 7,500 gallons	9,044	A4
TS3	15,000	2 x 7,500 gallons	9,214	A5
TS4	35,700	7 x 5,100 gallons	21,791	A6
TS5	15,300	3 x 5,100 gallons	4,381	A7
TS6	7,500	1 x 7,500 gallons	*	A8
TS6A	15,000	2 x 7,500 gallons	*	A9
TS7	7,500	1 x 7,500 gallons	*	A10
TS7A	45,000	6 x 7,500 gallons	*	A11
TS8	7,500	1 x 7,500 gallons	*	A12
TS8A	7,500	1 x 7,500 gallons	*	A12
TS9	7,500	1 x 7,500 gallons	*	A12
TS9A	7,500	1 x 7,500 gallons	*	A12
TS10	7,500	1 x 7,500 gallons	*	A12
TS11	67,500	9 x 7,500 gallons	*	A43

TS12	82,500	11 x 7500 gallons	*	A44
TS13	600 yd3	15 x 40 cubic yards	N/A**	N/A***
RS1	25,500	1 x 25,500 gallons	*	A13
RS2	25,500	1 x 25,500 gallons	*	A13
RS6	25,500	1 x 25,500 gallons	*	A13

* See Attachment D-1

** TS13 is for storage of hazardous waste containers with no free liquids only

*** See **Exhibit A2** (i.e., facility site plan) for the dimensions for TS13

Stormwater collected in any hazardous waste management secondary containment system is pumped to a tank for discharge quality control, and subsequently discharged to the sanitary sewer. Dike water removal is accomplished by inserting into the secondary containment area sump a suction hose connected to the tank farm piping manifold and pumping the stormwater to a storage tank. Prior to removing the stormwater, it is tested in accordance with the facility's wastewater discharge permit issued by the Linden Roselle Sewerage Authority (LRSA). If it meets LRSA specifications, it is pumped directly to the wastewater holding tank (Tank 75) located on the Distillation Column Pad. Otherwise, it is pumped to an appropriate hazardous waste storage tank for additional processing.

D-2 Tank Systems [40 CFR 270.16; 264, 191-194]

The operating procedures for all storage tanks at the Linden facility have been designed to achieve the following objective:

- Prevent overfilling;
- Maintain inventory control;
- Eliminate transfer spills; and
- Avoid cross-contamination.
- Prevent leaks

The means by which these objectives are achieved are as indicated below.

D-2a Tank System Descriptions [40 CFR 270.16]

There are 24 hazardous waste tanks (which includes tank T-216 which has yet to be installed) at the Safety-Kleen Systems, Inc. Linden- Facility. These permitted tanks are used for hazardous waste storage. Tanks 213, 214, and 215 as well as VR-1 and VR-2 are also used to treat hazardous waste, (e.g. fuel blending). Waste streams being managed in tanks may bear any of the wastes codes identified in Section C - Waste Characteristics. This Section also clarifies that a waste can and often is a combination of one or more than one EPA-NJDEP waste code. Liquid waste streams being managed in tanks may bear any of the waste codes identified in Section C - Waste Characteristics. This section also clarifies that a waste can and often is a combination of one or more EPA / NJDEP waste codes. For an efficient and safe operation, it is necessary that tank usage be flexible but, at the same time, controlled.

Table D-1 lists all the tanks at the facility that are to be permitted for waste storage. The tank locations can be seen in the Site Plan in **Exhibit A2**.

Nevertheless, certain tanks used to store waste material may be cleaned and used for product storage when market needs and demand cause fluctuations in clean product volumes and corresponding shifts in waste storage needs. All tanks located in a hazardous waste tank farm, regardless of whether the tank contains product or waste, will be counted towards the facility waste inventory.

Tank structural and design standards for storage of product or waste are similar, and all tanks listed in Table D-2 meet regulatory requirements for waste storage. All of the tanks are suitable for holding the wastes received at the plant. These wastes are described in Section C, Waste Characteristics, of this permit application. Only permitted tanks will be used to store waste. For recordkeeping purposes and compliance inspection current tables of tanks used for waste storage will be maintained on file at the facility.

D-2a (1) TABLE D-2 - Dimensions and Capacity of each Tank [40 CFR 270.16(b)]

TANK FARM NO. 2

Present Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Material
201	26	11	18,500*	Carbon Steel
202	26	11	18,500*	Carbon Steel
203	26	11	18,500*	Carbon Steel
204	16	10	10,000*	Carbon Steel
205	16	10	10,000*	Carbon Steel
206	26	11	18,500*	Carbon Steel
207	26	11	18,500*	Carbon Steel
208	26	11	18,500*	Carbon Steel
209	16	10	10,000*	Carbon Steel
210	16	10	10,000*	Carbon Steel
211	50	10.4	32,000*	Carbon Steel
212	50	10.4	32,000*	Carbon Steel
213	50	10.4	32,000*	Carbon Steel
214	50	10.4	32,000*	Carbon steel
215	24	12	20,000*	Carbon Steel
216	19	10.5	12,355	Carbon Steel

TANK NOS. 40 AND 41

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Material
40	28	11	18,000*	Carbon Steel
41	28	11	18,000*	Carbon Steel

VACUUM RECEIVERS VR-1/VR-2

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Materials
VR-1	17.3	5.5	2,872	Carbon Steel
VR-2	17.3	5.5	2,872	Carbon Steel

TANK FARM NO. 4

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Materials
4401	35	12	30,000	Carbon Steel
4402	35	12	30,000	Carbon Steel
4403	26.8	12	20,000	Carbon Steel
4404	35	10.5	22,600	Carbon Steel

* Capacities shown are actual tank maximum design. Capacities shown on exhibit drawings do not consider facility imposed maximum fill volumes.

Schematic diagrams of the tank and piping arrangements for handling used solvents are shown on corresponding exhibits. The Inspection Plan contains checklists for each tank system. The tanks have been in use for several years and are inspected for leaks. This is recorded as part of the daily inspection. The facility Tank Wall Thickness Test Plan is provided in Attachment D-2.

Each waste tank is equipped with emergency relief and conservation vents with flame arresters. Ladders, platforms, or other means provide access to the top of each tank where provision is made for gauging and sampling. Each tank in each tank farm is piped to manifolds or connection at the dike wall. Transfer pumps located within a diked area are similarly piped. These are described in more detail under each tank farm heading below.

D-2a (2) Tank Farms

Tank Farm No. 2 contains fifteen waste tanks. Tank Farm No. 2 is comprised of six 18,500 gallon flat bottom tanks, four 10,000 raised, cone bottom tanks, one 20,000 gallon flat bottom tank and four 32,000 gallon flat bottom tanks. The tanks in Tank Farm No. 2 are surrounded by a dike, as shown in **Exhibit A16**, and stand on a reinforced concrete base 12" thick. Tank No. 216 is a double-walled tank located between Tank Farm No.2 and Truck Station No.2 and is not mounted, not in use, and laying on its side. When the need for T-216 arises the facility will install and put the tank into service. **Exhibits A17 through A32**.

Tank Farm No. 4 contains four (4) tanks. Tank Farm No. 4 is comprised of two 30,000 gallon, one 20,000 and one 22,600 gallon flat bottom tanks. The tanks in Tank Farm No. 4 are surrounded by a dike as shown in **Exhibit A33**, and stand on a reinforced concrete base 12" thick. **Exhibits A34 through A37** provide diagrams for tanks in Tank Farm No. 4.

Tanks 40 and 41 are surrounded by a dike and stand on a reinforced concrete base – see **Exhibit A38**. See **Exhibits A39 and A40** for diagrams of Tanks 40 and 41 which are 18,000 gallons in capacity each.

VR-1 and VR-2 are 2,872 gallon tanks on elevated stilts surrounded by a dike – see **Exhibit A41**. See **Exhibit A42** for a diagram of these tanks.

D-2b Use of Waste Tanks for Product Storage

Tank decontamination is standard operating procedure for a hazardous waste suitability of a tank for a particular product is determined and the contents of the tank are transferred to another hazardous waste tank using existing pumps. Every attempt is made to empty the tank of as much material as is practical. Next, the tank is thoroughly rinsed with clean water, in order to remove any solids, sludges or residual liquid which may have remained in the tank. After rinsing the tank, the tank is visually inspected for signs of residual material. If residual material remains, it is rinsed again to ensure the tank is thoroughly cleaned.

Once the tank passes visual inspection, a sample of the tank rinsate is collected and analyzed via gas chromatography (GC). If the GC analysis of the rinsate indicates no identifiable peaks, the tank is deemed sufficiently clean. If not, the tank will continue to be rinsed with clean water and the analytical process repeated. Rinsate generated during the decontamination process is pumped to a suitable hazardous waste storage tank for on-site fuel blending or treatment.

When the tank is ready to be used for product storage, it will be rinsed with the product it will contain. This rinse material is then analyzed for percent water and a GC scan is performed in order to compare with that of the product. Safety-Kleen will accept no identifiable peaks in the analysis of the solvent rinsate. Only when two consecutive GC analyses produce no unidentifiable peaks will the tank be approved for product storage.

D-2c Hazardous Waste Fuel Blending

The blending of hazardous waste fuel, used off-site in boilers and industrial furnaces, is performed within properly equipped tanks. Specific equipment and processes include tanks, and perhaps filtration, sedimentation, grinding, decanting, particle size reduction, recycling equipment, or any other treatment system allowable and available at the facility. The tanks are shown on the Existing and Planned Site Plan.

Fuel is prepared by processing and/or blending together unrecoverable and/or unwanted material. The blended material is stored in tanks after being tested to ensure that it meets waste fuel requirements. Fuel can be pumped from the storage tanks through a grinder to meet particle size criteria and a filter to ensure that the material can be handled without line plugging and excessive sedimentation. Tanks can be agitated to ensure that settling does not occur in storage. Records are kept of the blending of all materials and their processing.

The fuel blending operation receives material from three separate sources: bulk receipts, drum processing, and recovery cuts and bottoms. Fuel blending as defined is currently performed within Tank Farm No. 2 in Tanks 213 & 214, but could be blended in other tanks such as T-215 as deemed appropriate.

Bulk inbound fuel is sampled, analyzed and pumped into one of the fuel blending tanks. However, if the material is under consideration for recovery for resale, Safety-Kleen will off-load the material into a tank in Tank Farm No. 2. This material may, at a later date, be fuel blended.

Drum material is processed in Container Storage Area 1. Liquids are transferred at the manual pump-out station directly to waste processing tanks and/or to blending tanks located outside of CSA1. All

transfer processes at CSA 1 are directed through screen filters. Semi-solids and sludges remaining in containers from the manual pump-out station are transferred and accumulated into another drum. The accumulated sludge drum is sent off for final disposal. Fuel material from the recovery operations are, for the most part, transferred to Tank 213 or 214. However, there are occasions when the material is transferred to an alternate fuel blending tank (such as T-215).

D-2d Transfer Operations

The Linden Recycle Center receives hazardous waste and non-hazardous waste for transfer purposes. The facility may receive shipments of containerized waste or waste in tank trailers, trucks or railcars for consolidation into other trucks or railcars. The received waste is moved from incoming transport vehicle to the outgoing vehicle. In the case of truck to truck transfer, the outgoing vehicle will leave the facility within 10 days of the time transferred waste is placed in the vehicle. The facility record will reflect all waste transferred through the facility.

The facility may also receive waste shipment (in drums, tank trucks and railcars) for storage in permitted storage units and subsequent shipment off-site. This is referred to as accumulation and transfer or just transfer. Inbound trucks and rail cars remain in a transportation mode until unloaded by the facility.

The Linden Recycle Center will terminate the incoming manifest of the accumulated waste and then generate a new manifest with the Linden Recycle Center as the generator. When a manifest is terminated at the facility, the transfer material will be stored in a storage unit for a period not exceeding 365 days. Records of the transfer operation will be maintained at the facility.

Catch pans or other similar receptacles are placed under all tank transfer line couplings to collect any leaks or spillage during transfer operations. Furthermore, these receptacles are emptied in a timely manner.

D-2e Tank Corrosion and Erosion [40 CFR 270.16(e)]

This section addresses external corrosion protection as required under 40 CFR 270.16(e). Tank corrosion and erosion at the facility are managed via a preventive inspection and maintenance program.

The operational minimum tank wall thickness is based on acceptable industrial standards. For the purposes of constructing new tanks UL 142 and API 650 series would be utilized for calculating the construction wall thickness.

When testing show actual wall thickness has reached minimum operational standards as calculated using an acceptable industrial standard, the tank will be taken out of service for a more detailed examination. Tanks will be removed from service unless the examination shows the metal thickness below minimum is only localized. The local sections may be cut out for replacement with new steel.

Since all of the tanks and components are aboveground, none of the external shell or external metal components will be in contact with soil. The only contact with water will be from precipitation. See Attachment D-2 for additional information.

D-2e (1) Description of Feed Systems, Safety Cutoff, Bypass Systems and Pressure Controls [40 CFR 270.16(c); 264.194(b)]

The means by which inventories are controlled and overfilling is prevented are a combination of administrative and automatic controls.

- Bulk deliveries of waste liquids are unloaded only after plant inventory records have been reviewed and confirmation that adequate capacity to receive the shipment is available.

- During bulk deliveries, the truck driver making the delivery stays in attendance or the transfer is otherwise attended

- Inventory records are kept on-site. Each waste stream is monitored to control production yields and rates. Once a week, and at the end of every run, the waste tanks are gauged and a record made. Before any delivery of waste liquid is made, the shift supervisor or designee confirms that the tank selected to receive a load has available capacity before unloading starts. A record is maintained of the operating conditions of plant equipment and the inventory of the used solvent recovery tanks every shift. This is certified by the shift supervisor.

- The design of each tank includes a level monitoring system. This system will consist of a mechanical gauge, an ultrasonic type, differential head type electric gauge, or another appropriate system.

- Each tank will be provided with a high level alarm and waste feed cutoff system. In the event of a high level condition, the high level alarm is sounded and the pump feeding waste to the tank will be disabled. The current system utilizes a computer system which interlocks the level in a tank to the pump(s) responsible for feeding waste to the tank. However manual monitoring and cut-off may be used in lieu of this system if needed and returned in accordance with operational standards. In order to initiate a transfer, the operator is required to input the source pump number(s) next to the destination tank. In the event of a high level condition (95 % of tank capacity), the pump is instantly disabled. No additional material can be pumped into that tank until the level is below the high level alarm point.

- The existing computer system displays tank volumes on a monitor accessible to the operators. The volume of each tank is displayed by tank, on the computer screens when

the tank is in a safe condition. If the tank goes into a high level alarm condition the alarm is acknowledged by an operator at the computer.

- Once acknowledged, the alarm representing the tank remains active. The high level alarm condition clears.

- The high level alarm horn is energized when a high level alarm condition occurs. The high level alarm horn is unique to the facility and can be easily distinguished from other facility alarms by the operator. When the high level alarm is acknowledged by an operator through the computer, the horn is silenced. This functionality will be maintained in the new system configuration.

D-2e (2) Diagram of Piping, Instrumentation and Process Flow [40 CFR 270.16(d)]

In each tank farm, every tank is piped to an operating area where loading/unloading lines and charge and product lines are located. These lines may be interconnected using short lengths of quick coupling hose in such a way that all connections are made and broken over spill collection troughs. This procedure eliminates the chance of cross-contamination by leaking valves, prevents leaks and spills anywhere other than over a collection system, and allows all tanks and pipelines to drain completely. Transfer pumps are located within dikes with suction and discharge connection at the transfer station. Drain pans, to collect any spills when transfer lines are disconnected, are piped to the suction side of the transfer pumps, allowing the pans to be emptied to any tank in the tank farm.

Flow diagrams and/or P&IDs are provided herein this application as **Exhibits B7, B9 and B11 through B14**.

D-2e (3) Plans and Description of the Design, Construction, and Operation of the Secondary Containment System [270.16(g); 264.193(b)-(f)]

Storage tanks are located on concrete pads or concrete/steel supports within concrete containment areas. Containment volume comparisons are as follows:

Tank Farm Number	Total Tank Storage Capacity (Gallons)	Volume of Largest Tank (Gallons)	Containment Gross Volume (Gallons)
2	299,000	32,000	48,279
4	102,600	30,000	44,209
Tank 216	12,355	12,355	12,355*
Tanks 40/41	36,000	18,000	20,826
Tanks VR-1 and VR-2	5,744	2,872	3,367

* Double-walled tank

Containment calculations for each of the existing and planned tank farms are shown in Attachment D-1. Dike configurations, dimensions, and other construction details are illustrated in the exhibits referenced below:

Tank Farm	Exhibit No.
2	A16
4	A33
Tanks 40 and 41	A38
VR-1 and VR-2	A41

Secondary containment systems are designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water in accordance with 40 CFR 264.193 (b)(1). The dish-bottom and the cone-bottom tanks will allow detection of any leaks in the tank bottoms. Any leaks will drain from under the tanks into the secondary containment where they will be discovered during the daily inspections, or sooner.

Any leaks in the primary or secondary containment systems will be detected within 24 hours through daily inspections. Cracks or gaps that develop in secondary containment areas will be repaired. The concrete in the tank farms is sloped in the direction of a low spot within each secondary containment area. The accumulation points will be equipped with a pump that is connected to a stormwater tank to remove liquids resulting from leaks, spills, or precipitation. Any collected material that is a hazardous waste will be pumped into a waste tank and managed as a hazardous waste. Following a spill within a secondary containment area, the concrete in the area of the spill will be cleaned.

Stormwater collected in the hazardous waste management secondary containment system will be pumped to a tank for discharge quality control and subsequently discharged to the sanitary sewer or otherwise disposed. Water will be tested in accordance with the facility's permit to discharge wastewater.

The secondary containment areas for all tanks are designed to contain 100 percent of the capacity of the largest tank (or 10% of the total volume of tank storage, whichever is greater) and precipitation from a 25-year, 24-hour rainfall event in accordance with 40 CFR 264.193 (e). Run-on into secondary containment areas is prevented by dike walls which are of a minimum height to provide adequate secondary containment. Calculations for secondary containment areas are contained in Attachment D-1. All piping is visually inspected on a daily basis. All pipe flanges, joints and connections outside of secondary containment are to be welded or welded and flanged in accordance with applicable standards. The piping is inspected regularly.

D-2e (4) Tank Inspection [40 CFR 270.14(b)(5); 264.195]

The Linden Recycle Center's tanks inspection program is fully described in Section F.

D-3 OTHER TREATMENT

Other treatment for the solidification and/or stabilization of inorganic characteristic hazardous (RCRA heavy metals) and/or non-hazardous wastes is performed in fully enclosed mix pits – see **Exhibit B22** for a mix pit process flow diagram. The mix pit processes

Commented [CJC1]: Are we just doing characteristic waste, or will we do any listed waste like F006/F019? If so, we will need to beef up the decontamination language.

consists of two (2) steel-lined concrete in-ground structures of the proper design to contain liquids and detect leaks in the secondary containment system - see **Exhibits A45, A46, A47 and A48** for diagrams of the mix pits and associated building/enclosure.

Such "other treatment" is conducted within an enclosed building designed to control potential air emissions from the process (e.g., dust emissions). Treatment/stabilization is conducted in discrete "batches" (note: prior to non-hazardous waste treatment, the unit would undergo decontamination if the previous load treated contained hazardous waste).

Treatment recipes, to determine the appropriate amounts and types of chemical reagents required for stabilization, will be determined by the facility's lab. Additionally, analytical testing (for hazardous batches) will be conducted, following stabilization, and prior to solidification, to ensure the "treated" waste is properly charactered prior to final disposal. Also, the facility may optionally decant excessive free liquids from the waste prior to stabilization/solidification. If the facility exercises this option, the decanted liquids will be managed in accordance with how it was received (hazardous or non-hazardous in accordance with how it was manifested). Decanted liquids that are manifested as a characteristic waste only will be managed as such unless the proper analytical testing demonstrates it is no longer a hazardous waste.

D-3a SOLIDIFICATION IN A MIX PIT

The facility may receive bulk and non-bulk containers of semi-solids that contain free flowing liquid requiring solidification before ultimate disposal in a landfill. Containers are evaluated for proper disposal of the liquid layer. The liquid layer may be pumped out and the remaining solids properly managed based on applicable state and federal regulations. Solidification media may be added to ensure that no free liquid remains. The solidification is done inside both mix pits. An excavator or backhoe is used to mechanically mix waste with solidification media in the mix pits. Prior to commingling any waste containers, compatibility is checked and verified as required. The facility uses dehydration media such as calcium sulfate, cement dust, kiln dust, fly ash envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust or pozzolanic materials. Solidification activities are conducted in the Mix Pit Building. All waste that is solidified will be managed to ensure compliance with applicable regulations and permit conditions.

D-3b STABILIZATION IN A MIX PIT

The facility conducts stabilization of heavy metal contaminated wastes in both mix pits in order to render it non-hazardous wastes. This activity is conducted in the Mix Pit Building. All hazardous waste that is stabilized will be managed in accordance with applicable regulations to include performing an appropriate post-treatment hazardous waste determination via analytical testing by a NJDEP certified environmental laboratory. Such testing is conducted to ensure/confirm treatment effectiveness in rendering hazardous wastes to be non-hazardous.

D-3b(1) Stabilization Procedure

D-3b(1)A Processing Limits and Processing Areas

The maximum daily stabilization limit is 200 short tons per day in a single mix pit or combined in each of the two (2) mix pits. The facility uses WIN to track the amount of waste stabilized each day in order to document compliance with the daily limit. Stabilization activities are conducted exclusively in the enclosed Mix Pit Building.

D-3b(1)B Stabilization Evaluation

An evaluation is made to determine the suitability of the waste for stabilization. The lab performs a treatability study on the sample taken upon receipt of the waste (or for routine/consistent waste a pre-acceptance sample) to determine the most appropriate treatment recipe in order to render the waste non-hazardous. The purpose of the treatability study is to determine the following:

- a recipe for the waste to be rendered non-hazardous
- required reagents
- optimal reagent/waste mix ratios
- optimal water content

This evaluation does not need to be repeated unless the waste has changed. Procedures are detailed in Appendix A and documented electronically in a typical format as shown on the example in Appendix B.

D-3b(1)C Stabilization Acceptance Form

After bench scale testing has been completed and the bench scale stabilization has been verified, information is recorded and forwarded electronically to facility management and operations' personnel. At this point, the waste stream is officially approved and is entered into Clean Harbor's WINWEB profile database as acceptable for stabilization.

D-3b(1)D Stabilization of Waste

Waste is stabilized in the two (2) mix pits. The type and amount of reagents added to the wastes is determined by the Bench Scale Test. Bulk reagent (usually Portland cement dust or ferrous sulfate, lime, etc.) is measured and used. However, other effectives stabilization media may be used to stabilize metal contaminated hazardous wastes. Based on the treatment recipe, the appropriate proportional amount of reagent is added as a measure or weight of reagent. Necessary amount of stabilization media is placed in the mix tub and mixed with the hazardous waste. This procedure is continued until the appropriate amount of reagent has been added.

A backhoe or other mechanized equipment (e.g., excavator fitted with a mixing blade, robotic arm, etc.) is utilized to mix the waste and reagent. Based on the treatment recipe, water may be added during the mixing process to enhance the stabilization process. The waste and reagent are mixed until the mixture is homogeneous by visual examination. The approximate mixing time is typically 40 minutes per batch of treated waste (i.e., ~40 cubic yards).

The operator completes the Daily Stabilization Log, which includes the manifest number, waste profile number, volume of waste, amount of reagent, start and finish time, container number in which the stabilized material is transferred (if applicable), and the operator's name. An example copy of this log's format is included as Appendix C. The log is recorded and filed electronically at the facility.

At the end of each operating day the operator shall enter the completed Daily Stabilization Log into the facility's operating record. Completed daily Stabilization Logs are maintained on file electronically, however if electronic issues arise paper copies of forms may be completed and filed onsite.

After mixing is complete, and before a solidification media, if any, is added, two grab samples are taken to a NJDEP certified environmental laboratory for analysis. The minimum sampling frequency is two grab samples per batch of treated waste (i.e., ~40 cubic yards). The grab samples are randomly collected in opposite locations of a mix pit or in the shipping container (e.g., roll-off box container). If one of the samples fails the applicable metal standard, then additional treatment and mixing will be done and another set of two grab samples taken for analysis. If sample results frequently fail the metal standard, the facility must reevaluate the effectiveness of its treatment and mixing procedures and if necessary institute new procedures and/or compatible stabilization media.

The stabilized waste is transferred to bulk containers (roll-off's, intermodals or dump trailers). These bulk containers are labeled and held in a permitted hazardous waste container storage area (e.g., Truck Station 13, etc.) pending final analytical test results.

The operator delivers samples to a NJDEP certified environmental laboratory and completes a chain-of-custody. The proper analysis is conducted on the samples for the metal(s) of concern. Samples are analyzed in a NJDEP certified environmental laboratory. The results of the analyses are forwarded by the lab to the Facility General and/or Operations Manager who review the analytical results and confirms that the results are below the regulatory threshold for the metal of concern. See Section C (Waste Analysis Plan) for additional information concerning analytical testing procedures.

D-3b(1)E Post Stabilization Procedures

Upon determining the analytical results from the grab samples verify that the treated waste is non-hazardous waste as defined by state and federal regulations, the Facility General and/or the Operations Manager will confirm the analytical results and forwards a copy of the approved report to the Shift Supervisor. The Shift Supervisor may schedule the waste for shipment off-site following the approval. The analytical results and chain of custody for each stabilized shipment are maintained on file

electronically at the facility or by paper hard copies. Stabilized waste is shipped off-site to a facility authorized to accept non-hazardous wastes. These wastes typically go to Subtitle D solid waste landfills.

D-3b(1)F Pre-Shipment Requirements for Stabilized Waste

The shipment is scheduled in accordance with the receiving facility's scheduling procedures. The Facility General or Operations Manager shall ensure that a one-time land disposal notification form is kept in the facility's files pursuant to 40 CFR 268.9 (d) for each facility to which decharacterized, or otherwise non-hazardous, waste is shipped.

D-3c OPERATIONAL SAFEGUARDS

All proper Personal Protective Equipment must be used during the performance of stabilization/solidification activities. Stabilization activities in the Mix Pit Building shall not interfere with the safe, free, unrestricted flow of traffic into, out of, and within the facility or public roadways. Activities shall be conducted such that containers, equipment and supplies shall neither be staged in the entry/egress roadway(s). This will ensure that emergency vehicles have unrestricted access throughout the facility.

APPENDIX A

Standard Operating Procedure
Analysis of Materials to be Stabilized

Safety-Kleen Systems, Inc., Linden, NJ

STANDARD OPERATING PROCEDURE
ANALYSIS OF MATERIALS TO BE STABILIZED

TREATMENT STUDY

1. Make up the following test mixtures: 0%, 5%, 10%, and 15% Portland cement to Raw material (w/w). Add enough water to mix the material and make it moist, yet not too much to make the material soupy. Note the amount of water added for each test mixture. We need to develop a recipe with the gallons of water required per ton of material. Other potential reagents may include kiln dust and ferrous sulfate.

   Check these samples periodically to monitor curing. This can be done by pressing a sharp object into the top of the material, to see how easily the object pierces the top of the curing product. (NOTE: mixing the sample will only disrupt the curing process). Let the samples cure for a minimum eight hours and a maximum of twenty four hours.

2. After curing, analyze for RCRA metals (metals analyzed are based on the specific waste) for the 0% 5%, 10%, and 15% samples.

3. Document results on the Stabilization Decision Form found in Appendix B.

4. Submit data to Operations Manager for review.

APPENDIX B

Stabilization Decision Form

Safety-Kleen Systems, Inc., Linden, NJ

STABILIZATION DECISION FORM

Profile #(s): _____
Time Log In: _____ Time Log Out: _____
Disposition: _____ Generator(s): _____
Waste Source: _____ Waste Codes: _____
Color/Appearance: _____ Odor: _____

Manifest #(s): _____

_____

Comments: _____

_____

Chemists will conduct initial stabilization screening based upon the hazardous waste's physical state, constituents and characteristics as well as observations made during preparation and analytical testing. Such screening will be recorded below (Note: These tests are optional and at the chemist's discretion)

Parameter	**Result**

Treatment Recipe Documentation

	Recipe #1	**Recipe #2**	**Recipe #3**	**Recipe #4**	**Comments**
Sample (g)					
Cement (g)					
Kiln dust (g)					
Water (g)					
pH					
Ferrous sulfate (g)					
other					
Final pH					

After mixing and curing, document the results on the following:

Recipe #1			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #2			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #3			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Mercury (D009)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #4			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Mercury (D009)			
Selenium (D010)			
Silver (D011)			
Other			

Notes:

[1] Quick screen TCLP testing is performed within several hours after mixing to gauge stabilization effectiveness if the Totals' analysis fails for any metal standard

[2] As needed TCLP performed per SW-846 method (1311/6010/6020)

Preferred Treatment Recipe_____

Comments _____

Chemist _____

Date _____

APPENDIX C

Daily Stabilization Log

Safety-Kleen Systems, Inc., Linden, NJ

Daily Stabilization Log

Inbound Container No.	Manifest Number	Waste Profile Number	Volume of Waste	Start time	Finish time	Container Number Transferred into	Reagent Amount Added

Comments: _____

_____

_____

Operator name: _____ Date: _____

This log to be completed every day that stabilization activities occur.
Submit to the Operations Manager when done. This form must be filed onsite in electronic and/or paper hardcopy in the facility operating records

ATTACHMENTS

ATTACHMENT D-1: CONTAINMENT CALCULATIONS
ATTACHMENT D-2: TANK WALL THICKNESS TESTING PLAN

ATTACHMENT D-1
CONTAINMENT CALCULATIONS

ATTACHMENT D-1
Secondary Containment Calculations

Tank Farm # 2 (TF2)

Tank Information: Number of Tanks - 15
(6) 11.0' dia. 18,500-gallon flat bottom tanks
(4) 10.0' dia. 10,000 gallons raised cone bottom
(4) 10.5' dia. 32,000-gallon flat bottom tanks
(1) 12.0' dia. 20,000-gallon flat bottom tank

Total Volume of Tanks = 299,000 gallons

Tank Farm Containment Area = 76.66' long by 48.08' wide

Dike wall height = 2.45'

Max. Containment Volume = (76.66' x 48' x 2.45') (7.48 gal/ft^3)
= 67,433 gal.

Area displaced by Tanks = 6((3.142) (5.5') (5.5')) + 4((3.142) (5.25') (5.25'))
+(3.142)(6 ') 6')
= 1029.2 ft^2

Area displaced by Cone. Piers = 16 ft^2

Total Displacement =(1029.2+16) (2.45') (7.48 gal/ft^3)
= 19,154 gal

Containment provided = 67,433 gal.-19,154 gal.
= 48,279 Gal.

Required Containment = Volume of largest tank plus six inches for stormwater or one railcar (Refer to Secondary Containment Calculations for Storm Water Diversion System in this Appendix)

= 32,000 gallons + (76.66' x 48' x 0.5') (7.48 gal/ft^3)
= (32,000 + 13,785) gallons
= 45,785 gallons

48,279 gal. > 45,785 gal., therefore TF2 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tank Farm #4 (TF4)

Tank Information: Number of Tanks - 4
(1) 12.0' dia. 20,000-gallon dish bottom tank w/ skirt
(2) 12.0' dia. 30,000-gallon flat bottom tanks
(1) 10'.6"' dia. 22,600-gallon flat bottom tank

Total Volume of Tanks: = 102,600 gallons

Tank Farm Containment Area = 52.17' long by 32' wide

The Dike for slopes
Dikewall Height: = 5' max
4.17' min Average Height equals 4.59'

Area displaced by Cone Pads = 3 x 13' x 13'
The average height of Concrete pads is 0.92 ft.

Dike Containment Volume = (52.17'x 32'x4.59') (7.48 gal/ft^3)
= 57,317 gallons

Volume displaced by tank pads = (3x13x13x 0.92) (7.48 gal/ft^3)
+ (12x12)-4(2x2/2) x 0.92(7.48 gal/ft^3)
=3,715 gallons

Volume displace by Misc. pads =
((1.5x1.5x4)+(1x2x90/12)+(1x1.5x4)+(16x16x1/144))(7.48 gal/ft^3)
= 238 gallons

Area displaced by Tanks = 3((3.142) (6)(6))
= 339.3 ft^3

Volume Displaced by Tanks = (339.3 ft^2) (3.67') (7.48 gal/ft^3)
= 9,314 gal.

Containment provided = 57,317 gal.-9,314 gal.-3,715 gal-238gal.
= 44,050 gallons

Containment provided by sump = (3.142 x 1.5' x 1.5' x 3')(7.48 gal/ft^3)
= 159 gallons

Total Containment provided = 44,209 gallons

ATTACHMENT D-1

Secondary Containment Calculations

Volume of 6" storm water in TF4 = (52.17' X32'X0.5') X (7.48 gal/ ft3)
= 6,244 gallons

Truck Station #6 (TS6) Dimensions =50.5' long by 15.1' wide

Volume of 6" storm water in TS6 = (50.5' X15.1'X0.5') X (7.48 gal/ ft3)
= 2,852 Gallons

Truck Station # 7 (TS7) Dimensions =44.5' long by 19.5' wide – 10' long by 6' wide

Volume of 6" storm water in TS7 = (44.5' X19.5-10.0'X6')'X (0.5') X (7.48 gal/ ft^3)
= 3021 Gallons

Required Containment = Volume of largest tank plus six inches for max. Storm water event = (30,000 + 6,244+2,852+3,021
=42,117 gallons

44,209 gal. > 42,117 gal. t herefore TF4 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tanks 40 & 41

Tank Information: Number of Tanks - 2
(2) 11.0' dia. 18,000-gallon flat bottom tanks

Total Volume of Tanks = 36, 000 gallons

Tank Farm Containment Area = 39' long by 15.83' wide

Dikewall height = 5.33'

Max. Containment Volume = (39' x 15.83' x 5.33') (7.48 gal/ft^3)
= 24,673 gal.

Area displaced by Tank =(3.142) (5.5') (5.5')
= 95.0 ft^2

Volume displaced by Tank = (95.0 sf) (5.33') (7.48 gal/ft^3)
= 3,787 gal.

Note: Only one tank displacement deducted, as liquid would remain in the leaking tank up to the height of the dikewall.

Containment provided = 24,613 gal. - 3,787 gal.
= 20,826 gal.

Required Containment = Volume of largest tank plus six inches for stormwater
= 18,000 gallons + (39' x 15.83' x 0.5') (7.48 gal/ft^3) .
=(18,000 + 2,308) gallons
= 20,308 gallons

20,826 gal. > 20,308 gal. therefore Tanks 40/41 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tanks VR1 & VR2

Tank Information; Number of tanks = 2 full vacuum rated vessels with top and bottom dished head

Volume of each tank = Volume of straight side + two head
=(3.14x5.396x5.396/4) x 14.98x7.48
+2x155 gal
=2,562+310 gal

=2,872 gal

Dike Containment = 16.42' x 6.58' x 4.5' x 7.48 gal/ft^3

= 3,637 gal.

Displacement is due to 8 piers, the tanks are raised

Displacement = 8 x 1' x 1' x 4.5' x 7.48

= 269 gal.

Total Containment Provided

= 3,637 gal. - 269 gal.

= 3,367 gal.

Volume of 6" rainwater = 16.42' x 6.58' x 0.5' x 7.48 gal./ft^3

= 404 gal.

Total Required Containment' = Volume of largest tank + 6" rainwater

=2,872+ 404 gal.

= 3,276 gal.

3,367 gal. > 3,276 gal. therefore VR1 and VR2 Tank Farm secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Container Storage Area #1 (CSA1)

Maximum storage capacity in 55-gal. drum equivalents = 2,288
= 125,840 gal.

Containment Area = 98.67' wide x 98.67' long
Curb Height =3.4"
= 0.283 ft.

Drainage Spill Tank = 550 gal. Max.

Containment Volume

= (98.67') x (98.67') x (0.283') x (7.48 gal/ft^3) + 550 gal.

= 21,159 gal.

Displacement

1) Use solid pallets 4' x 4' x 5/8" base board and 3 runners Displacement per pallet:

= Base board + runners

= 4' x 4' x $\frac{0.625"}{12}$ + $\frac{3 \times 4" \ 1.5" \times (3.4-0.625")}{144}$ ft^3

= 1.18 ft.3 x 7.48 gal./ft^3

= 8.82 gal.

Displacement for 286 pallet positions

= 286 x 8.82 gal.

= 2,522 gal.

Displacement due to separation wall

= 98.67' x 1' x 7.48 x $\frac{3.4"}{12}$

= 209 gal.

ATTACHMENT D-1
Secondary Containment Calculations

Displacement due to curb NE of processing

$= (102" \times 96" + 51" \times 144") / 144 \times 7.48 \times \frac{3.4"}{12}$

= 252 gal.

Misc. displacement = 500 gal.

Total Displacement = 2,252 + 209 + 252 + 500

= 3,483 gal.

Containment Provided: =21,159 gal.-3,483 gal.

= 17,676 gal.

Maximum Capacity

286 pallet position of 4 x 55 gal. Drums equivalently stacked 2 high

= 125,840 gal.

Required Containment: = Volume of largest container or 10% total volumes (whichever is greater)

= 12,584 gal.

17,676 gal. > 12,584 gal. therefore the CSA1 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)

Secondary Containment Calculations

Container Storage Area #2 (CSA2)

Maximum storage capacity in 55-gal. drum equivalents = 320
= 17,600 gal.

40 pallet positions of (4) 55-gal. drums, stacked two high. Each

pallet position 4' by 4'.

Storage Area Dimensions = 38.67' wide by 48' long

Curb height = 0.33'

Drainage Spill Tank Volume = 300 gallons
Maximum Containment Volume = (38.67')(48')(0.33') (7.48 gal./ft^3) +300
= 4,582 gal. + 300 = 4,482 gal.

Volume displaced by Pallets

$$= (40)\left((4' \times 4' \times \frac{0.625"}{12}) + \frac{3' \times 4' \times 1.5" \times (4" - 0.625")}{144}\right) \times 7.48\ (gal./ft^3)$$

= 376 gal.

Misc. displacement = 500 gal.

Containment provided: = 4,882 gal. - 376 - 500 gal.
= 4,006 gal.

Required Containment: = Volume of largest container or 10% of total container volume (whichever is greater}
= 1,760 gal.

4,006 gal. > 1,760 gal. therefore CSA2 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Container Storage Area #3 (CSA3)

Maximum storage capacity in 55-gal. drum equivalents = 327
= 18,000 gal.

Containment areas within enclosed mx pit building (i.e., allocation for stormwater unnecessary)

Area A

37'-10" x 32' x 6" x 7.48 gal/ft^3 = 4,528 gal
25'-2" x 16'-6.75" x 6" x 7.48 gal/ft^3 = 1,559 gal
Ramp displacement
.5' x 32' x 6' x 6" x 7.48 gal/ft^3 = -359 gal
Containment available = 5,728 gal

Area C

64' x 14' x 2' x 7.48 gal/ft^3 =13,404 gal
Ramp displacement
.5' x 14' x 18' x 2' x 7.48 gal/ft^3 =-1,885 gal
Containment available =11,519 gal

Total available containment =17,247 gal

Containment required:
Total capacity: 18,000 x .1 (i.e., 10%) = 1,800 gal
Largest container with free liquids = 5,000 gal

17,247 gal > 5,000 gal therefore CSA3 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #1 (TS1)

The containment is made up of three sections, north, south and east.

Volume of north section = 49.54' x 15' x 5.8" x 7.48 (gal./ft^3)/12
= 2,686 gal.

Volume of south section = 49.54' x 53' x $\frac{(13.2" + 9.5")}{2 \times 12}$ x 7.48 (gal./ft^3)

= 18,576 gal.

Volume of east section = 9.2' x 4.33' x $\frac{13.2"}{12}$ x 7.48 (gal./ft^3)

= 327 gal.

Total containment volume = 2,686 + 18,576 + 327 gal.
= 21,589 gal.

Displacement due to diesel pump pad = 0.33' x $\frac{11"}{12}$ x 10.5' long x 7.48 (gal./ft^3)

= 24 gal.

Displacement due to curbs = 5 curbs x 1' x $\frac{10"}{12}$ x 8' x 7.48

= 250 gal.

Total containment provided = 21,589 gal. – 24 gal. – 250 gal.
= 21,315 gal.

Volume of 6" of storm water = ((49.4' x 15') + (49.54' x 53') +(9.2' x 4.33'))
x 0.5' x (7.48 gal/ft^3)

= 12,748 gal.

Containment required: = Volume of largest container plus 6" of stormwater
= 7,500 + 12,748 gal.
= 20,248 gal.

21,315 gal. > 20,248 gal. therefore TS1 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station # 2 (TS2)

Truck Information: (4) 7,500-gallon container

Truck Storage Area Dimensions = 30' wide by 90' long

Curb height = 0.42'

Maximum Containment Volume = (30') (90') (0.42') (7.48 gal/ft^3)
= 8,482gal.

Volume displaced by Truck = negligible

Containment provided:
= 8,482 gal.

Volume of 6" storm water in TS2 = (2,700 ft^2) (0.5') (7.48 gal/ft^3)
= 10,098 gallons

The TS2 will divert to Storm Water Diversion System. Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment 1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station # 3 (TS3)

Loading Area Addition = 31.52' wide by 44.31' long

Curb Height = $10.15' - \frac{(8.92' + 9.45)}{2}$

= 0.965'

Loading Area Volume = 31.52' x 44.31' x 0.965' x 7.48 gal./ft^3

= 10,081 gal

Trench Volume = 50.67' x 1.5' x .83' x 7.48 gal./ft^3

= 472 gal

Displacement Volume by Core Pads

=(24' x 7' x 0.97' + 4.5' x 3.5' x 0.7' + 17' x 0.5' x 0.7') x 7.48 gal/ft^3

= 1, 346 gal.

Total Containment Provided

= 10'081 gal. + 472 gal. - 1,346

= 9,207 gal.

Required Containment = Volume of largest container

= 7,500 gal.

Note: The loading area has an overhead canopy. Rainwater containment is not a factor.

9,207 gal. > 7,500 gal. therefore TS3 secondary containment capacity is adequate.

ATTACHMENT D-1
Secondary Containment Calculations

Truck Station #4 (TS4)

Avg width = 76.67'
Fill level up to elevation + 10-3/8"

Containment provided=
Areas A + B + C + D + E +Trench

Area A Volume =
.5 x 43' x 3.625" x 1/12 x 76.67' x 7.48 gal/cf = 3,724.5 gal.

Area B Volume =
43' x 6.75" x 1/12 x 76.67' x 7.48 gal/cf = 13,870.7

Area C Volume =
.5 x 15' x 4.375" x 1/12 x 76.67' x 7.48 gal/cf = 1,568.1 gal.

Area D Volume =
15' x6 x 1/12 x 76.67' x 7.48 gal/cf =4,301 gal.

Area E Volume =
.5 x 6' x 6" x 1/12 x 76.67' x 7.48 gal/cf = 860.2 gal.

Trench Volume =
13' x 6" x 6 x 1/144 x 7.48 gal/cf = 24 gal.

Total Containment Provided
3,724.5 + 13,870.7 + 1,568.1 + 4,301 + 860.2 + 24 = +24,348.5 gal.

Containment Required

Rainfall Allowance (6") =
(43 + 15 + 6) ft x 6" x 1/12 76.67' x 7.48 gal.cf = 18,350 gal.

10% Containment needed for 7 Trailer=
0.1 x 7 x 104 drums x 55 gals. = 4,004 gal.

Containment Needed=
18,350 + 4,004 = 22,354.9 gals.

24,349 is greater than 22,355 therefore secondary containment capacity for TS4 is adequate.

ATTACHMENT D-1
Secondary Containment Calculations

Truck Station #5 (TS5)

Containment Provided:

54' -0" x 37'-7" x 6" x 7.48 gal/cf = +7,590 gal.
(.5) 25'-0" L x 37" -7" w x 8" D x 7.48 gal/cf = +2,342 gal.
Displacement of Bermed Area (68'-0" ft. of 1' berm)
(.5) x 68' – 0" x 6"w x 6" d x 7.48 gals/cf = -63 gal.

Displacement Of Bermed Area (58'-0" ft. of 2' berm)
(.5) x 58'-0" x 1'w x 6" d x 7.48 gals/cf = -108 gal.

Displacement Of Bermed Area (37'-7" ft. of 5' berm)
(.5) x 37'-7" x 2.5'w x 6" d x 7.48 gals/cf = -175 gal.

Total Containment Provided=
7590+2342-63-108-175 = 9,586

Containment Required

Containment for 3 Trailers x 104 Drums
X 55 gal. ea. X 10% (17,160 gal) = 1,716 gal.

Rainfall Allowance (6")
54' – 0" x 37' – 7" x 6" x 7.48 gal/cf = 7,590 gal.

Total containment Required =
1716+7590 =9306 gal

9,586 is greater than 9,360 therefore secondary containment capacity for TS5 is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #6 (TS6)

TS6 has containment dimensions of 50'-6" L x 15'-1" W x 6" deep.

Containment required = Volume of largest container + 6" storm water event

= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 50.5' x 15.1' x 0.5' x (7.48 gal/ft^3)
= 2,852 gal.

Containment required = 7,500 + 2,852 gal.
= 10,352 gal.

TS6 sump drains into truck station #7 sump, which is pumped into Tank Farm #4 containment dike.

Containment available = TF4 Containment provided
= 47,539 gal. (refer to TF4 containment calculations)

47,539 gal. > 10,352 gal. therefore, TS6 secondary containment capacity is adequate.

Truck Station #6A (TS6A)

TS6A has containment dimensions of 52'-4.5" L x 33'-9" W x 7.5" D

Containment required = Volume of largest container + 6" storm event vol.
= 7,500 + 6" storm event vol.

Volume of 6" storm water event = Not Applicable (Area is Covered)

Containment required = 7,500 gal.

Containment available = 7,672 gal.

7,672 gal. > 7,500 gal. TS6A has adequate secondary containment capacity.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #7 (TS7)

Truck station #7 has containment dimensions of:
((44'-6" L x 19'-6" W) – (10'-0" x 6'-0")) x 3" deep

Containment required = Volume of largest container + 6" storm water event

= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = (44.5'x19.5'-10.0'x6.0') x 0.5'x (7.48 gal/ft^3)

= 3,021 gal.

Containment required = 7,500 + 3,021 gal.

= 10,521 gal.

TS7 sump is pumped into Tank Farm #4 containment dike.

Containment available = TF #4 Containment provided

= 47,539 gal. (refer to TF4 containment calculations)

47,539gal.>10,521gal. therefore TS7 secondary containment capacity is adequate.

Truck Station #7A (TS7A)

TS7A has containment dimensions of 72' L x 57'-6" W x 6" D

Containment required = Volume of largest container + 6" storm water event vol

= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 15,484 gal.

Containment required = 23,241 gal.

Containment available = 23,486 gal.

23,486 gal. > 23,241 gal. TS7A has adequate secondary containment capacity.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Stations #s 8, 8A, 9, 9A & 10 (TS8, TS8A, TS9, TS9A & TS10)

The three identical truck stations have containment dimensions of 44'-0" L x 11'- 6" W x 4" deep.

Containment required: = Volume of largest container + 6" storm water event vol
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 44.0' x 11.5' x 0.5' x (7.48 gal/ft^3)
= 1,892 gal.

Containment required: = 7,500 + 1,892 gal.
= 9,392 gal.

These truck stations drain into rail canopy sump which is pumped in to Storm Water Tanks and Tank Farm #2 containment dike.

The two identical truck stations TS8A & TS9A have containment dimensions of 51' L x 11' W x 3" deep.

Containment required event vol = Volume of largest container + 6" storm water
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 51.0' x 11.0' x 0.5' x (7.48 gal/ft3)
= 2,098 gal.

Containment required = 7,500 + 2,098 gal.
= 9,598 gal.

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment D-1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Rail Siding #1 (RS1)

Containment provided by the sump

$$=\frac{3.14}{4} \times (5.5')^2 \times (25.25' - 15.60') 7.48 \text{ gal./ft}^3$$

= 1,714 gal.

Assume displacement due to pump and grout

= 214 gal.

Containment due to sump

= 1,714 gal. -214 gal.

= 1,500 gal.

The containment required is the volume of largest container plus 6" rainwater.

Volume of largest container

- 25,500 gal.

Rainwater is not a factor since the rail area has an overhead canopy.

The containment diversion system sump is equipped with a dedicated high rate pump which is hard-piped to the Storm Water Diversion System

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Appendix.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Rail Siding #s 2 and 6 (RS2 and RS6)

There is a continuous rail pan of 40.5 ft on east of rail spot 1 and 250 ft length of west of rail spot 1. Width of the pan is 130”

Containment required = Volume of largest container + 6" storm water volume

= 25,500 gal. + (250 + 40.5) x 130” x 6” x 7.48/12/12
= 25,500 + 11,770 gals
= 37,270 gals

Rail car pans all drain into rail canopy sump at RS1 which is pumped into Storm Water DiversionSystem

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment D-1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Storm Water Diversion System

This diversion system collects storm water from:

1. Truck Station #s 2, 8, 8A, 9, 9A and 10
2. Rail Spot #s 1, 2, 3, 4, 5 and 6 (i.e., only RS1, RS2 and RS6 are permitted; other/unpermitted rail stations are connected to the secondary containment diversion system as described below)
3. Tank Farm #2

Containment provided in this system includes:

1. Tank Farm #2
2. Storm water tanks T-4501 and T-4502

Containment Required:

Volume of 6" storm water event

1. Tank Farm #2 = (76.66' long x 48.08' wide x 0.5' rain) x 7.48 gal/ft^3
   = 13,785 gal
2. Truck Station #2 = 90 x 30 x 0.5 x 7.48
   = 10,098 gal
3. Truck Station #8 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal
4. Truck Station #9 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal
5. Truck Station #10 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal

ATTACHMENT D-1
Secondary Containment Calculations

6. Rail Spot #1 This spot is covered

7. Rail Pans (RS2 – 6) = (250 + 40.5) x 130" x 6" /12/12 x 7.48
= 11,770 gal

8. Truck Station #8A = 51 x 11 x 0.5 x 7.48
= 2,098 gal

9. Truck Station #9A = 51 x 11 x 0.5 x 7.48
= 2,098 gal

Total containment capacity required for 6" storm water event:
= 13,785 + 10,098 + 1,892 + 1,892 + 1,892 + 2,098 + 2,098 + 11,770
= 45,525 gal

Volume of largest tank/car Total containment required = 32,000 gal

=45,525 + 32,000 = 77,525 gal

Containment Provided:
All truck stations, rail spots and sumps at Rail Spot 1 and at Truck Station #2 provide containment but no credit has been taken since they are continuously pumped to storm water tanks and overflow to TF # 2 when storm water tanks are filled up.

Containment provided in Storm Water Tanks 4501 and 4502
= 15,000 + 15,000 gal
= 30,000 gal

Containment provided in Tank Farm #2 as detailed in Secondary Containment Calculation in this Attachment = 48,279 gal

Total containment provided = 30,000 + 48,279 gal
= 78,279 gal

78,279 gal > 77,525 gal. therefore storm water diversion system secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station 11 (TS11)

This containment area will be used for storage of liquid in bulk containers: Roll-offs/vacuum boxes, Cusco vacuum trucks and tanker trailers. Also, van trailers loaded with containers (e.g., 300-gallon tote tanks, 55-gallon drums, etc.) can be stored in this area. Containment can hold the equivalent of approximately nine (9) 7,500 gal trucks/tanker trailers, or equivalent amounts in trailers loaded with containers (e.g., 55-gallon drums), or roll-offs/vacuum boxes 25 cubic yds each, or combination of all the aforementioned containers.

Maximum waste volume = 9 x 7,500 gal = 67,500 gal

Truck Station 11 is divided in two sections; East and West. The height of roll over berm is 5" and the depth of the sloped area is 6.4"

East Section = 47.5' W x 82.75'L
= 3,930.6 ft2

West Section is divided in three rectangles

= 55.75' W x 87.5' L +25'W x 8.42' L +22.3W x 3.67' L
= 4,878.1+210.5+82 ft2
= 5,170.6 ft2

Total Surface area =3,930.6+5,170.6 ft2
= 9,101.2 ft2

Containment Provided:

Containment Volume = Dike Volume + Sloped Volume
= (9,101.2 ft2 x 5/12' D +0.5 x 9,101,2 ft2 x 6.4/12'D)
x 7.48 gal
= 46,519.2 gal

Displacement of Roll Over ramps
= 0.5 x 103.25' L x 5' W x 7.48 gal
= 1,930.8 gal

Displacement due to bumpers
=1'w x 1'H x 8' L x 9 bumpers
=532.8 gal

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Total Containment Provided =46,519.2-532.8-1,930.8 gal
=44,055.7 gal

Containment Required:

Volume of 6" storm water event
=9,101.2 ft2 x 6/12' x 7.48 gal
=34,038.5 gal

10% of total Volume = 67,500 gal x10/100
= 6,750 gal

Total Containment Required
=34,038.5 + 6,750 gal (10% total containment)
=40,788.5 gal

44,055.7 gal > 40,788.5 gal

Volume of largest Container
= 7,500 gal

Total Containment Required
=34,038.5 + 7,500 gal
=41,538.5 gal

44,055.7 gal > 41,538.5 gal

Containment Provided is greater than Containment Required, therefore, Truck Station 11 containment is adequate.

Truck Station 12 (TS12)

This containment area will be used for storage of liquid in bulk containers: Roll-offs/vacuum boxes, Cusco vacuum trucks and tanker trailers. Also, van trailers loaded with containers (e.g., 300-gallon tote tanks, 55-gallon drums, etc.) can be stored in this area. Containment can hold the equivalent of approximately eleven (11) 7,500 gal trucks/tanker trailers, or

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

equivalent amounts in trailers loaded with containers (e.g., 55-gallon drums), or roll-offs/vacuum boxes 25 cubic yds each, or combination of all the aforementioned containers.

Maximum waste volume = 11 x 7,500 gal
= 82,500 gal

Truck Station 12 is divided in two sections: Rectangle section and triangle section

Rectangle area
Average Length = (105.23+100.439)/2 ft
= 120.83 ft
Average Width = (67.28+73.07)/2
= 70.15 ft
Rectangle Area = 120.83x70.15
= 7,213.7 sq ft

Triangle Area is 53.4'W x 49.8' D
= 53.4'x 49.8' x1/2
= 1,329.7 sq ft

Total Area = 7,213.7 + 1,329.7 sq ft
= 8,543.4 sq ft

The average elevation of the containment floor measured every 10 ft grid is 24.287 ft

Curb top elevation of roll rover berm and side berm is at least 25.12 ft

Average Depth of the containment
= 25.12-24.287 ft
=0.832 ft

Containment provided:

\Containment available
= 8543.4 x 0.832 x7.48 gal
= 53,221 gal

Displacement due to Roll over berms
Roll over berm; average width 5.5 ft, length 105.23 ft, depth 10 inch
= 5.5 x 105.23 x10/12/2 x 7.48 gal
=1802.7 gal

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Displacement due to side berms
Average width is 3 ft
Total length of berms = 67.2+49.8+53.4+100.4 ft
=270.8 ft
Displacement =270.8 x 3 x10/12/2 x7.48 gal (Assuming triangle)
=2530.4 gal

Displacement due to trucks, roll off estimated
= 1,000 gal

Total Containment Provided
=53,221-1,802.7-2,530.4-1,000 gal
=47,887.9 gal

Containment Required:

Volume of 6" storm water event
=8543.4 ft2 x 6/12' x 7.48 gal
=31,952 gal

10% of total Volume = 82,500 gal x10/100
= 8,250 gal

Total Containment Required
=31,952 + 8,250 gal (10% total containment)
=40,202 gal

47,887.9 gal > 40,202 gal therefore TS12 containment provided is greater than containment required so containment is adequate.

Also, Volume of largest Container
= 7,500 gal
Total Containment Required
=31,952 + 7,500 gal (largest Container)
=39,452 gal

47,887.9 gal > 39,452 gal therefore TS12 containment provided is greater than containment required so containment is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station 13 (TS13)

Truck Station 13 is not used for the storage of containers with free liquids, therefore secondary containment is not required. Truck Station 13 is primarily used for the storage of roll-off box containers holding solidified hazardous wastes pending lab test results. This truck station has space for 15 roll-off box containers or other containers holding hazardous wastes without free liquids.

ATTACHMENT D-2
TANK WALL THICKNESS TESTING PLAN

ATTACHMENT D - 2

TANK WALL THICKNESS TESTING PLAN

Wall thickness testing will be conducted on all permitted hazardous waste tanks per API 650 series. Thickness measurements will be obtained using ultrasonic testing or equivalent method. All hazardous waste tanks at the Linden Recycle Center are I) cylindrical, ii) vertical, and iii) metal. A minimum wall thickness per the API 650 series will be maintained for all hazardous waste tanks, unless Safety-Kleen has submitted to the Department supporting documentation of alternate wall thickness requirements and obtained Departmental approval. The location of the sampling points will be determined as follows:

Wall: Thickness measurements will be taken along four vertical rows spaced at 90° apart. Vertical spacing will be 2 feet or less. At least one measurement will be taken at the center point.

Top and Bottom Head: Thickness measurements, where accessible, will be taken along four radial rows spaced 90° apart. Spacing between measurements will be two feet or less. One measurement will be taken at the center point.

Appurtenances: Four thickness measurements, spaced 90° apart, will be taken adjacent to nozzles, vents, and other appurtenances.

Tanks not meeting the minimum wall thickness specified in the permit will be immediately taken off-line and not used for hazardous waste service unless and until approval is granted by the Department to bring the tanks back on-line.

Alternatively, since all tanks are shop built and elevated STI SP001 standards will be followed. This includes a monthly STI visual inspection.

Final

SECTION D PROCESS INFORMATION

D-1 INTRODUCTION [40 CFR 270.15; 264.170; 270.16; 264.190]

This section describes existing hazardous waste management units and procedures for the Safety-Kleen Systems, Inc. Linden Recycle Center in accordance with 40 CFR 270.14 through 270.16. These units include loading/unloading areas and storage areas as well as treatment units. Each of the key waste handling areas of the facility are described in this section. Based on the normal flow of hazardous waste into and through the facility, this section first describes all the existing and proposed loading/unloading areas (truck stations and railcar facility), then addresses the storage units (container storage areas, tank farms and treatment units). Table D-1 provides a breakdown of the overall facility hazardous waste storage and treatment capacities.

The Linden Recycle Center receives used solvents, solvent mixtures, and other liquid and solid wastes from industrial and commercial generators/ customers, local, State and Federal agencies, Safety-Kleen service centers, and other Safety-Kleen Recycle Centers. Wastes accepted are described in Section C. Waste Characteristics, and include but not limited to chlorinated hydrocarbons, amines, alcohols, aliphatic and aromatic compounds, waste oils, oil filters, paint wastes, aqueous wastes, and other hazardous and non-hazardous wastes. Wastes are received in various containers, in tank trucks and railcars. Used solvents, solvent mixtures, and other wastes are managed in several ways. These include recovery, fuel blending for off-site use, storage, transfer and shipment off-site. The recovery processes include but not limited to distillation, fractionation, and drying. Recovered products are either returned or distributed for use by Safety-Kleen customers or marketed as recovered solvent.

Distillation and fractionation of waste solvents may generate waste streams. Waste streams not suitable for recovery are generally processed on-site into waste fuels for use off-site in industrial boilers and furnaces. Wastes which otherwise cannot be processed into fuel are shipped off-site for proper disposition.

Decanting and drying of aqueous/solvent mixtures and distillation of some wastes with high water content generate wastewater that may contain organic and/or inorganic chemicals. Wastewater generated by the Linden Recycle Center is discharged in accordance with the facility's wastewater discharge permit or is disposed off-site.

The treatment of hazardous wastes in the mix pits will generate non-hazardous wastes confirmed by analytical testing at a NJDEP certified environmental laboratory either on or off-site. Wastes not confirmed to be rendered non-hazardous by the appropriate analytical testing will be properly managed as hazardous waste for either further approved onsite treatment or shipped off-site for final disposition.

See **Exhibit A2** for a facility site plan. **Exhibit B7** provides a facility process flow diagram for the primary operations at the facility.

TABLE D - 1
SAFETY-KLEEN SYSTEMS, INC. LINDEN, NJ RECYCLE CENTER
FACILITY HAZARDOUS WASTE CAPACITIES

I.	Vehicle Loading/Unloading/Storage (S01)	Gallons
	Truck Station No. 1 (TS1)	37,500
	Truck Station No. 2 (TS2)	30,000
	Truck Station No. 3 (TS3)	15,000
	Truck Station No. 4 (TS4)	35,700
	Truck Station No. 5 (TS5)	15,300
	Truck Station No. 6 (TS6)	7,500
	Truck Station No. 6A (TS6A)	15,000
	Truck Station No. 7 (TS7)	7,500
	Truck Station No. 7A (TS7A)	45,000
	Truck Station No. 8 (TS8)	7,500
	Truck Station No. 8A (TS8A)	7,500
	Truck Station No. 9 (TS9)	7,500
	Truck Station No. 9A (TS9A)	7,500
	Truck Station No. 10 (TS10)	7,500
	Truck Station No. 11 (TS11)	67,500
	Truck Station No. 12 (TS12)	82,500
	Rail Station No. 1 (RS1)	25,500
	Rail Station No. 2 (RS2)	25,500
	Rail Station No. 6 (RS6)	25,500
	Subtotal	472,500
II.	Container Storage (S01)	
	Container Storage Area No. 1 (CSA1)	125,840
	Container Storage Area No. 2 (CSA2)	17,600
	Container Storage Area No. 3 (CSA3)	18,000
	Subtotal	161,440
III.	Tank Storage (S02)	
	Tank Farm No. 2 (TF2)	299,000*
	Tank 40 (T40)	18,000
	Tank 41 (T41)	18,000
	VR-1	2,872*
	VR-2	2,872*
	Tank 216 (T216 - Double-Walled Tank)	12,355**
	Tank Farm No. 4 (TF4)	102,600
	Total	455,699*
IV.	Tank Treatment Units (T01)	Gallons per Day
	Tanks VR1 & VR2	5,684*
	Tank 213	32,000*
	Tank 214	32,000*
	Tank 215	20,000*
	Total	89,684

V. Container Storage (S01)	Cubic Yards
Truck Station No. 13 (TS13)	600
Total	600

VI. Other Treatment (T04)	Short Tons per Day
Mix Pits (2)	200
Total	200

Total S01	633,940 Gallons
Total S01	600 Cubic Yards
Total S02	455,699 Gallons
Total T01	89,684 Gallons per Day
Total T04	200 Short Tons per Day

*Tanks 213, 214, 215, VR-1 and VR-2 included as storage capacity for waste inventory purposes
** Tank 216 is physically on-site, however not installed

Safety-Kleen receives waste from small and large quantity generators. Wastes are shipped to a Safety-Kleen facility for recycling incorporated into the fuels program, or stored and shipped offsite. Wastes accepted include, but are not limited to, parts washer solvents, and chlorinated and non-chlorinated hydrocarbons.

The Linden Recycle Center facility operates with the flexibility to use any combination of handling, processing, and management of waste received at the facility. That is to say, given the wastes permitted to be received at the facility (See Section C - Waste Characteristics) and the processes and handling methods identified in this section, the facility may strategically determine which activity or combination of activities will be utilized to best handle the waste received at the facility. This flexibility is necessary for the facility to best accomplish and improve its recycling efforts, which ultimately result in better protection of human health and the environment. All drawings/exhibits are subject to field modifications by the facility at time of construction to facilitate construction implementation. If these modifications result in a change to the approved unit design or operation, these modifications will require prior Department approval.

D-1a Description of Containers [40 CFR 270.15; 264.171,172]

The containers used by large industries served by Safety-Kleen Systems are generally 55-gallon steel drums, although other DOT approved containers are also received including, but not limited to, tanker trucks, rail cars, roll-off box containers, etc. Dry cleaning service customers package their wastes on their own premises and generally ship these wastes to the Linden Recycle Center in 16-gallon drums and in lined fiber-board boxes, although other DOT approved containers are also received. Other customers ship paint wastes to the Linden facility most often in 5-gallon and in 16-gallon containers, although other type containers are also received. Many types of containers are received at the facility, all of which are required to meet DOT requirements. Management and inspection procedures are described in the Inspection Plan, Section F.

D-1b Container Storage/Loading/Unloading Areas [40 CFR 270.14(b)(8)(I)]

There are twenty-one (20) areas designated for loading/unloading and storage at the Linden Recycle Center (Truck Station Nos. 1, (formally the recovery pad), 2, 3, 4, 5, 6, 6A, 7, 7A, 8, 8A, 9, 9A, 10, 11, 12, 13, and Railcar Siding Nos. 1, 2 and 6). All hazardous waste management areas are concrete or asphalt with curbs and containment to hold the nominal capacity of the largest compartment in a truck. Run-on is prevented from entering truck stations Nos. 2 , 3, 4, 5, 6, 6A, 7, 7A, 8, 8A, 9, 9A, 10, 11 and 12 by the presence of ramps on each side that are sloped toward the loading/unloading area. Truck station Nos. 3 and 6A are also equipped with a roof. Truck Station 13 is for the parking of roll-off box containers and other transportation units holding only wastes with no free liquids. Land immediately surrounding the containment areas is graded to provide drainage away from the area. Railcar Siding No. 1 is equipped with a concrete pad and containment sump to contain any spilled wastes and is equipped with a roof. Rail Siding Nos. 2 and 6 are equipped with metal spill pans with hinged covers and is connected to the same containment diversion system as Rail Siding No. 1. All areas are shown on the site plan (see **Exhibit A2**).

1. Truck Station No. 1 (TS1), is located on the north side of Tank Farm No. 2. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. This area has room for five trucks and is approximately 75 feet long by 50 feet wide. Truck Station No. 1 has a concrete base, which slopes in a southwesterly direction to a concrete swale. This swale is isolated from the secondary containment by a manual valve. This swale winds around Tank Farm No. 1 and eventually empties into a basin located to the southeast of Truck Station No. 3 (see **Exhibits A3 and B8**)

2. Truck Station No. 2 (TS2) is a loading/unloading area for bulk shipments. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Truck Station No. 2 is located along the west side of the Distillation Column Process Area and is shown in **Exhibit A4**. This truck station has concrete containment with a manual pump to remove excess liquids by pumping it to an adjacent secondary containment. This truck station can hold 4 tankers or approximately 30,000 gallons of hazardous waste.

3. Truck Station No. 3 (TS3) is a loading/unloading area, located on the west side of the Recycle Center, adjacent to Tank Farm No. 1. Truck Station No. 3 is a covered truck facility used primarily for the loading/ unloading of bulk shipments of Safety-Kleen closed-loop Parts Washer Solvent. Truck Station No. 3 currently has a concrete base, which slopes eastward toward a concrete swale. This swale empties into a basin located to the southeast of the truck station, which is isolated from secondary

containment by a manual valve. This truck station can hold 15,000 gallons of hazardous waste (see **Exhibits A5a through A5d and B8**).

4. Truck Station No. 4 (TS4) is the set of truck docks located on the south side of Container Storage Area 1. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Containers are unloaded, loaded, and stored in the area. This truck station has 3 truck bays and is approximately 54 feet long and 44 feet wide (see **Exhibit A6**).

5. Truck Station No. 5 (TS5) is located on the west side of the Container Storage Area 2. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. (see **Exhibit A7**).

6. Truck Station No. 6 (TS6) is located on the east side of, and adjacent to, Tank Farm No. 4 (utilized for used oil transfer, hazardous and non-regulated wastes). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A8**.

7. Truck Station 6A (TS6A) is located on the east side of, and adjacent to, Tank Farm No. 1 (utilized for recycled solvent products). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, non-regulated wastes, hazardous secondary materials as well as products. Details for this area are shown in **Exhibit A9**.

8. Truck Station No. 7 (TS7) is located to the south of, and adjacent to, Tank Farm No. 4 (utilized for used oil transfer and hazardous as well as non-regulated wastes and hazardous secondary materials). This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A10**.

9. Truck Station 7A (TS7A) is located on the east side of, and adjacent to/between, Tank Farm No. 2 (utilized for hazardous waste storage) and Truck Station No. 2. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, non-regulated wastes,

hazardous secondary materials as well as products. Details for this area are shown in **Exhibit A11**.

10. Truck Station No. 8 (TS8) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

11. Truck Station No. 8A (TS8A) is located adjacent to the south edge of TS8. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

12. Truck Station No. 9 (TS9) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

13. Truck Station No. 9A (TS9A) is located adjacent to the south edge of TS9. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12a**.

14. Truck Station No. 10 (TS10) is located to the south of, and adjacent to, the facility's rail spur. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A12b**.

15. Truck Station No. 11 (TS11) is located on the north side of, and adjacent to, Tank Farm No. 4. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A43**.

16. Truck Station No. 12 (TS12) is located on the east side of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading,

unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Details for this area are shown in **Exhibit A44**.

18. Truck Station 13 No. (TS13) is located on the southeast side of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil, hazardous secondary materials and non-regulated wastes. Since TS13 will not be used to store hazardous wastes with free liquids it does not have complete secondary containment therefore its dimensions are as shown on the facility's site plan – see **Exhibit A2**.

19. Railcar Siding No. 1 (RS1) and its access platform construction details are shown in **Exhibits A13 (A13a through A13d)**. Materials at the Linden Recycle Center are shipped out by rail to customers, cement kilns, or industrial furnaces as applicable, or other appropriate facilities. The facility receives waste by rail for recycling, storage, transfer, or incorporation into the fuels program. The railcar loading/unloading canopy is located in the northeastern part of the Recycle Center, north of the Distillation Column Pad Area.

20. Railcar Siding No. 2 (RS2) is located in the northeast corner of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil and non-regulated wastes. Details for this area are shown in **Exhibits A13 (A13a and A13e)**.

21. Railcar Siding No. 6 (RS6) is located along the north edge of the facility. This area is used for hazardous waste storage, loading and unloading, as well as for the loading, unloading and temporary storage of used oil and non-regulated wastes. Details for this area are shown in **Exhibits A13 (A13a and A13e)**.

Capacities of the vehicle loading/unloading areas are summarized below:

Loading/unloading Area	Maximum Capacity
Truck Station No. 1	Five (5) x 7500 gallon in containers
Truck Station No. 2	Four (4) x 7500 gallons in containers
Truck Station No. 3	Two (2) x 7500 gallons in containers
Truck Station No. 4	Seven (7) x 5100 gallons in container
Truck Station No. 5	Three (3) x 5100 gallons in containers
Truck Station No. 6	One (1) x 7500 gallons in containers

Truck Station No. 6A	Two (2) x 7500 gallons in containers
Truck Station No. 7	One (1) x 7500 gallons in containers
Truck Station No. 7A	Six (6) x 7500 gallons in containers
Truck Station No. 8	One (1) x 7500 gallons in containers
Truck Station No. 8A	One (1) x 7500 gallons in containers
Truck Station No. 9	One (1) x 7500 gallons in containers
Truck Station No. 9A	One (1) x 7500 gallons in containers
Truck Station No. 10	One (1) x 7500 gallons in containers
Truck Station No. 11	Nine (9) x 7,500 gallons in containers
Truck Station No. 12	Eleven (11) x 7500 gallons in containers
Railcar Siding No. 1	One (1) x 25,500 gallon rail car
Railcar Siding No. 2	One (1) x 25,500 gallon rail car
Railcar Siding No. 6	One (1) x 25,500 gallon rail car

Total	472,500 gallons

Truck Station No. 13 Fifteen (15) x 40 yd^3 roll-off containers*

Total 600 Cubic Yards*

*Or ton/pound/gallon equivalents of hazardous wastes with no free liquids

The configuration of the railcar loading/unloading station is designed to prevent run-on of stormwaters or other liquids. In addition, the facility is not located in a flood plain and is therefore not subject to flooding. The design of the railcar loading/ unloading station secondary containment system involves use of a concrete pad that flows into an accumulation sump. The railcar loading/ unloading areas are designed to hold up to 7,000 gallons of liquid. The accumulation sump is equipped with a dedicated high rate pump, which is hard-piped to stormwater tanks T-4501 & T-4502 (10,000 gal capacity for each tank) located next to Truck Station No.2. This system will prevent large spills (>7,000 gal.) from a railcar in the loading/unloading station from being released outside of secondary containment.

The management of railcars at the Linden facility is subject to scheduling by the railroad companies for deliveries and pickups. Safety-Kleen will work with the railroad companies to try to schedule delivery and pickup days and times that coincide with the operations of the facility. Railcars are generally used to transport wastes for recovery or fuel blending to and from the facility, but any of the waste types accepted at the facility may be received via railcar.

D-1c Container Management Practices [40 CFR 270.14(a); 264.173]

The maximum inventory of containers of wastes that can be stored at the permitted Linden facility is 2,935 55-gallon drums (161,440 gallons), or the equivalent capacity in smaller or larger containers in CSA1, CSA2 and CSA 3. That capacity is in addition to other amounts indicated in Table D-1 above. Other container storage areas (i.e., truck and rail stations) are utilized to load/unload/consolidate/bulk/store hazardous wastes in various sized approved containers with

maximum inventories as indicated in Table D-1 above. Containers accepted at the Linden facility meet applicable DOT specifications for hazardous waste.

The Linden Recycle Center receives containerized hazardous wastes in the form of liquid, solid, and semi-solid/semi-liquid. For wastes received by the facility for storage and/or transfer, the manifest or Bill of Lading are terminated at the facility and a new manifest or Bill of Lading is completed showing the Linden facility as the generator. The Linden facility may receive hazardous wastes for consolidation purposes. The consolidated material may be accumulated and stored at the facility until more than a full truck is accumulated, prior to shipping the material to its final destination for proper treatment and/or disposal.

There are three (3) buildings at the facility designed for storage of containers of waste material. These locations are designated on the Site Plan in **Exhibit A2**.

1. Container Storage Area No. 1 (CSA1) at the Linden Recycle Center can store up to 2,288, 55-gallon (125,840 gallons) equivalent drums in compliance with the National Fire Protection Association code for storage of Class 1B flammable liquids. Manual container movements within CSA1 are conducted using manual placement by authorized employees using hand trucks, forktrucks and manual movements. Roller conveyors may be used to provide container conveyance within the process area described below. However, containers movements/placements are conducted with and without the roller conveyors installed and/or operational. CSA1 floor plan is shown on **Exhibit A14a** with conveyors and on **Exhibit A14b** without conveyors.

2. Container Storage Area No. 2 (CSA2) at the Linden Recycle Center is used for storage and processing approximately 320, 55-gallon drum equivalents of approved hazardous wastes (17,600 gallons). The Safety-Kleen Systems Return and Fill system is also located in this area. This system is utilized to transfer the contents of containers of crude mineral spirits (hazardous wastes) into permitted hazardous waste storage tanks prior to recycling/recovery via fractional distillation, washing of the containers, and then refilling of the containers with product mineral spirits. The total containment capacity within CSA2is 4,082 gallons, greater than 10% of the total volume of material stored in the area at any given time. CSA2 floor plan is shown on **Exhibit A15**. Exhibit A15 provides a diagram showing the placement of the Return and Fill system (i.e., Drum Washer subject to RCRA permitting requirements) within CSA2. Manual container movements within CSA2 are conducted using manual placement by authorized employees using hand trucks, forktrucks and manual movements. Roller conveyors may be used to provide container conveyance to the Return and Fill. However, containers movements/placements are conducted with and without the roller conveyors installed and/or operational.

Exhibit B9 provides a P&ID for the flow of hazardous waste from the Drum Washer to an appropriate hazardous waste storage tank. Other ancillary equipment (i.e., not subject to

RCRA permitting requirements) shown on this P&ID is for the drying of chemical products processed from the facility's thin film evaporator (LUWA). The filling of containers with product mineral spirits, tolling, antifreeze, or windshield wiper fluid manufactured onsite may also occur in CSA2.

Exhibit B10 provides an example diagram for the actual Drum Washer. This unit is not used to store any hazardous waste but rather transfer it from batch containers to bulk tanks, however it does have a sump that can temporarily hold approximately 40 gallons of crude mineral spirits that is recirculated and used to rinse-out emptied containers.

3. Container Storage Area No. 3 (CSA3) can store up 9,000 gallons in Area D and 9,000 gallons in Area E of hazardous waste in various containers to include 25 cubic yard (approximately 5,000 gallons each) roll-off box containers/vac boxes, 3,500 gallon Cuscos/vac trucks, etc., or ~327, 55-gallon drums or other proper containers, or a combination thereof equal to a maximum of 18,000 gallons. **Exhibit 45** provides a drawing for CSA3.

Containers are inspected during pick-up at the generator's plant, during unloading at the Linden facility and also daily during storage. Safety-Kleen Systems Inc. haulers have been advised of their responsibility to assure non-leaking drums. Drums found to be leaking at time of unloading are either immediately pumped into a storage tank, over packed, or repacked; drums found to be leaking in storage are treated similarly.

Containers received by truck are unloaded by fork trucks using container clamps or other such equipment. After unloading, containers are counted or electronically scanned to ensure agreement with the manifest or shipping papers and inspected to ensure that the containers are structurally sound and are labeled in compliance with RCRA and applicable regulations.

The storage location of each shipment of waste is established at time of receipt, and an inventory record is maintained in the facility's records showing the generator's name, receipt date, and storage location.

Containers are arranged with a nominal aisle space of 30 inches. **Exhibits A14a, A14b and A15** present typical aisle layouts in the container storage areas and is shown for illustrative purposes only. Exact arrangements, configuration, and distribution of types of drums may vary, but are done in accordance with the applicable requirements, including minimum aisle space, maximum pile size, inspection necessities, and accessibility.

Drum transfer/processing is nominally performed in the drum processing areas in Container Storage Area Nos. 1 and 2 as shown in **Exhibits A14a and A15**. Operations involve emptying drums of pumpable wastes, sludge consolidation, drum washing and filling, and other physical handling. The removed materials are transferred to the appropriate bulk storage tank. The exact configuration of this equipment is a function of the types of wastes being processed at any given time.

D-1d Container Storage Area No. 1 Processing Equipment

Containerized waste is brought off trucks and into Container Storage Area No. 1 (CSA1) by forklift, drum dollies, manual movement, etc., and staged for sampling. The staging of containers takes place for the purpose of container inspection and waste receipt sampling. After the containers are sampled, they are moved by forklift, drum dollies, manual movement, etc., and placed into their properly designated rows. The row designations are determined by the intended container handling method: i) fuel blending, ii) solvent recovery for resale, ii) solvent recovery for return to customer, iv) transfer to storage tanks for subsequent shipment off-site to authorized facilities, and v) container storage and transfer only. Row designations are determined by compatibility and indicated in on-site records. With the exception of v) above, all intended management methods require utilization of the container processing line.

Containerized waste is moved to the processing line by forklift, drum dollies, manual movement, etc., and set on the drum conveyor. Containers travel along the conveyor line and arrive at the pump-out station. The pump station may be operated with or without the installation or operation of the roller conveyors. The containers are then opened and free liquids are pumped out and the liquid materials maybe transferred to any tank in Tank Farm 2 or Tank Farm 4.. A suction wand is inserted into the drum to pump out the liquids.

Containers which have been completely emptied travel along to the end of the conveyor, where an empty drum label is placed on the containers and the container loaded onto the designated empty container trailer or storage area.

Any solids, semi-solids, sludges or liquids remaining in the container are cleaned out and are consolidated into containers and eventually transferred to authorized off-site facilities for final disposal.

D-1e Container Inspection [40 CFR 270.14(b)(5); 264.174]

Drums received at the Linden facility are checked at time of unloading to ensure that they are properly marked/labeled and that the marking/label matches the manifest. In addition to the drum inspection at time of unloading a daily inspection is made of the container storage area specifically to ensure that any leaking drums are immediately corrected. A record is kept of these inspections and the action taken to remedy a leaking drum. These procedures are described in the Inspection Plan in Section F of this permit application.

Containers received at Linden Recycle Center must meet the following general criteria:

- must meet DOT construction requirements
- approved for the type of material being shipped
- must be in good condition (including properly sealed and not leaking), and
- must be of a type which S-K has the equipment to safely handle.

D-1f Requirements for Secondary Containment and Leak Detection [40 CFR 270.15(a); 264.175(b)]

Container Storage Area No. 1 is built with a floor approximately 45" above exterior grade to facilitate truck loading and unloading. The floor of the warehouse is surrounded by a curb and ramped at the doors, to provide spill containment for greater than 10% of the total volume of the containers. In addition, floor drains leading to a collection tank outside Container Storage Area No. 1, are located

along the center line of each bay of the warehouse. The floor is sloped toward these drains so that any leak or spill runs to the center of the bay is immediately visible. This provides instant recognition of leaks or spills and the opportunity for prompt correction by isolation of the leaking drum and repacking to avoid generating a hazardous condition in the building. Should a spill occur, the spilled material would flow to the collection tank located outside the building, which can be immediately emptied by vacuum truck or by use of a suction hose connected to the drum pump. Spilled solvents will be pumped to a waste storage tank.

Container Storage Area No. 2 is built with a concrete floor surrounded by a curb to provide spill containment for greater than 10% of the total volume of containers. The floor is sloped toward floor drains leading to a collection tank outside of Container Storage Area 2. Should spills occur, the spilled material will flow into the collection tank.

Container Storage Area No. 3 is built with a concrete floor surrounded by a curb to provide spill containment for the largest container which is greater than 10% of the total volume of containers. The floor is sloped toward blind floor sumps. Should spills occur, the spilled material will flow into the blind floor sumps.

Truck Station No. 1 is constructed of concrete, sloping to the south and is bordered to the east and west by a dike.

Truck Station No. 2 is constructed of concrete, sloping toward the center of the station and is bordered to the east and west by a dike. The entrance and exit is sloped toward the center of the station.

Truck Station No. 3 is constructed of concrete, sloping to the east and is bordered to the east and west by a dike. The entrance and exit is sloped toward the center of the station. Truck Station No. 3 is also covered by a roof.

Truck Station No. 4 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 5 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 6 and No. 6A are constructed of concrete and is bordered by a dike on all sides. Truck Station No. 6A is covered.

Truck Station No. 7 and No. 7A are constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 8 and 8A are constructed of concrete and is bordered by a dike on all sides. This area encompasses Truck Station 9 as well.

Truck Station No. 9 and 9A are constructed of concrete and is bordered by a dike on all sides. This area encompasses Truck Station 8 as well.

Truck Station No. 10 is constructed of concrete and is bordered by a dike on all sides.

Truck Station No. 11 is constructed of asphalt and is bordered and fully contained by a dike on all sides.

Truck Station No. 12 is constructed of asphalt and is bordered and fully contained by a dike on all sides.

Truck Station No. 13 is constructed of asphalt but is not fully contained since hazardous wastes with free liquids are not stored there.

Railcar Siding No. 1, 2 and 6 construction details are shown in **Exhibit A13**. Materials at the Linden Recycle Center are shipped out by rail to customers, cement kilns, or industrial furnaces as applicable, or other appropriate facilities. The facility receives waste by rail for recycling, storage, transfer, or incorporation into the fuels program. The railcar loading/unloading canopy is located in the northeastern part of the Recycle Center, north of the Distillation Column Pad Area. All railcar sidings have a capacity of 25,500-gallons each.

The containment capacity of each of the container storage areas is shown below. Containment calculations for each storage area are included in Attachment D-1 and corresponding exhibits. In the event that product and material will be stored within the same container storage area, both volumes will be counted towards the area inventory.

Storage Area	Storage Capacity (Gal.)	Equivalent 55-Gallon Drums	Secondary Cont. Vol. (Gal)	Exhibit #
CSA1	125,840	2,288	17,676	A14
CSA2	17,600	320	4,006	A15
CSA3	18,000	327	17,247	A45
		Equivalent Tankers/Vans/Rail Cars		
TS1	37,500	5 x 7,500 gallons	21,315	A3
TS2	30,000	4 x 7,500 gallons	9,044	A4
TS3	15,000	2 x 7,500 gallons	9,214	A5
TS4	35,700	7 x 5,100 gallons	21,791	A6
TS5	15,300	3 x 5,100 gallons	4,381	A7
TS6	7,500	1 x 7,500 gallons	*	A8
TS6A	15,000	2 x 7,500 gallons	*	A9
TS7	7,500	1 x 7,500 gallons	*	A10
TS7A	45,000	6 x 7,500 gallons	*	A11
TS8	7,500	1 x 7,500 gallons	*	A12
TS8A	7,500	1 x 7,500 gallons	*	A12
TS9	7,500	1 x 7,500 gallons	*	A12
TS9A	7,500	1 x 7,500 gallons	*	A12
TS10	7,500	1 x 7,500 gallons	*	A12
TS11	67,500	9 x 7,500 gallons	*	A43

TS12	82,500	11 x 7500 gallons	*	A44
TS13	600 yd^3	15 x 40 cubic yards	N/A**	N/A***
RS1	25,500	1 x 25,500 gallons	*	A13
RS2	25,500	1 x 25,500 gallons	*	A13
RS6	25,500	1 x 25,500 gallons	*	A13

* See Attachment D-1

** TS13 is for storage of hazardous waste containers with no free liquids only

*** See **Exhibit A2** (i.e., facility site plan) for the dimensions for TS13

Stormwater collected in any hazardous waste management secondary containment system is pumped to a tank for discharge quality control, and subsequently discharged to the sanitary sewer. Dike water removal is accomplished by inserting into the secondary containment area sump a suction hose connected to the tank farm piping manifold and pumping the stormwater to a storage tank. Prior to removing the stormwater, it is tested in accordance with the facility's wastewater discharge permit issued by the Linden Roselle Sewerage Authority (LRSA). If it meets LRSA specifications, it is pumped directly to the wastewater holding tank (Tank 75) located on the Distillation Column Pad. Otherwise, it is pumped to an appropriate hazardous waste storage tank for additional processing.

D-2 Tank Systems [40 CFR 270.16; 264, 191-194]

The operating procedures for all storage tanks at the Linden facility have been designed to achieve the following objective:

- Prevent overfilling;
- Maintain inventory control;
- Eliminate transfer spills; and
- Avoid cross-contamination.
- Prevent leaks

The means by which these objectives are achieved are as indicated below.

D-2a Tank System Descriptions [40 CFR 270.16]

There are 24 hazardous waste tanks (which includes tank T-216 which has yet to be installed) at the Safety-Kleen Systems, Inc. Linden- Facility. These permitted tanks are used for hazardous waste storage. Tanks 213, 214, and 215 as well as VR-1 and VR-2 are also used to treat hazardous waste, (e.g. fuel blending). Waste streams being managed in tanks may bear any of the wastes codes identified in Section C - Waste Characteristics. This Section also clarifies that a waste can and often is a combination of one or more than one EPA-NJDEP waste code. Liquid waste streams being managed in tanks may bear any of the waste codes identified in Section C - Waste Characteristics. This section also clarifies that a waste can and often is a combination of one or more EPA / NJDEP waste codes. For an efficient and safe operation, it is necessary that tank usage be flexible but, at the same time, controlled.

Table D-1 lists all the tanks at the facility that are to be permitted for waste storage. The tank locations can be seen in the Site Plan in **Exhibit A2**.

Nevertheless, certain tanks used to store waste material may be cleaned and used for product storage when market needs and demand cause fluctuations in clean product volumes and corresponding shifts in waste storage needs. All tanks located in a hazardous waste tank farm, regardless of whether the tank contains product or waste, will be counted towards the facility waste inventory.

Tank structural and design standards for storage of product or waste are similar, and all tanks listed in Table D-2 meet regulatory requirements for waste storage. All of the tanks are suitable for holding the wastes received at the plant. These wastes are described in Section C, Waste Characteristics, of this permit application. Only permitted tanks will be used to store waste. For recordkeeping purposes and compliance inspection current tables of tanks used for waste storage will be maintained on file at the facility.

D-2a (1) TABLE D-2 - Dimensions and Capacity of each Tank [40 CFR 270.16(b)]

TANK FARM NO. 2

Present Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Material
201	26	11	18,500*	Carbon Steel
202	26	11	18,500*	Carbon Steel
203	26	11	18,500*	Carbon Steel
204	16	10	10,000*	Carbon Steel
205	16	10	10,000*	Carbon Steel
206	26	11	18,500*	Carbon Steel
207	26	11	18,500*	Carbon Steel
208	26	11	18,500*	Carbon Steel
209	16	10	10,000*	Carbon Steel
210	16	10	10,000*	Carbon Steel
211	50	10.4	32,000*	Carbon Steel
212	50	10.4	32,000*	Carbon Steel
213	50	10.4	32,000*	Carbon Steel
214	50	10.4	32,000*	Carbon steel
215	24	12	20,000*	Carbon Steel
216	19	10.5	12,355	Carbon Steel

TANK NOS. 40 AND 41

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Material
40	28	11	18,000*	Carbon Steel
41	28	11	18,000*	Carbon Steel

VACUUM RECEIVERS VR-1/VR-2

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Materials
VR-1	17.3	5.5	2,872	Carbon Steel
VR-2	17.3	5.5	2,872	Carbon Steel

TANK FARM NO. 4

Tank No.	Height (feet)	Diameter (feet)	Capacity (gallons)	Construction Materials
4401	35	12	30,000	Carbon Steel
4402	35	12	30,000	Carbon Steel
4403	26.8	12	20,000	Carbon Steel
4404	35	10.5	22,600	Carbon Steel

* Capacities shown are actual tank maximum design. Capacities shown on exhibit drawings do not consider facility imposed maximum fill volumes.

Schematic diagrams of the tank and piping arrangements for handling used solvents are shown on corresponding exhibits. The Inspection Plan contains checklists for each tank system. The tanks have been in use for several years and are inspected for leaks. This is recorded as part of the daily inspection. The facility Tank Wall Thickness Test Plan is provided in Attachment D-2.

Each waste tank is equipped with emergency relief and conservation vents with flame arresters. Ladders, platforms, or other means provide access to the top of each tank where provision is made for gauging and sampling. Each tank in each tank farm is piped to manifolds or connection at the dike wall. Transfer pumps located within a diked area are similarly piped. These are described in more detail under each tank farm heading below.

D-2a (2) Tank Farms

Tank Farm No. 2 contains fifteen waste tanks. Tank Farm No. 2 is comprised of six 18,500 gallon flat bottom tanks, four 10,000 raised, cone bottom tanks, one 20,000 gallon flat bottom tank and four 32,000 gallon flat bottom tanks. The tanks in Tank Farm No. 2 are surrounded by a dike, as shown in **Exhibit A16**, and stand on a reinforced concrete base 12" thick. Tank No. 216 is a double-walled tank located between Tank Farm No.2 and Truck Station No.2 and is not mounted, not in use, and laying on its side. When the need for T-216 arises the facility will install and put the tank into service. **Exhibits A17 through A32**.

Tank Farm No. 4 contains four (4) tanks. Tank Farm No. 4 is comprised of two 30,000 gallon, one 20,000 and one 22,600 gallon flat bottom tanks. The tanks in Tank Farm No. 4 are surrounded by a dike as shown in **Exhibit A33**, and stand on a reinforced concrete base 12" thick. **Exhibits A34 through A37** provide diagrams for tanks in Tank Farm No. 4.

Tanks 40 and 41 are surrounded by a dike and stand on a reinforced concrete base – see **Exhibit A38**. See **Exhibits A39 and A40** for diagrams of Tanks 40 and 41 which are 18,000 gallons in capacity each.

VR-1 and VR-2 are 2,872 gallon tanks on elevated stilts surrounded by a dike – see **Exhibit A41**. See **Exhibit A42** for a diagram of these tanks.

D-2b Use of Waste Tanks for Product Storage

Tank decontamination is standard operating procedure for a hazardous waste suitability of a tank for a particular product is determined and the contents of the tank are transferred to another hazardous waste tank using existing pumps. Every attempt is made to empty the tank of as much material as is practical. Next, the tank is thoroughly rinsed with clean water, in order to remove any solids, sludges or residual liquid which may have remained in the tank. After rinsing the tank, the tank is visually inspected for signs of residual material. If residual material remains, it is rinsed again to ensure the tank is thoroughly cleaned.

Once the tank passes visual inspection, a sample of the tank rinsate is collected and analyzed via gas chromatography (GC). If the GC analysis of the rinsate indicates no identifiable peaks, the tank is deemed sufficiently clean. If not, the tank will continue to be rinsed with clean water and the analytical process repeated. Rinsate generated during the decontamination process is pumped to a suitable hazardous waste storage tank for on-site fuel blending or treatment.

When the tank is ready to be used for product storage, it will be rinsed with the product it will contain. This rinse material is then analyzed for percent water and a GC scan is performed in order to compare with that of the product. Safety-Kleen will accept no identifiable peaks in the analysis of the solvent rinsate. Only when two consecutive GC analyses produce no unidentifiable peaks will the tank be approved for product storage.

D-2c Hazardous Waste Fuel Blending

The blending of hazardous waste fuel, used off-site in boilers and industrial furnaces, is performed within properly equipped tanks. Specific equipment and processes include tanks, and perhaps filtration, sedimentation, grinding, decanting, particle size reduction, recycling equipment, or any other treatment system allowable and available at the facility. The tanks are shown on the Existing and Planned Site Plan.

Fuel is prepared by processing and/or blending together unrecoverable and/or unwanted material. The blended material is stored in tanks after being tested to ensure that it meets waste fuel requirements. Fuel can be pumped from the storage tanks through a grinder to meet particle size criteria and a filter to ensure that the material can be handled without line plugging and excessive sedimentation. Tanks can be agitated to ensure that settling does not occur in storage. Records are kept of the blending of all materials and their processing.

The fuel blending operation receives material from three separate sources: bulk receipts, drum processing, and recovery cuts and bottoms. Fuel blending as defined is currently performed within Tank Farm No. 2 in Tanks 213 & 214, but could be blended in other tanks such as T-215 as deemed appropriate.

Bulk inbound fuel is sampled, analyzed and pumped into one of the fuel blending tanks. However, if the material is under consideration for recovery for resale, Safety-Kleen will off-load the material into a tank in Tank Farm No. 2. This material may, at a later date, be fuel blended.

Drum material is processed in Container Storage Area 1. Liquids are transferred at the manual pump-out station directly to waste processing tanks and/or to blending tanks located outside of CSA1. All

transfer processes at CSA 1 are directed through screen filters. Semi-solids and sludges remaining in containers from the manual pump-out station are transferred and accumulated into another drum. The accumulated sludge drum is sent off for final disposal. Fuel material from the recovery operations are, for the most part, transferred to Tank 213 or 214. However, there are occasions when the material is transferred to an alternate fuel blending tank (such as T-215).

D-2d Transfer Operations

The Linden Recycle Center receives hazardous waste and non-hazardous waste for transfer purposes. The facility may receive shipments of containerized waste or waste in tank trailers, trucks or railcars for consolidation into other trucks or railcars. The received waste is moved from incoming transport vehicle to the outgoing vehicle. In the case of truck to truck transfer, the outgoing vehicle will leave the facility within 10 days of the time transferred waste is placed in the vehicle. The facility record will reflect all waste transferred through the facility.

The facility may also receive waste shipment (in drums, tank trucks and railcars) for storage in permitted storage units and subsequent shipment off-site. This is referred to as accumulation and transfer or just transfer. Inbound trucks and rail cars remain in a transportation mode until unloaded by the facility.

The Linden Recycle Center will terminate the incoming manifest of the accumulated waste and then generate a new manifest with the Linden Recycle Center as the generator. When a manifest is terminated at the facility, the transfer material will be stored in a storage unit for a period not exceeding 365 days. Records of the transfer operation will be maintained at the facility.

Catch pans or other similar receptacles are placed under all tank transfer line couplings to collect any leaks or spillage during transfer operations. Furthermore, these receptacles are emptied in a timely manner.

D-2e Tank Corrosion and Erosion [40 CFR 270.16(e)]

This section addresses external corrosion protection as required under 40 CFR 270.16(e). Tank corrosion and erosion at the facility are managed via a preventive inspection and maintenance program.

The operational minimum tank wall thickness is based on acceptable industrial standards. For the purposes of constructing new tanks UL 142 and API 650 series would be utilized for calculating the construction wall thickness.

When testing show actual wall thickness has reached minimum operational standards as calculated using an acceptable industrial standard, the tank will be taken out of service for a more detailed examination. Tanks will be removed from service unless the examination shows the metal thickness below minimum is only localized. The local sections may be cut out for replacement with new steel.

Since all of the tanks and components are aboveground, none of the external shell or external metal components will be in contact with soil. The only contact with water will be from precipitation. See Attachment D-2 for additional information.

D-2e (1) Description of Feed Systems, Safety Cutoff, Bypass Systems and Pressure Controls [40 CFR 270.16(c); 264.194(b)]

The means by which inventories are controlled and overfilling is prevented are a combination of administrative and automatic controls.

- Bulk deliveries of waste liquids are unloaded only after plant inventory records have been reviewed and confirmation that adequate capacity to receive the shipment is available.

- During bulk deliveries, the truck driver making the delivery stays in attendance or the transfer is otherwise attended

- Inventory records are kept on-site. Each waste stream is monitored to control production yields and rates. Once a week, and at the end of every run, the waste tanks are gauged and a record made. Before any delivery of waste liquid is made, the shift supervisor or designee confirms that the tank selected to receive a load has available capacity before unloading starts. A record is maintained of the operating conditions of plant equipment and the inventory of the used solvent recovery tanks every shift. This is certified by the shift supervisor.

- The design of each tank includes a level monitoring system. This system will consist of a mechanical gauge, an ultrasonic type, differential head type electric gauge, or another appropriate system.

- Each tank will be provided with a high level alarm and waste feed cutoff system. In the event of a high level condition, the high level alarm is sounded and the pump feeding waste to the tank will be disabled. The current system utilizes a computer system which interlocks the level in a tank to the pump(s) responsible for feeding waste to the tank. However manual monitoring and cut-off may be used in lieu of this system if needed and returned in accordance with operational standards. In order to initiate a transfer, the operator is required to input the source pump number(s) next to the destination tank. In the event of a high level condition (95 % of tank capacity), the pump is instantly disabled. No additional material can be pumped into that tank until the level is below the high level alarm point.

- The existing computer system displays tank volumes on a monitor accessible to the operators. The volume of each tank is displayed by tank, on the computer screens when

the tank is in a safe condition. If the tank goes into a high level alarm condition the alarm is acknowledged by an operator at the computer.

- Once acknowledged, the alarm representing the tank remains active. The high level alarm condition clears.

- The high level alarm horn is energized when a high level alarm condition occurs. The high level alarm horn is unique to the facility and can be easily distinguished from other facility alarms by the operator. When the high level alarm is acknowledged by an operator through the computer, the horn is silenced. This functionality will be maintained in the new system configuration.

D-2e (2) Diagram of Piping, Instrumentation and Process Flow [40 CFR 270.16(d)]

In each tank farm, every tank is piped to an operating area where loading/unloading lines and charge and product lines are located. These lines may be interconnected using short lengths of quick coupling hose in such a way that all connections are made and broken over spill collection troughs. This procedure eliminates the chance of cross-contamination by leaking valves, prevents leaks and spills anywhere other than over a collection system, and allows all tanks and pipelines to drain completely. Transfer pumps are located within dikes with suction and discharge connection at the transfer station. Drain pans, to collect any spills when transfer lines are disconnected, are piped to the suction side of the transfer pumps, allowing the pans to be emptied to any tank in the tank farm.

Flow diagrams and/or P&IDs are provided herein this application as **Exhibits B7, B9 and B11 through B14**.

D-2e (3) Plans and Description of the Design, Construction, and Operation of the Secondary Containment System [270.16(g); 264.193(b)-(f)]

Storage tanks are located on concrete pads or concrete/steel supports within concrete containment areas. Containment volume comparisons are as follows:

Tank Farm Number	Total Tank Storage Capacity (Gallons)	Volume of Largest Tank (Gallons)	Containment Gross Volume (Gallons)
2	299,000	32,000	48,279
4	102,600	30,000	44,209
Tank 216	12,355	12,355	12,355*
Tanks 40/41	36,000	18,000	20,826
Tanks VR-1 and VR-2	5,744	2,872	3,367

* Double-walled tank

Containment calculations for each of the existing and planned tank farms are shown in Attachment D-1. Dike configurations, dimensions, and other construction details are illustrated in the exhibits referenced below:

Tank Farm	Exhibit No.
2	A16
4	A33
Tanks 40 and 41	A38
VR-1 and VR-2	A41

Secondary containment systems are designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water in accordance with 40 CFR 264.193 (b)(1). The dish-bottom and the cone-bottom tanks will allow detection of any leaks in the tank bottoms. Any leaks will drain from under the tanks into the secondary containment where they will be discovered during the daily inspections, or sooner.

Any leaks in the primary or secondary containment systems will be detected within 24 hours through daily inspections. Cracks or gaps that develop in secondary containment areas will be repaired. The concrete in the tank farms is sloped in the direction of a low spot within each secondary containment area. The accumulation points will be equipped with a pump that is connected to a stormwater tank to remove liquids resulting from leaks, spills, or precipitation. Any collected material that is a hazardous waste will be pumped into a waste tank and managed as a hazardous waste. Following a spill within a secondary containment area, the concrete in the area of the spill will be cleaned.

Stormwater collected in the hazardous waste management secondary containment system will be pumped to a tank for discharge quality control and subsequently discharged to the sanitary sewer or otherwise disposed. Water will be tested in accordance with the facility's permit to discharge wastewater.

The secondary containment areas for all tanks are designed to contain 100 percent of the capacity of the largest tank (or 10% of the total volume of tank storage, whichever is greater) and precipitation from a 25-year, 24-hour rainfall event in accordance with 40 CFR 264.193 (e). Run-on into secondary containment areas is prevented by dike walls which are of a minimum height to provide adequate secondary containment. Calculations for secondary containment areas are contained in Attachment D-1. All piping is visually inspected on a daily basis. All pipe flanges, joints and connections outside of secondary containment are to be welded or welded and flanged in accordance with applicable standards. The piping is inspected regularly.

D-2e (4) Tank Inspection [40 CFR 270.14(b)(5); 264.195]

The Linden Recycle Center’s tanks inspection program is fully described in Section F.

D-3 OTHER TREATMENT

Other treatment for the solidification and/or stabilization of inorganic characteristic hazardous (RCRA heavy metals) and/or non-hazardous wastes is performed in fully enclosed mix pits – see **Exhibit B22** for a mix pit process flow diagram. The mix pit processes

consists of two (2) steel-lined concrete in-ground structures of the proper design to contain liquids and detect leaks in the secondary containment system - see **Exhibits A45, A46, A47 and A48** for diagrams of the mix pits and associated building/enclosure.

Such "other treatment" is conducted within an enclosed building designed to control potential air emissions from the process (e.g., dust emissions). Treatment/stabilization is conducted in discrete "batches" (note: prior to non-hazardous waste treatment, the unit would undergo decontamination if the previous load treated contained hazardous waste).

Treatment recipes, to determine the appropriate amounts and types of chemical reagents required for stabilization, will be determined by the facility's lab. Additionally, analytical testing (for hazardous batches) will be conducted, following stabilization, and prior to solidification, to ensure the "treated" waste is properly charactered prior to final disposal. Also, the facility may optionally decant excessive free liquids from the waste prior to stabilization/solidification. If the facility exercises this option, the decanted liquids will be managed in accordance with how it was received (hazardous or non-hazardous in accordance with how it was manifested). Decanted liquids that are manifested as a characteristic waste only will be managed as such unless the proper analytical testing demonstrates it is no longer a hazardous waste.

D-3a SOLIDIFICATION IN A MIX PIT

The facility may receive bulk and non-bulk containers of semi-solids that contain free flowing liquid requiring solidification before ultimate disposal in a landfill. Containers are evaluated for proper disposal of the liquid layer. The liquid layer may be pumped out and the remaining solids properly managed based on applicable state and federal regulations. Solidification media may be added to ensure that no free liquid remains. The solidification is done inside both mix pits. An excavator or backhoe is used to mechanically mix waste with solidification media in the mix pits. Prior to commingling any waste containers, compatibility is checked and verified as required. The facility uses dehydration media such as calcium sulfate, cement dust, kiln dust, fly ash envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust or pozzolanic materials. Solidification activities are conducted in the Mix Pit Building. All waste that is solidified will be managed to ensure compliance with applicable regulations and permit conditions.

D-3b STABILIZATION IN A MIX PIT

The facility conducts stabilization of heavy metal contaminated wastes in both mix pits in order to render it non-hazardous wastes. This activity is conducted in the Mix Pit Building. All hazardous waste that is stabilized will be managed in accordance with applicable regulations to include performing an appropriate post-treatment hazardous waste determination via analytical testing by a NJDEP certified environmental laboratory. Such testing is conducted to ensure/confirm treatment effectiveness in rendering hazardous wastes to be non-hazardous.

D-3b(1) Stabilization Procedure

D-3b(1)A Processing Limits and Processing Areas

The maximum daily stabilization limit is 200 short tons per day in a single mix pit or combined in each of the two (2) mix pits. The facility uses WIN to track the amount of waste stabilized each day in order to document compliance with the daily limit. Stabilization activities are conducted exclusively in the enclosed Mix Pit Building.

D-3b(1)B Stabilization Evaluation

An evaluation is made to determine the suitability of the waste for stabilization. The lab performs a treatability study on the sample taken upon receipt of the waste (or for routine/consistent waste a pre-acceptance sample) to determine the most appropriate treatment recipe in order to render the waste non-hazardous. The purpose of the treatability study is to determine the following:

- a recipe for the waste to be rendered non-hazardous
- required reagents
- optimal reagent/waste mix ratios
- optimal water content

This evaluation does not need to be repeated unless the waste has changed. Procedures are detailed in Appendix A and documented electronically in a typical format as shown on the example in Appendix B.

D-3b(1)C Stabilization Acceptance Form

After bench scale testing has been completed and the bench scale stabilization has been verified, information is recorded and forwarded electronically to facility management and operations' personnel. At this point, the waste stream is officially approved and is entered into Clean Harbor's WINWEB profile database as acceptable for stabilization.

D-3b(1)D Stabilization of Waste

Waste is stabilized in the two (2) mix pits. The type and amount of reagents added to the wastes is determined by the Bench Scale Test. Bulk reagent (usually Portland cement dust or ferrous sulfate, lime, etc.) is measured and used. However, other effectives stabilization media may be used to stabilize metal contaminated hazardous wastes. Based on the treatment recipe, the appropriate proportional amount of reagent is added as a measure or weight of reagent. Necessary amount of stabilization media is placed in the mix tub and mixed with the hazardous waste. This procedure is continued until the appropriate amount of reagent has been added.

A backhoe or other mechanized equipment (e.g., excavator fitted with a mixing blade, robotic arm, etc.) is utilized to mix the waste and reagent. Based on the treatment recipe, water may be added during the mixing process to enhance the stabilization process. The waste and reagent are mixed until the mixture is homogeneous by visual examination. The approximate mixing time is typically 40 minutes per batch of treated waste (i.e., ~40 cubic yards).

The operator completes the Daily Stabilization Log, which includes the manifest number, waste profile number, volume of waste, amount of reagent, start and finish time, container number in which the stabilized material is transferred (if applicable), and the operator's name. An example copy of this log's format is included as Appendix C. The log is recorded and filed electronically at the facility.

At the end of each operating day the operator shall enter the completed Daily Stabilization Log into the facility's operating record. Completed daily Stabilization

Logs are maintained on file electronically, however if electronic issues arise paper copies of forms may be completed and filed onsite.

After mixing is complete, and before a solidification media, if any, is added, two grab samples are taken to a NJDEP certified environmental laboratory for analysis. The minimum sampling frequency is two grab samples per batch of treated waste (i.e., ~40 cubic yards). The grab samples are randomly collected in opposite locations of a mix pit or in the shipping container (e.g., roll-off box container). If one of the samples fails the applicable metal standard, then additional treatment and mixing will be done and another set of two grab samples taken for analysis. If sample results frequently fail the metal standard, the facility must reevaluate the effectiveness of its treatment and mixing procedures and if necessary institute new procedures and/or compatible stabilization media.

The stabilized waste is transferred to bulk containers (roll-off's, intermodals or dump trailers). These bulk containers are labeled and held in a permitted hazardous waste container storage area (e.g., Truck Station 13, etc.) pending final analytical test results.

The operator delivers samples to a NJDEP certified environmental laboratory and completes a chain-of-custody. The proper analysis is conducted on the samples for the metal(s) of concern. Samples are analyzed in a NJDEP certified environmental laboratory. The results of the analyses are forwarded by the lab to the Facility General and/or Operations Manager who review the analytical results and confirms that the results are below the regulatory threshold for the metal of concern. See Section C (Waste Analysis Plan) for additional information concerning analytical testing procedures.

D-3b(1)E Post Stabilization Procedures

Upon determining the analytical results from the grab samples verify that the treated waste is non-hazardous waste as defined by state and federal regulations, the Facility General and/or the Operations Manager will confirm the analytical results and forwards a copy of the approved report to the Shift Supervisor. The Shift Supervisor

may schedule the waste for shipment off-site following the approval. The analytical results and chain of custody for each stabilized shipment are maintained on file electronically at the facility or by paper hard copies. Stabilized waste is shipped off-site to a facility authorized to accept non-hazardous wastes. These wastes typically go to Subtitle D solid waste landfills.

D-3b(1)F Pre-Shipment Requirements for Stabilized Waste

The shipment is scheduled in accordance with the receiving facility's scheduling procedures. The Facility General or Operations Manager shall ensure that a one-time land disposal notification form is kept in the facility's files pursuant to 40 CFR 268.9 (d) for each facility to which decharacterized, or otherwise non-hazardous, waste is shipped.

D-3c OPERATIONAL SAFEGUARDS

All proper Personal Protective Equipment must be used during the performance of stabilization/solidification activities. Stabilization activities in the Mix Pit Building shall not interfere with the safe, free, unrestricted flow of traffic into, out of, and within the facility or public roadways. Activities shall be conducted such that containers, equipment and supplies shall neither be staged in the entry/egress roadway(s). This will ensure that emergency vehicles have unrestricted access throughout the facility.

APPENDIX A

Standard Operating Procedure
Analysis of Materials to be Stabilized

Safety-Kleen Systems, Inc., Linden, NJ

STANDARD OPERATING PROCEDURE
ANALYSIS OF MATERIALS TO BE STABILIZED

TREATMENT STUDY

1. Make up the following test mixtures: 0%, 5%, 10%, and 15% Portland cement to Raw material (w/w). Add enough water to mix the material and make it moist, yet not too much to make the material soupy. Note the amount of water added for each test mixture. We need to develop a recipe with the gallons of water required per ton of material. Other potential reagents may include kiln dust and ferrous sulfate.

   Check these samples periodically to monitor curing. This can be done by pressing a sharp object into the top of the material, to see how easily the object pierces the top of the curing product. (NOTE: mixing the sample will only disrupt the curing process). Let the samples cure for a minimum eight hours and a maximum of twenty four hours.

2. After curing, analyze for RCRA metals (metals analyzed are based on the specific waste) for the 0% 5%, 10%, and 15% samples.

3. Document results on the Stabilization Decision Form found in Appendix B.

4. Submit data to Operations Manager for review.

APPENDIX B

Stabilization Decision Form

Safety-Kleen Systems, Inc., Linden, NJ

STABILIZATION DECISION FORM

Profile #(s):_____
Time Log In:_____ Time Log Out:_____
Disposition:_____ Generator(s):_____
Waste Source:_____ Waste Codes:_____
Color/Appearance:_____ Odor:_____

Manifest #(s):_____

_____

Comments:_____

_____

Chemists will conduct initial stabilization screening based upon the hazardous waste's physical state, constituents and characteristics as well as observations made during preparation and analytical testing. Such screening will be recorded below (Note: These tests are optional and at the chemist's discretion)

Parameter	**Result**

Treatment Recipe Documentation

	Recipe #1	**Recipe #2**	**Recipe #3**	**Recipe #4**	**Comments**
Sample (g)					
Cement (g)					
Kiln dust (g)					
Water (g)					
pH					
Ferrous sulfate (g)					
other					
Final pH					

After mixing and curing, document the results on the following:

Recipe #1			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #2			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #3			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Mercury (D009)			
Selenium (D010)			
Silver (D011)			
Other			

Recipe #4			
Metal	**Total**	**Quick screen TCLP [1]**	**TCLP [2]**
Arsenic (D004)			
Barium (D005)			
Cadmium (D006)			
Chromium (D007)			
Lead (D008)			
Mercury (D009)			
Selenium (D010)			
Silver (D011)			
Other			

Notes:

[1] Quick screen TCLP testing is performed within several hours after mixing to gauge stabilization effectiveness if the Totals' analysis fails for any metal standard

[2] As needed TCLP performed per SW-846 method (1311/6010/6020)

Preferred Treatment Recipe_____

Comments _____

Chemist _____

Date _____

APPENDIX C

Daily Stabilization Log

Safety-Kleen Systems, Inc., Linden, NJ

Daily Stabilization Log

Inbound Container No.	Manifest Number	Waste Profile Number	Volume of Waste	Start time	Finish time	Container Number Transferred into	Reagent Amount Added

Comments: _____

_____

_____

Operator name: _____ Date: _____

This log to be completed every day that stabilization activities occur.
Submit to the Operations Manager when done. This form must be filed onsite in electronic and/or paper hardcopy in the facility operating records

ATTACHMENTS

ATTACHMENT D-1: CONTAINMENT CALCULATIONS
ATTACHMENT D-2: TANK WALL THICKNESS TESTING PLAN

ATTACHMENT D-1
CONTAINMENT CALCULATIONS

ATTACHMENT D-1
Secondary Containment Calculations

Tank Farm # 2 (TF2)

Tank Information: Number of Tanks - 15
(6) 11.0' dia. 18,500-gallon flat bottom tanks
(4) 10.0' dia. 10,000 gallons raised cone bottom
(4) 10.5' dia. 32,000-gallon flat bottom tanks
(1) 12.0' dia. 20,000-gallon flat bottom tank

Total Volume of Tanks = 299,000 gallons

Tank Farm Containment Area = 76.66' long by 48.08' wide

Dike wall height = 2.45'

Max. Containment Volume = (76.66' x 48' x 2.45') (7.48 gal/ft^3)
= 67,433 gal.

Area displaced by Tanks = 6((3.142) (5.5') (5.5')) + 4((3.142) (5.25') (5.25'))
+(3.142)(6 ') 6')
= 1029.2 ft^2

Area displaced by Cone. Piers = 16 ft^2

Total Displacement =(1029.2+16) (2.45') (7.48gal/ft^3)
= 19,154 gal

Containment provided = 67,433 gal. - 19,154 gal.
= 48,279 Gal.

Required Containment = Volume of largest tank plus six inches for stormwater or one railcar (Refer to Secondary Containment Calculations for Storm Water Diversion System in this Appendix)

= 32,000 gallons + (76.66' x 48' x 0.5') (7.48 gal/ft^3)
= (32,000 + 13,785) gallons
= 45,785 gallons

48,279 gal. > 45,785 gal., therefore TF2 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tank Farm # 4 (TF4)

Tank Information: Number of Tanks - 4
(1) 12.0' dia. 20,000-gallon dish bottom tank w/ skirt
(2) 12.0' dia. 30,000-gallon flat bottom tanks
(1) 10'.6" dia. 22,600-gallon flat bottom tank

Total Volume of Tanks: = 102,600 gallons

Tank Farm Containment Area = 52.17' long by 32' wide

The Dike for slopes
Dikewall Height: = 5' max
4.17' min Average Height equals 4.59'

Area displaced by Cone Pads = 3 x 13' x 13'
The average height of Concrete pads is 0.92 ft.

Dike Containment Volume = (52.17'x 32'x4.59') (7.48 gal/ft^3)
= 57,317 gallons

Volume displaced by tank pads = (3x13x13x 0.92) (7.48 gal/ft^3)
+ (12x12)-4(2x2/2) x 0.92(7.48 gal/ft^3)
=3,715 gallons

Volume displace by Misc. pads =
((1.5x1.5x4)+(1x2x90/12)+(1x1.5x4)+(16x16x1/144))(7.48 gal/ft^3)
= 238 gallons

Area displaced by Tanks = 3((3.142) (6)(6))
= 339.3 ft^3

Volume Displaced by Tanks = (339.3 ft^2) (3.67') (7.48 gal/ft^3)
= 9,314 gal.

Containment provided = 57,317 gal.-9,314 gal.-3,715 gal-238gal.
= 44,050 gallons

Containment provided by sump = (3.142 x 1.5' x 1.5' x 3')(7.48 gal/ft^3)
= 159 gallons

Total Containment provided = 44,209 gallons

ATTACHMENT D-1

Secondary Containment Calculations

Volume of 6" storm water in TF4 = (52.17' X32'X0.5') X (7.48 gal/ ft3)
= 6,244 gallons

Truck Station #6 (TS6) Dimensions =50.5' long by 15.1' wide

Volume of 6" storm water in TS6 = (50.5' X15.1'X0.5') X (7.48 gal/ ft3)
= 2,852 Gallons

Truck Station # 7 (TS7) Dimensions =44.5' long by 19.5' wide – 10' long by 6' wide

Volume of 6" storm water in TS7 = (44.5' X19.5-10.0'X6')'X (0.5') X (7.48 gal/ ft^3)
= 3021 Gallons

Required Containment = Volume of largest tank plus six inches for max. Storm water event = (30,000 + 6,244+2,852+3,021
=42,117 gallons

44,209 gal. > 42,117 gal. therefore TF4 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tanks 40 & 41

Tank Information: Number of Tanks - 2
(2) 11.0' dia. 18,000-gallon flat bottom tanks

Total Volume of Tanks = 36, 000 gallons

Tank Farm Containment Area = 39' long by 15.83' wide

Dikewall height = 5.33'

Max. Containment Volume = (39' x 15.83' x 5.33') (7.48 gal/ft^3)
= 24,673 gal.

Area displaced by Tank =(3.142) (5.5') (5.5')
= 95.0 ft^2

Volume displaced by Tank = (95.0 sf) (5.33') (7.48 gal/ft^3)
= 3,787 gal.

Note: Only one tank displacement deducted, as liquid would remain in the leaking tank up to the height of the dikewall.

Containment provided = 24,613 gal. - 3,787 gal.
= 20,826 gal.

Required Containment = Volume of largest tank plus six inches for stormwater
= 18,000 gallons + (39' x 15.83' x 0.5') (7.48 gal/ft^3) .
= (18,000 + 2,308) gallons
= 20,308 gallons

20,826 gal. > 20,308 gal. therefore Tanks 40/41 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Tanks VR1 & VR2

Tank Information; Number of tanks = 2 full vacuum rated vessels with top and bottom dished head

Volume of each tank = Volume of straight side + two head
=(3.14x5.396x5.396/4) x 14.98x7.48
+2x155 gal
=2,562+310 gal

=2,872 gal

Dike Containment = 16.42' x 6.58' x 4.5' x 7.48 gal/ft^3

= 3,637 gal.

Displacement is due to 8 piers, the tanks are raised

Displacement = 8 x 1' x 1' x 4.5' x 7.48

= 269 gal.

Total Containment Provided

= 3,637 gal. - 269 gal.

= 3,367 gal.

Volume of 6" rainwater = 16.42' x 6.58' x 0.5' x 7.48 gal./ft^3

= 404 gal.

Total Required Containment' = Volume of largest tank + 6" rainwater

=2,872+ 404 gal.

= 3,276 gal.

3,367 gal. > 3,276 gal. therefore VR1 and VR2 Tank Farm secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Container Storage Area #1 (CSA1)

Maximum storage capacity in 55-gal. drum equivalents = 2,288
= 125,840 gal.

Containment Area = 98.67' wide x 98.67' long
Curb Height =3.4"
= 0.283 ft.

Drainage Spill Tank = 550 gal. Max.

Containment Volume

= (98.67') x (98.67') x (0.283') x (7.48 gal/ft^3) + 550 gal.

= 21,159 gal.

Displacement

1) Use solid pallets 4' x 4' x 5/8" base board and 3 runners Displacement per pallet:

= Base board + runners

$$= 4' \times 4' \times \frac{0.625"}{12} + \frac{3 \times 4" \ 1.5" \times (3.4-0.625")}{144} \ ft^3$$

= 1.18 ft.3 x 7.48 gal./ft^3

= 8.82 gal.

Displacement for 286 pallet positions

= 286 x 8.82 gal.

= 2,522 gal.

Displacement due to separation wall

$$= 98.67' \times 1' \times 7.48 \times \frac{3.4"}{12}$$

= 209 gal.

ATTACHMENT D-1

Secondary Containment Calculations

Displacement due to curb NE of processing

$$= (102" \times 96" + 51" \times 144") / 144 \times 7.48 \times \frac{3.4"}{12}$$

= 252 gal.

Misc. displacement = 500 gal.

Total Displacement = 2,252 + 209 + 252 + 500

= 3,483 gal.

Containment Provided: =21,159 gal.-3,483 gal.

= 17,676 gal.

Maximum Capacity

286 pallet position of 4 x 55 gal. Drums equivalently stacked 2 high

= 125,840 gal.

Required Containment: = Volume of largest container or 10% total volumes (whichever is greater)

= 12,584 gal.

17,676 gal. > 12,584 gal. therefore the CSA1 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)

Secondary Containment Calculations

Container Storage Area #2 (CSA2)

Maximum storage capacity in 55-gal. drum equivalents = 320
= 17,600 gal.

40 pallet positions of (4) 55-gal. drums, stacked two high. Each

pallet position 4' by 4'.

Storage Area Dimensions = 38.67' wide by 48' long

Curb height = 0.33'

Drainage Spill Tank Volume = 300 gallons
Maximum Containment Volume = (38.67')(48')(0.33') (7.48 gal./ft^3) +300
= 4,582 gal. + 300 = 4,482 gal.

Volume displaced by Pallets
$= (40)\left((4' \times 4' \times \frac{0.625"}{12}) + \frac{3' \times 4' \times 1.5" \times (4" - 0.625")}{144}\right) \times 7.48$ (gal./ft^3)
= 376 gal.
Misc. displacement = 500 gal.

Containment provided: = 4,882 gal. - 376 - 500 gal.
= 4,006 gal.

Required Containment: = Volume of largest container or 10% of total container volume (whichever is greater}
= 1,760 gal.

4,006 gal. > 1,760 gal. therefore CSA2 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)

Secondary Containment Calculations

Container Storage Area #3 (CSA3)

Maximum storage capacity in 55-gal. drum equivalents = 327
= 18,000 gal.

Containment areas within enclosed mx pit building (i.e., allocation for stormwater unnecessary)

Area A

37'-10" x 32' x 6" x 7.48 gal/ft^3 = 4,528 gal
25'-2" x 16'-6.75" x 6" x 7.48 gal/ft^3 = 1,559 gal
Ramp displacement
.5' x 32' x 6' x 6" x 7.48 gal/ft^3 = -359 gal
Containment available = 5,728 gal

Area C

64' x 14' x 2' x 7.48 gal/ft^3 =13,404 gal
Ramp displacement
.5' x 14' x 18' x 2' x 7.48 gal/ft^3 =-1,885 gal
Containment available =11,519 gal

Total available containment =17,247 gal

Containment required:
Total capacity: 18,000 x .1 (i.e., 10%) = 1,800 gal
Largest container with free liquids = 5,000 gal

17,247 gal > 5,000 gal therefore CSA3 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #1 (TS1)

The containment is made up of three sections, north, south and east.

Volume of north section
= 49.54' x 15' x 5.8" x 7.48 (gal./ft^3)/12
= 2,686 gal.

Volume of south section
$= 49.54' \times 53' \times \frac{(13.2" + 9.5")}{2 \times 12} \times 7.48 \text{ (gal./ft}^3\text{)}$
= 18,576 gal.

Volume of east section
$= 9.2' \times 4.33' \times \frac{13.2"}{12} \times 7.48 \text{ (gal./ft}^3\text{)}$
= 327 gal.

Total containment volume
= 2,686 + 18,576 + 327 gal.
= 21,589 gal.

Displacement due to diesel pump pad
$= 0.33' \times \frac{11"}{12} \times 10.5' \text{ long} \times 7.48 \text{ (gal./ft}^3\text{)}$
= 24 gal.

Displacement due to curbs
$= 5 \text{ curbs} \times 1' \times \frac{10"}{12} \times 8' \times 7.48$
= 250 gal.

Total containment provided
= 21,589 gal. – 24 gal. – 250 gal.
= 21,315 gal.

Volume of 6" of storm water
= ((49.4' x 15') + (49.54' x 53') +(9.2' x 4.33'))
x 0.5' x (7.48 gal/ft^3)
= 12,748 gal.

Containment required:
= Volume of largest container plus 6" of stormwater
= 7,500 + 12,748 gal.
= 20,248 gal.

21,315 gal. > 20,248 gal. therefore TS1 secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station # 2 (TS2)

Truck Information: (4) 7,500-gallon container

Truck Storage Area Dimensions = 30' wide by 90' long

Curb height = 0.42'

Maximum Containment Volume = (30') (90') (0.42') (7.48 gal/ft^3)
= 8,482gal.

Volume displaced by Truck = negligible

Containment provided:
= 8,482 gal.

Volume of 6" storm water in TS2 = (2,700 ft^2) (0.5') (7.48 gal/ft^3)
= 10,098 gallons

The TS2 will divert to Storm Water Diversion System. Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment 1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station # 3 (TS3)

Loading Area Addition = 31.52' wide by 44.31' long

Curb Height $= 10.15' - \frac{(8.92' + 9.45)}{2}$

$= 0.965'$

Loading Area Volume $= 31.52' \times 44.31' \times 0.965' \times 7.48\ gal./ft^3$

$= 10{,}081\ gal$

Trench Volume $= 50.67' \times 1.5' \times .83' \times 7.48\ gal./ft^3$

$= 472\ gal$

Displacement Volume by Core Pads

$= (24' \times 7' \times 0.97' + 4.5' \times 3.5' \times 0.7' + 17' \times 0.5' \times 0.7') \times 7.48\ gal/ft^3$

$= 1,346\ gal.$

Total Containment Provided

$= 10'081\ gal. + 472\ gal. - 1,346$

$= 9,207\ gal.$

Required Containment = Volume of largest container

$= 7,500\ gal.$

Note: The loading area has an overhead canopy. Rainwater containment is not a factor.

9,207 gal. > 7,500 gal. therefore TS3 secondary containment capacity is adequate.

ATTACHMENT D-1
Secondary Containment Calculations

Truck Station #4 (TS4)

Avg width = 76.67'
Fill level up to elevation + 10-3/8"

Containment provided=
Areas A + B + C + D + E +Trench

Area A Volume =
.5 x 43' x 3.625" x 1/12 x 76.67' x 7.48 gal/cf = 3,724.5 gal.

Area B Volume =
43' x 6.75" x 1/12 x 76.67' x 7.48 gal/cf = 13,870.7

Area C Volume =
.5 x 15' x 4.375" x 1/12 x 76.67' x 7.48 gal/cf = 1,568.1 gal.

Area D Volume =
15' x6 x 1/12 x 76.67' x 7.48 gal/cf =4,301 gal.

Area E Volume =
.5 x 6' x 6" x 1/12 x 76.67' x 7.48 gal/cf = 860.2 gal.

Trench Volume =
13' x 6" x 6 x 1/144 x 7.48 gal/cf = 24 gal.

Total Containment Provided
3,724.5 + 13,870.7 + 1,568.1 + 4,301 + 860.2 + 24 = +24,348.5 gal.

Containment Required

Rainfall Allowance (6") =
(43 + 15 + 6) ft x 6" x 1/12 76.67' x 7.48 gal.cf = 18,350 gal.

10% Containment needed for 7 Trailer=
0.1 x 7 x 104 drums x 55 gals. = 4,004 gal.

Containment Needed=
18,350 + 4,004 = 22,354.9 gals.

24,349 is greater than 22,355 therefore secondary containment capacity for TS4 is adequate.

ATTACHMENT D-1
Secondary Containment Calculations

Truck Station #5 (TS5)

Containment Provided:

54' -0" x 37'-7" x 6" x 7.48 gal/cf = +7,590 gal.
(.5) 25'-0" L x 37" -7" w x 8" D x 7.48 gal/cf = +2,342 gal.
Displacement of Bermed Area (68'-0" ft. of 1' berm)
(.5) x 68' – 0" x 6"w x 6" d x 7.48 gals/cf = -63 gal.

Displacement Of Bermed Area (58'-0" ft. of 2' berm)
(.5) x 58'-0" x 1'w x 6" d x 7.48 gals/cf = -108 gal.

Displacement Of Bermed Area (37'-7" ft. of 5' berm)
(.5) x 37'-7" x 2.5'w x 6" d x 7.48 gals/cf = -175 gal.

Total Containment Provided=
7590+2342-63-108-175 = 9,586

Containment Required

Containment for 3 Trailers x 104 Drums
X 55 gal. ea. X 10% (17,160 gal) = 1,716 gal.

Rainfall Allowance (6")
54' – 0" x 37' – 7" x 6" x 7.48 gal/cf = 7,590 gal.

Total containment Required =
1716+7590 =9306 gal

9,586 is greater than 9,360 therefore secondary containment capacity for TS5 is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #6 (TS6)

TS6 has containment dimensions of 50'-6" L x 15'-1" W x 6" deep.

Containment required = Volume of largest container + 6" storm water event

= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 50.5' x 15.1' x 0.5' x (7.48 gal/ft^3)
= 2,852 gal.

Containment required = 7,500 + 2,852 gal.
= 10,352 gal.

TS6 sump drains into truck station #7 sump, which is pumped into Tank Farm #4 containment dike.

Containment available = TF4 Containment provided
= 47,539 gal. (refer to TF4 containment calculations)

47,539 gal. > 10,352 gal. therefore, TS6 secondary containment capacity is adequate.

Truck Station #6A (TS6A)

TS6A has containment dimensions of 52'-4.5" L x 33'-9" W x 7.5" D

Containment required = Volume of largest container + 6" storm event vol.
= 7,500 + 6" storm event vol.

Volume of 6" storm water event = Not Applicable (Area is Covered)

Containment required = 7,500 gal.

Containment available = 7,672 gal.

7,672 gal. > 7,500 gal. TS6A has adequate secondary containment capacity.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station #7 (TS7)

Truck station #7 has containment dimensions of:
((44'-6" L x 19'-6" W) – (10'-0" x 6'-0")) x 3" deep

Containment required = Volume of largest container + 6" storm water event
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = (44.5'x19.5'-10.0'x6.0') x 0.5'x (7.48 gal/ft^3)
= 3,021 gal.

Containment required = 7,500 + 3,021 gal.
= 10,521 gal.

TS7 sump is pumped into Tank Farm #4 containment dike.

Containment available = TF #4 Containment provided
= 47,539 gal. (refer to TF4 containment calculations)

47,539gal.>10,521gal. therefore TS7 secondary containment capacity is adequate.

Truck Station #7A (TS7A)

TS7A has containment dimensions of 72' L x 57'-6" W x 6" D

Containment required = Volume of largest container + 6" storm water event vol
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 15,484 gal.

Containment required = 23,241 gal.

Containment available = 23,486 gal.

23,486 gal. > 23,241 gal. TS7A has adequate secondary containment capacity.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Stations #s 8, 8A, 9, 9A & 10 (TS8, TS8A, TS9, TS9A & TS10)

The three identical truck stations have containment dimensions of 44'-0" L x 11'- 6" W x 4" deep.

Containment required: = Volume of largest container + 6" storm water event vol
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 44.0' x 11.5' x 0.5' x (7.48 gal/ft^3)
= 1,892 gal.

Containment required: = 7,500 + 1,892 gal.
= 9,392 gal.

These truck stations drain into rail canopy sump which is pumped in to Storm Water Tanks and Tank Farm #2 containment dike.

The two identical truck stations TS8A & TS9A have containment dimensions of 51' L x 11' W x 3" deep.

Containment required event vol = Volume of largest container + 6" storm water
= 7,500 + 6" storm water event vol.

Volume of 6" storm water event = 51.0' x 11.0' x 0.5' x (7.48 gal/ft3)
= 2,098 gal.

Containment required = 7,500 + 2,098 gal.
= 9,598 gal.

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment D-1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Rail Siding #1 (RS1)

Containment provided by the sump

$$=\frac{3.14}{4} \times (5.5')^2 \times (25.25' - 15.60') 7.48 \text{ gal./ft}^3$$

= 1,714 gal.

Assume displacement due to pump and grout

= 214 gal.

Containment due to sump

= 1,714 gal. - 214 gal.

= 1,500 gal.

The containment required is the volume of largest container plus 6" rainwater.

Volume of largest container

- 25,500 gal.

Rainwater is not a factor since the rail area has an overhead canopy.

The containment diversion system sump is equipped with a dedicated high rate pump which is hard-piped to the Storm Water Diversion System

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Appendix.

ATTACHMENT D-1 (cont.)

Secondary Containment Calculations

Rail Siding #s 2 and 6 (RS2 and RS6)

There is a continuous rail pan of 40.5 ft on east of rail spot 1 and 250 ft length of west of rail spot 1. Width of the pan is 130”

Containment required = Volume of largest container + 6" storm water volume

= 25,500 gal. + (250 + 40.5) x 130” x 6” x 7.48/12/12
= 25,500 + 11,770 gals
= 37,270 gals

Rail car pans all drain into rail canopy sump at RS1 which is pumped into Storm Water DiversionSystem

Refer to Secondary Containment Calculations for Storm Water Diversion System in this Attachment D-1.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Storm Water Diversion System

This diversion system collects storm water from:

1. Truck Station #s 2, 8, 8A, 9, 9A and 10
2. Rail Spot #s 1, 2, 3, 4, 5 and 6 (i.e., only RS1, RS2 and RS6 are permitted; other/unpermitted rail stations are connected to the secondary containment diversion system as described below)
3. Tank Farm #2

Containment provided in this system includes:

1. Tank Farm #2
2. Storm water tanks T-4501 and T-4502

Containment Required:

Volume of 6" storm water event

1. Tank Farm #2 = (76.66' long x 48.08' wide x 0.5' rain) x 7.48 gal/ft^3
   = 13,785 gal
2. Truck Station #2 = 90 x 30 x 0.5 x 7.48
   = 10,098 gal
3. Truck Station #8 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal
4. Truck Station #9 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal
5. Truck Station #10 = 44 x 11.5 x 0.5 x 7.48
   = 1,892 gal

ATTACHMENT D-1

Secondary Containment Calculations

6. Rail Spot #1 This spot is covered

7. Rail Pans (RS2 – 6) = (250 + 40.5) x 130" x 6" /12/12 x 7.48
= 11,770 gal

8. Truck Station #8A = 51 x 11 x 0.5 x 7.48
= 2,098 gal

9. Truck Station #9A = 51 x 11 x 0.5 x 7.48
= 2,098 gal

Total containment capacity required for 6" storm water event:
= 13,785 + 10,098 + 1,892 + 1,892 + 1,892 + 2,098 + 2,098 + 11,770
= 45,525 gal

Volume of largest tank/car Total containment required = 32,000 gal

=45,525 + 32,000 = 77,525 gal

Containment Provided:
All truck stations, rail spots and sumps at Rail Spot 1 and at Truck Station #2 provide containment but no credit has been taken since they are continuously pumped to storm water tanks and overflow to TF # 2 when storm water tanks are filled up.

Containment provided in Storm Water Tanks 4501 and 4502
= 15,000 + 15,000 gal
= 30,000 gal

Containment provided in Tank Farm #2 as detailed in Secondary Containment Calculation in this Attachment = 48,279 gal

Total containment provided = 30,000 + 48,279 gal
= 78,279 gal

78,279 gal > 77,525 gal. therefore storm water diversion system secondary containment capacity is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station 11 (TS11)

This containment area will be used for storage of liquid in bulk containers: Roll-offs/vacuum boxes, Cusco vacuum trucks and tanker trailers. Also, van trailers loaded with containers (e.g., 300-gallon tote tanks, 55-gallon drums, etc.) can be stored in this area. Containment can hold the equivalent of approximately nine (9) 7,500 gal trucks/tanker trailers, or equivalent amounts in trailers loaded with containers (e.g., 55-gallon drums), or roll-offs/vacuum boxes 25 cubic yds each, or combination of all the aforementioned containers.

Maximum waste volume = 9 x 7,500 gal = 67,500 gal

Truck Station 11 is divided in two sections; East and West. The height of roll over berm is 5" and the depth of the sloped area is 6.4"

East Section = 47.5' W x 82.75'L
= 3,930.6 ft2

West Section is divided in three rectangles

= 55.75' W x 87.5' L +25'W x 8.42' L +22.3W x 3.67' L
= 4,878.1+210.5+82 ft2
= 5,170.6 ft2

Total Surface area =3,930.6+5,170.6 ft2
= 9,101.2 ft2

Containment Provided:

Containment Volume = Dike Volume + Sloped Volume
= (9,101.2 ft2 x 5/12' D +0.5 x 9,101,2 ft2 x 6.4/12'D)
x 7.48 gal
= 46,519.2 gal

Displacement of Roll Over ramps
= 0.5 x 103.25' L x 5' W x 7.48 gal
= 1,930.8 gal

Displacement due to bumpers
=1'w x 1'H x 8' L x 9 bumpers
=532.8 gal

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Total Containment Provided =46,519.2-532.8-1,930.8 gal
=44,055.7 gal

Containment Required:

Volume of 6" storm water event
=9,101.2 ft2 x 6/12' x 7.48 gal
=34,038.5 gal

10% of total Volume = 67,500 gal x10/100
= 6,750 gal

Total Containment Required
=34,038.5 + 6,750 gal (10% total containment)
=40,788.5 gal

44,055.7 gal > 40,788.5 gal

Volume of largest Container
= 7,500 gal

Total Containment Required
=34,038.5 + 7,500 gal
=41,538.5 gal

44,055.7 gal > 41,538.5 gal

Containment Provided is greater than Containment Required, therefore, Truck Station 11 containment is adequate.

Truck Station 12 (TS12)

This containment area will be used for storage of liquid in bulk containers: Roll-offs/vacuum boxes, Cusco vacuum trucks and tanker trailers. Also, van trailers loaded with containers (e.g., 300-gallon tote tanks, 55-gallon drums, etc.) can be stored in this area. Containment can hold the equivalent of approximately eleven (11) 7,500 gal trucks/tanker trailers, or

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

equivalent amounts in trailers loaded with containers (e.g., 55-gallon drums), or roll-offs/vacuum boxes 25 cubic yds each, or combination of all the aforementioned containers.

Maximum waste volume = 11 x 7,500 gal
= 82,500 gal

Truck Station 12 is divided in two sections: Rectangle section and triangle section

Rectangle area
Average Length = (105.23+100.439)/2 ft
= 120.83 ft
Average Width = (67.28+73.07)/2
= 70.15 ft
Rectangle Area = 120.83x70.15
= 7,213.7 sq ft

Triangle Area is 53.4'W x 49.8' D
= 53.4'x 49.8' x1/2
= 1,329.7 sq ft

Total Area = 7,213.7 + 1,329.7 sq ft
= 8,543.4 sq ft

The average elevation of the containment floor measured every 10 ft grid is 24.287 ft

Curb top elevation of roll rover berm and side berm is at least 25.12 ft

Average Depth of the containment
= 25.12-24.287 ft
=0.832 ft

Containment provided:

\Containment available
= 8543.4 x 0.832 x7.48 gal
= 53,221 gal

Displacement due to Roll over berms
Roll over berm; average width 5.5 ft, length 105.23 ft, depth 10 inch
= 5.5 x 105.23 x10/12/2 x 7.48 gal
=1802.7 gal

ATTACHMENT D-1 (cont.)

Secondary Containment Calculations

Displacement due to side berms
Average width is 3 ft
Total length of berms = 67.2+49.8+53.4+100.4 ft
=270.8 ft
Displacement =270.8 x 3 x10/12/2 x7.48 gal (Assuming triangle)
=2530.4 gal

Displacement due to trucks, roll off estimated
= 1,000 gal

Total Containment Provided
=53,221-1,802.7-2,530.4-1,000 gal
=47,887.9 gal

Containment Required:

Volume of 6" storm water event
=8543.4 ft2 x 6/12' x 7.48 gal
=31,952 gal

10% of total Volume = 82,500 gal x10/100
= 8,250 gal

Total Containment Required
=31,952 + 8,250 gal (10% total containment)
=40,202 gal

47,887.9 gal > 40,202 gal therefore TS12 containment provided is greater than containment required so containment is adequate.

Also, Volume of largest Container
= 7,500 gal
Total Containment Required
=31,952 + 7,500 gal (largest Container)
=39,452 gal

47,887.9 gal > 39,452 gal therefore TS12 containment provided is greater than containment required so containment is adequate.

ATTACHMENT D-1 (cont.)
Secondary Containment Calculations

Truck Station 13 (TS13)

Truck Station 13 is not used for the storage of containers with free liquids, therefore secondary containment is not required. Truck Station 13 is primarily used for the storage of roll-off box containers holding solidified hazardous wastes pending lab test results. This truck station has space for 15 roll-off box containers or other containers holding hazardous wastes without free liquids.

ATTACHMENT D-2
TANK WALL THICKNESS TESTING PLAN

ATTACHMENT D - 2

TANK WALL THICKNESS TESTING PLAN

Wall thickness testing will be conducted on all permitted hazardous waste tanks per API 650 series. Thickness measurements will be obtained using ultrasonic testing or equivalent method. All hazardous waste tanks at the Linden Recycle Center are I) cylindrical, ii) vertical, and iii) metal. A minimum wall thickness per the API 650 series will be maintained for all hazardous waste tanks, unless Safety-Kleen has submitted to the Department supporting documentation of alternate wall thickness requirements and obtained Departmental approval. The location of the sampling points will be determined as follows:

Wall: Thickness measurements will be taken along four vertical rows spaced at 90^{o} apart. Vertical spacing will be 2 feet or less. At least one measurement will be taken at the center point.

Top and Bottom Head: Thickness measurements, where accessible, will be taken along four radial rows spaced 90^{o} apart. Spacing between measurements will be two feet or less. One measurement will be taken at the center point.

Appurtenances: Four thickness measurements, spaced 90^{o} apart, will be taken adjacent to nozzles, vents, and other appurtenances.

Tanks not meeting the minimum wall thickness specified in the permit will be immediately taken off-line and not used for hazardous waste service unless and until approval is granted by the Department to bring the tanks back on-line.

Alternatively, since all tanks are shop built and elevated STI SP001 standards will be followed. This includes a monthly STI visual inspection.

Section F

Redline

The inspection form is signed by the inspector, and includes the date and time of inspection. If the status of the particular item is unacceptable, appropriate and complete information is recorded, including date, time, and nature of repairs and remedial action.

Daily

In the tank storage areas, tanks are inspected to verify that there are no leaks. The tanks are examined for conditions and evidence of open or leaking valves. Tank gauges, discharge control equipment, cut-off valves and other monitoring equipment such as high level alarms and waste feed cutoffs are inspected to ensure proper functioning. The level of material in the tank is checked and recorded. The tanks are examined to verify that all tank identification data are attached and current. Testing of the tank overfill equipment is performed daily. This testing confirms that the proper tank light flashes red in the control room, the proper pumps are disabled, and the audible alarms are working properly.

Weekly

A weekly inspection of the construction material of the tank is conducted, particularly at joints, seams and other piping connections to detect corrosion or leaking. Dikes, sump areas in the dikes, tank pads, and structural support systems are inspected to detect erosion or signs of deterioration and leakage.

Monthly

All tanks surfaces, checking for leaks, shell distortions, signs of settlement, corrosion and condition of foundation, paint coating, insulation and appurtenances. Inspect secondary containment for corrosion, cracks, deterioration of walls, floor curbs ramps or dikes, accumulation in sumps, spill, and condition of coating.

Integrity Testing

Tank wall thickness testing is performed using ultrasonic thickness detection devices based on API-653 standards. This is used for a random check of the construction material (roof, walls and bottom, where accessible), joints and any internal supports for corrosion, etc Safety-Kleen's confined space procedures are adhered to as applicable.

F-2b(2) Mix Pit's Inspections

The mix pits will be inspected each operational day for leaks, steel liner distortions, signs of settlement, corrosion and condition of foundation, and functionality of any appurtenances and safety equipment. Inspect secondary containment for corrosion, cracks, deterioration of walls, floor curbs ramps or dikes, accumulation in sumps, spills, and condition of surface coating.

Attachment F-1

(Example Inspection Forms)

Final

The inspection form is signed by the inspector, and includes the date and time of inspection. If the status of the particular item is unacceptable, appropriate and complete information is recorded, including date, time, and nature of repairs and remedial action.

Daily

In the tank storage areas, tanks are inspected to verify that there are no leaks. The tanks are examined for conditions and evidence of open or leaking valves. Tank gauges, discharge control equipment, cut-off valves and other monitoring equipment such as high level alarms and waste feed cutoffs are inspected to ensure proper functioning. The level of material in the tank is checked and recorded. The tanks are examined to verify that all tank identification data are attached and current. Testing of the tank overfill equipment is performed daily. This testing confirms that the proper tank light flashes red in the control room, the proper pumps are disabled, and the audible alarms are working properly.

Weekly

A weekly inspection of the construction material of the tank is conducted, particularly at joints, seams and other piping connections to detect corrosion or leaking. Dikes, sump areas in the dikes, tank pads, and structural support systems are inspected to detect erosion or signs of deterioration and leakage.

Monthly

All tanks surfaces, checking for leaks, shell distortions, signs of settlement, corrosion and condition of foundation, paint coating, insulation and appurtenances. Inspect secondary containment for corrosion, cracks, deterioration of walls, floor curbs ramps or dikes, accumulation in sumps, spill, and condition of coating.

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Tank wall thickness testing is performed using ultrasonic thickness detection devices based on API-653 standards. This is used for a random check of the construction material (roof, walls and bottom, where accessible), joints and any internal supports for corrosion, etc Safety-Kleen's confined space procedures are adhered to as applicable.

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The mix pits will be inspected each operational day for leaks, steel liner distortions, signs of settlement, corrosion and condition of foundation, and functionality of any appurtenances and safety equipment. Inspect secondary containment for corrosion, cracks, deterioration of walls, floor curbs ramps or dikes, accumulation in sumps, spills, and condition of surface coating.

Attachment F-1

(Example Inspection Forms)

Linden Daily CSA3 & Mix Pit Inspection

Form Code: 4103

Compliance Header	
Inspector Name	
Area of Inspection	CSA3 & Mix Pit
Inspection Date and Time	
Linden CSA Inspection Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.	
Linden CSA Inspection Items	
Container Placement and Stacking - Check for evidence of failure (e.g., containers on pallets, pallets too high, unstable, other).	
Sealing of Containers - Check for evidence of failure (e.g., containers not closed or sealed, open).	
Labeling of Containers - Check for evidence of failure (e.g., no label, improper label, content, other).	
Container Integrity - Check for evidence of failure (e.g., condition, bulging, leaks, rust, corrosion, other). Containers do not have waste/staining on the outside which would require cleaning or overpacking.	
Pallets - Check for evidence of failure (e.g., broken, loose, condition).	
Doors - Check for evidence of failure (e.g., indoor area, broken or not working as intended).	
Base/ Foundation/ Roof - Check for evidence of failure (e.g., cracked, gaps, other).	
Berms/ Racks - Check for evidence of failure (e.g., cracks, gaps, broken, other).	

Debris and Refuse - Check for evidence of failure (e.g., proper storage, location, container type, other).	
Exit Signs - Check for evidence of failure (e.g. missing, lamps, battery backup, other).	
Aisle Space - Check for evidence of failure (e.g., minimum 2 ft required, other).	
Secondary Containment Area - Check for evidence of failure (e.g., secondary containment, curbing, floor, cracks, deterioration, ponding or wet spots, spills, debris etc. and other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Loading/ Unloading Areas - Check condition of area (e.g., available equipment, spill response, containment, pad condition, valve access box, ponding or wet spots, other); Hoses/fittings – Check for integrity, deterioration and leaks, loading or unloading areas, including flexible hoselines damage/leaks, loose fittings, cracks, obstructions, etc.	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Storage Capacity - Check for acceptable limit (e.g., area or permit retrictions, type restriction, volume limit, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	
Pumps - Check for evidence of failure (e.g., deterioration or broken, leaks, other).	
Inventory Age - Check for acceptable limit (e.g., within area limits, permit restrictions, other).	
Satellite Accumulation Containers - Check for condition and appropriate for area (e.g.,	

filter/basket, solids, label and marking, other).	
Mix Pit Area	
Base/ Foundation/ Roof - Check for evidence of failure (e.g., cracked, gaps, other).	
Secondary Containment Area - Check for evidence of failure (e.g., secondary containment, curbing, floor, steel liner cracks, deterioration, ponding or wet spots, spills, debris etc. and other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Spill & Leaks - Check for spilled waste and/or leaks from/at the mix pit.	
Odors - Check for any nuisance odors detectable outside of the building.	
Capacity Limit - Check to ensure no more than 200 tons per day of hazardous waste is processed.	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	

Section G

Redline

Section G CONTINGENCY PLAN {40 CFR 270.14 (b) (7)}

The information contained herein is prepared in accordance with the requirements for a Contingency Plan as specified in 40 C.F.R. 264 Subpart D and 40 CFR 270.14.

The intent of 40 C.F.R. 264 Subpart D (Contingency Plan and Emergency Procedures) is to ensure that facilities which treat, store, or dispose of hazardous wastes have established the necessary planned procedures to follow in the event an emergency situation should arise.

The purpose of this Contingency Plan is to prepare a specific course of organized and coordinated action to be followed in case of an emergency, and to minimize hazards to human health or the environment.

The Contingency Plan is implemented by the Emergency Coordinator(s) in the event of a fire, explosion, or release of hazardous waste which could threaten human health or the environment.

This plan is prepared in a format so that the information may be easily updated and photocopied for educational purposes. This Plan and all revisions to the Plan are to be kept at the facility and will be regularly updated throughout the operating life of the facility. Once approved, copies will also be provided to local authorities, emergency teams, and the NJDEP as listed in Attachment 1, which may be called upon to provide emergency service. The most current Contingency Plan is always available at the recycle center.

Any questions concerning this Plan should be directed to the Facility Manager, Operations Manager, or the Environmental, Health and Safety Manager.

This Contingency Plan is for:

Safety-Kleen Systems, Inc.
Linden Recycle Center
1200 Sylvan Street, Linden, New Jersey 07036.

Safety-Kleen recycles industrial solvents and is the owner of the facility.

- The main telephone number for the facility is (908) 862-2000.
- The off-hours telephone number is (908) 862-2007.
- Safety-Kleen's 24-Hour Emergency Hotline telephone number is (800) 483-3718.

The Linden Recycle Center specializes in the storage, recovery, recycling and transfer of spent solvents and ~~associated~~ other hazardous wastes as well as treatment for certain wastes, ~~and~~ therefore the facility accepts a wide variety of spent solvent wastes ~~and aqueous~~as well as other waste streams. These waste streams typically are designated as hazardous by U.S. EPA due to their ignitability and/or toxicity. In addition, the facility accepts waste oils and other non-hazardous waste streams for handling and/or processing at the facility. Therefore, the wastes received may exhibit a wide variety of hazardous and/or non-hazardous characteristics.

The Linden Recycle Center is designed and operated to allow the safe and efficient processing of both hazardous and non-hazardous waste streams. The Linden Recycle Center uses gravity separation, distillation, fractionation, and blending to recover or recycle organic solvents and similar materials. Solids like still bottoms and sludges received from customers or other recycle centers are blended for use in the industrial fuels program. Certain components separated by processing, residuals from recycling, and some wastes received at the site for storage and/or processing that are not amenable to processing at the facility are sent off-site for additional processing, reuse, burning for energy recovery, incineration, or disposal. The facility also treats certain hazardous waste via stabilization and solidification in two (2) enclosed mix pits.

The facility's public address system can be heard at any location throughout the plant, including process areas, container storage areas, truck stations, the locker room, and the lunch room. Therefore, all plant employees would be notified in the event of an emergency.

G-2 EMERGENCY COORDINATORS [40 C.F.R. 264.52(d); 264.55; and 270.14(b)(7)]

If an emergency situation develops at the facility, the discoverer will contact an Emergency Coordinator as listed in Attachment 1. In the event that the primary Emergency Coordinator cannot be found, the alternate emergency coordinators will be called in the order they appear on the emergency coordinator list. Emergency coordinators will have authority to commit resources of the company to deal with emergencies at the facility. All emergency coordinators, when they are not at the facility, carry a pager and are thus capable of being reached 24 hours a day.

The Emergency Coordinator is an individual who:

1. is thoroughly familiar with all aspects of the facility and site operations,
2. is knowledgeable as to the location and characteristics of the types of waste handled at the facility,
3. is thoroughly familiar with all aspects of the facility contingency plan,
4. has the authority to commit resources needed to carry out the contingency plan,
5. is knowledgeable as to the location of facility records
6. is capable of assessing possible hazards to human health and the environment

Job descriptions for the Primary and Alternate Emergency Coordinators are available upon request at the facility.

G-2a Spill Prevention And Preparedness [40 CFR 112]

The development of a sound program for spill prevention and control is a projection of Safety-Kleen's commitment to protecting the environment, its employees, and assuring human health and safety at nearby areas. Safety-Kleen maintains an updated Discharge Cleanup and Removal Plan in accordance with 40

ATTACHMENT 3

Final

Section G CONTINGENCY PLAN {40 CFR 270.14 (b) (7)}

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3. is thoroughly familiar with all aspects of the facility contingency plan,
4. has the authority to commit resources needed to carry out the contingency plan,
5. is knowledgeable as to the location of facility records
6. is capable of assessing possible hazards to human health and the environment

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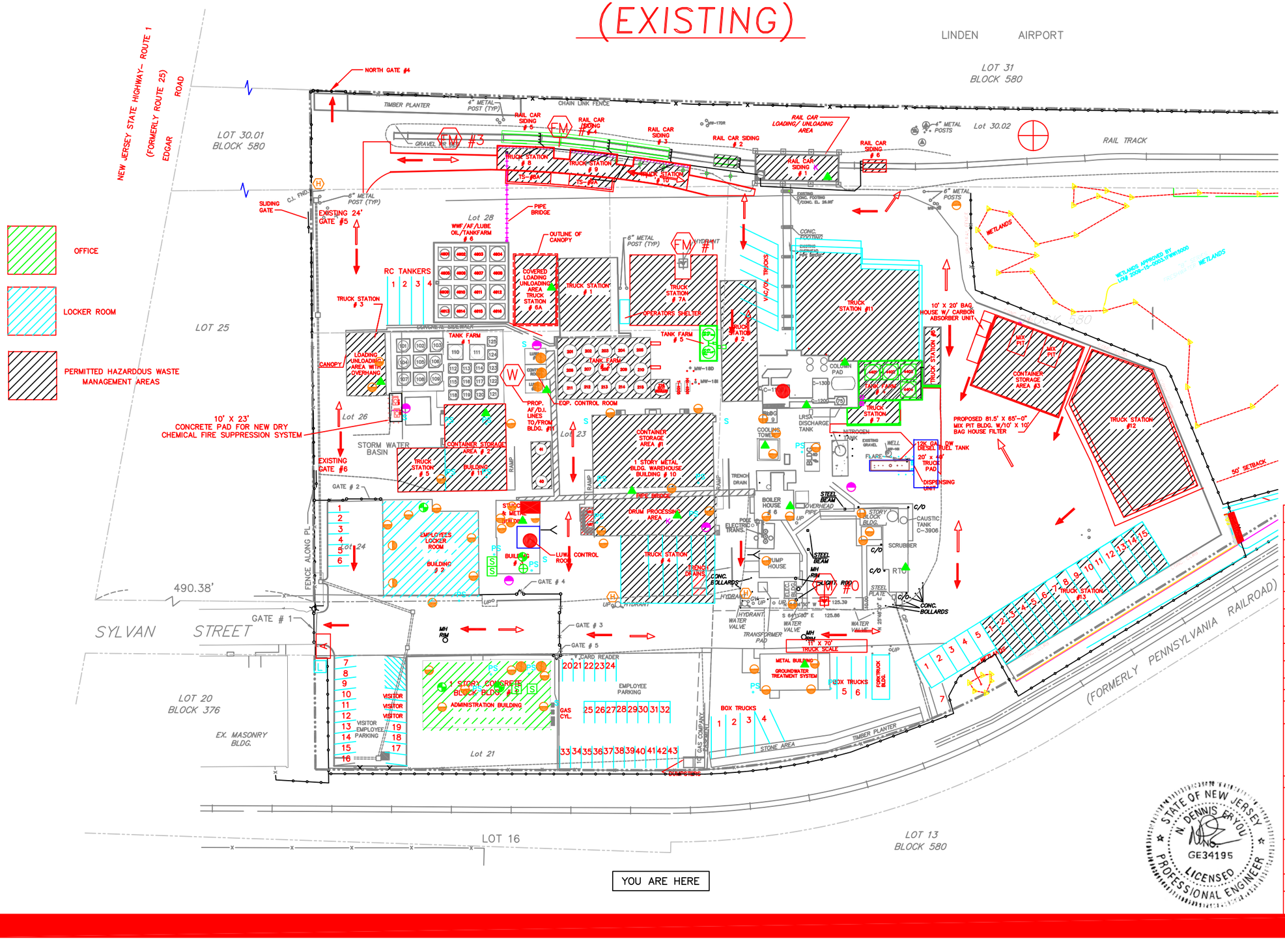
ATTACHMENT 3

EMERGENCY EQUIPMENT & EVACUATION SITE PLAN (EXISTING)



OFFICE

LOCKER ROOM

PERMITTED HAZARDOUS WASTE MANAGEMENT AREAS

LEGEND

- HYDRANT
- DRY CHEMICAL FIRE EXTINGUISHER HAND HELD TYPE (10 ABC)
- DRY CHEMICAL FIRE EXTINGUISHER CART TYPE W/C CHARGE BOTTLE (150 ABC)
- DRY CHEMICAL FIRE EXTINNGUISHER HAND HELD TYPE (20 ABC)
- 9 HALON
- FIRST–AID KIT
- OXYGEN BOTTLE
- EMERGENCY EYE WASH AND SHOWER
- W — WATER CANNON
- FM — FOAM MONITOR
- WIND SOCK
- FOAM FOR TWO CANNONS
- FOAM FOR BUILDINGS 10 & 11
- A — FIRE ALARM BOX
- PRIMARY EMERGENCY EVACUATION ROUTES
- SECONDARY EMERGENCY EVACUATION ROUTES
- EVACUATION ASSEMBLY POINT
- EL — MAIN ELECTRIC SWITCH
- G — MAIN GAS VALVE
- SS — STORM SEWER CUTOFF
- STANDPIPE
- K — PURPLE K SYSTEM
- S — SCBA
- L — LOCK BOX
- PS — PS FULL STATION
- S — SPILL BOX

NO.	DESCRIPTION	BY	CK.	PRELIM/PROCESS APPR.	APPR.	DATE
10	REVISE SITE LAYOUT	JEK DDS				12/7/23
9	REVISE SITE LAYOUT	JEK DDS				7/21/23
8	ADD EQP. LOCATIONS	JEK FR.				5/08/17
7	MISC. REV'S & UPDATES	JEK FR.				12/3/09
6	MISC. REV'S & UPDATES	JEK FR.				9/10/09
5	MISC. REV'S & UPDATES	JEK FR.				8/14/09
4	MISC. REV'S & UPDATES	JEK FR.				8/05/09
3	MISC. REV'S & UPDATES	JEK FR.				6/16/09
2	MISC. REV'S & UPDATES	JCK FR.				12/07/08
1	AS–BUILT 2000	F.R. F.R.				03/25/00

REVISIONS

DF=F7404-0100-004-9

STATE OF NEW JERSEY
N. DENNIS FRYOU
GE34195
LICENSED PROFESSIONAL ENGINEER

SAFETY–KLEEN CORPORATION
EMERGENCY EQUIPMENT & EVACUATION SITE PLAN–EXIST.

SAFETY–KLEEN CORP.
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SCALE	DRAWN	CHECKED	APPR.	OPERATION APPR	DATE
NONE	MASTER				3/25/00

LINDEN, NJ RECYCLE CENTER

DRAWING NO. 7404-0100-004

REV 10

Section I

Redline

SECTION I - CLOSURE PLAN

I-1 GENERAL INFORMATION

LOCATION ADDRESS:
Safety-Kleen Systems, Inc.
Linden Recycle Center
1200 Sylvan Street
Linden, NJ 07036

U.S. EPA I.D. NO: NJD002182897

This closure plan provides for the partial or complete closure of the hazardous waste management units at the S-K – Linden Recycle Center.

The hazardous waste units which require closure include (see **Exhibit A2** for a facility site layout plan that shows location of hazardous waste management units):

I-1a Tank Storage

There are currently 24 permitted, above-ground waste storage tanks at the Safety-Kleen Linden Recycle Center. Maximum volume of waste that can currently be stored in tanks at the Safety-Kleen Linden facility is 455,699 gallons. Tank Nos. T-201 through T-215 are located within Tank Farm #2 (Tank T-216 is permitted but not installed). Tank Nos. T-4401-T-4404 are located in Tank Farm #4. Separate tank farms contain Tank Nos. 40 and 41, VR-1 and VR-2. The tank farms consist of sealed concrete floors with dike walls for secondary containment and also contain associated ancillary equipment. The Vat, which is also permitted as a waste tank is contained within a curbed area inside of a container storage area, however this unit is used only in the process of transferring materials from containers to the other tanks for fuel blending and is not used for hazardous waste storage.

I-1b Container Storage

~~Two~~ Three concrete container storage areas with a total storage capacity of 143,440 gallons. ~~The c~~Container ~~storage~~ Storage ~~area~~ Area 1 within Building 10 has 6,762 ft^2 for a total capacity of 125,840 gallons (equivalent to ~2,288 – 55 gallon drums). ~~The c~~Container ~~storage~~ Storage ~~area~~ Area 2 within Building 11 has 1,896 ft^2 for a permitted capacity of 17,600 gallons (equivalent to ~320 – 55 gallon drums). Container Storage Area 3 within the Mix Pit Building has 3,397 ft^2 for a total capacity of 18,000 gallons (equivalent to ~327 – 55 gallon drums).

I-1c Waste Loading/Unloading (additional container storage)

~~Fourteen~~ Seventeen (~~14~~17) Truck Stations and one rail facility with three (3) railcar sidings for hazardous waste management are used to store/transfer wastes from van trailers, tanker trailers and/or rail cars to tanks and/or waste processing equipment. Each of the truck stations are constructed of concrete pads that provide containment. These areas are also permitted for hazardous waste storage in containers and include an additional 472,500 ~~322,500~~ gallons and 600 yd^3 of waste inventory.

I-1d Other Treatment/Mix Pits

Other treatment is conducted in two (2) mix pits located in the Mix Pit Building. The mix pits are steel-lined concrete in-ground structures with proper containment measuring 1,118 ft^3 per mix pit that can hold up to 8,078 gallons of hazardous wastes each.

I-2 PURPOSE

The Safety-Kleen Linden Recycle Center operates as a storage and treatment facility for hazardous wastes. The hazardous waste management units (HWMUs) must be closed in accordance with the closure requirements of 40 CFR 264.110 through 40 CFR 264.115. Closure of the facility will be carried out in accordance with the steps outlined in this plan and applicable Federal and State regulations. An estimated closure schedule and closure cost estimates are attached. The closure plan and closure cost estimate, as part of the permit, will be kept on site. Safety-Kleen will remove hazardous wastes and waste residues from the facility to a level that is protective of human health and the environment, thereby achieving clean closure and eliminating the need for further maintenance and care. Upon completion of closure activities, the need for post-closure maintenance will be minimized or eliminated.

S-K has developed this generalized closure plan for decontamination of the HWMUs at the site. The closure plan includes the following:

- The estimated expected year of closure and a closure schedule.
- An estimate of the maximum inventory of waste in storage at any time during the active life of the facility for development of the closure cost estimate.
- Notification procedures.
- A description of how and when the facility will be partially and/or finally closed.
- A description of decontamination procedures to be implemented during closure.
- Procedures for certification of closure activities by S-K and an independent professional engineer.

I-3 MAXIMUM INVENTORY OF WASTES

The maximum containerized waste inventory at the S-K Linden Recycle Center waste management units is:

I-3a Tank Storage

455,699 gallons (nominal) in 24 permitted aboveground storage tanks. The storage tanks and ancillary equipment are situated in two concrete dike areas for secondary containment. A tank schedule is provided in Attachment I-1.

I-3b Container Storage

~~Two~~ Three container storage areas with a total storage capacity of ~~125,840~~161,440 gallons.

I-3c Waste Loading/Unloading Areas

~~Fourteen~~ Eighteen truck stations and one rail facility with three railcar sidings for a maximum capacity of 472,500~~322,500~~ gallons and 600 yd^3.

I-3d Other Treatment/Mix Pit

Two (2) mix pits with the capacity to hold 8,078 gallons each.

I-4 NOTIFICATION AND SCHEDULE FOR CLOSURE

S-K will remove all hazardous wastes and residuals from the facility to levels protective of human health and the environment and will therefore, eliminate the need for further maintenance and care. The estimated date of facility closure is undetermined.

S-K will notify the Department in writing of any intent to partially or fully close the facility at least 45 days before S-K begins full facility closure. The following general requirements apply to facility closure:

I-4a Completion [40 CFR 264.113 (b)]

The closure will be completed within 180 days of the receipt of the final volume of hazardous waste, and/or receipt of Agency approval, or unless an extended closure period is requested by S-K and approved by the Agency.

I-6b Container Storage Areas

The container storage areas are used to store/accumulate containers of used materials (e.g. used parts washer solvent, used immersion cleaner, dry cleaning waste, waste antifreeze, tank or drum washer sediment, paint waste, industrial solvents, or other non-regulated wastes or products). At the time of facility closure or partial closure of any container storage area, waste inventory will be removed and either processed onsite or transported under manifest to a permitted hazardous waste TSDF.

At the time of facility closure or partial closure, the following steps will be conducted:

1. The secondary containment structures will be inspected and decontaminated using procedures consistent with those described above for the tank secondary containment area. ~~It is anticipated that approximately 800 gallons of r~~Rinsate will be generated during decontamination of the container storage areas (approximately 10 gallons per 100 square feet). The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF.

2. A sample of the final rinsate will be analyzed for the constituents representative of toxicity characteristic waste codes that historically are managed within a particular unit and which are listed in Table I-1. The rinsate analyses will consist of TCLP volatiles, semi-volatiles and metals. Clean closure criteria will be the TCLP limits for hazardous waste or the statistically significant background concentration for each applicable parameter. The statistically significant concentration is defined as the value lying two (2) standard deviations above the mean concentration of a set of background analytical data. Background samples of source water will be collected at the time of closure.

3. The rinsate sample results will be used to verify the effectiveness of decontamination. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met.

4. If the independent Professional Engineer determines that the unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described in the sampling protocol below.

I-6c Decontamination of Waste Loading/Unloading Areas

At the time of facility closure the waste loading/unloading areas (i.e., all Truck Stations ~~1, 2, and 3,~~ and ~~a~~ the rail facility) will be inspected and decontaminated in accordance with the following general procedures.

1. The truck station and rail containment areas will be inspected by an independent New Jersey registered Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment areas.

2. The containment areas will be swept to remove loose debris, washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 20 gallons of wash/rinse water for each 100 square feet of surface area will be generated during decontamination of the tank containment area.

3. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. Effectiveness of the decontamination activities will be determined using the same criteria as the tank system described above.

4. The decontamination wash water will either be treated onsite, managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

5. Soil samples will be collected from beneath the containment if necessary based on the engineer's inspection and in accordance with the protocol described below. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

6. As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

I-6d Decontamination of Mix Pits

At the time of facility closure the mix pits will be inspected and decontaminated in accordance with the following general procedures.

1. The mix pit areas will be inspected by an independent New Jersey registered Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment areas.

2. The mix pits and containment areas will be swept to remove loose debris, washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 20 gallons of wash/rinse water for each 100 square feet of surface area will be generated during decontamination of the tank containment area.

3. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. Effectiveness of the decontamination activities will be determined using the same criteria as the tank system described above.

4. The decontamination wash water will either be treated onsite, managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

5. Soil samples will be collected from beneath the containment if necessary based on the engineer's inspection and in accordance with the protocol described below. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

I-7 DECONTAMINATION OF CLEANUP EQUIPMENT

Equipment used during decontamination activities will be cleaned along with and within the respective secondary containment structure. Therefore, the anticipated amount of wash water to decontaminate equipment was included in the estimated quantity generated for each unit. Small consumable equipment (e.g., mops, rags, disposable PPE, etc.), which cannot be cleaned will be containerized, managed as a hazardous waste and disposed of at a permitted TSDF, or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

S-K does not anticipate that heavy equipment, such as cranes and backhoes, will come into contact with hazardous wastes. For example, a crane may be used to remove the storage tank, but only after the tank has been decontaminated. Therefore, an equipment decontamination area should not be necessary during closure. Further, no excavation activities are anticipated during implementation of closure.

I-8 SOIL SAMPLING PROTOCOL DURING CLOSURE

If warranted based on the results of the engineer's inspection, soil samples are typically collected from beneath fully-penetrating gaps or cracks in the containment areas during closure to verify that wastes have not migrated beneath containment. If sampling results meet appropriate screening or other approved risk-based levels, a unit may be certified as clean closed in accordance with applicable regulations. However, corrective action activities related to a previous release are currently ongoing at the Linden Recycle Center. As a result, numerous soil samples have been collected from beneath or immediately adjacent to each of the permitted hazardous waste units described in this closure plan. Therefore, soil samples will not be collected following unit decontamination if the current corrective action activities are ongoing at the time of closure. Under this scenario, the units may be certified closed based on decontamination procedures described in this closure plan while site wide remediation/corrective action activities will continue. Should the corrective action activities be completed prior to implementation of closure, soil samples will be collected as necessary, based on the engineer's inspection as described below.

If soil samples are determined necessary based on 1) status of ongoing corrective action activities and 2) results of the engineer's inspection of containment integrity at closure, such that evidence of a through-

Final

SECTION I - CLOSURE PLAN

I-1 GENERAL INFORMATION

LOCATION ADDRESS:
Safety-Kleen Systems, Inc.
Linden Recycle Center
1200 Sylvan Street
Linden, NJ 07036

U.S. EPA I.D. NO: NJD002182897

This closure plan provides for the partial or complete closure of the hazardous waste management units at the S-K – Linden Recycle Center.

The hazardous waste units which require closure include (see **Exhibit A2** for a facility site layout plan that shows location of hazardous waste management units):

I-1a Tank Storage

There are currently 24 permitted, above-ground waste storage tanks at the Safety-Kleen Linden Recycle Center. Maximum volume of waste that can currently be stored in tanks at the Safety-Kleen Linden facility is 455,699 gallons. Tank Nos. T-201 through T-215 are located within Tank Farm #2 (Tank T-216 is permitted but not installed). Tank Nos. T-4401-T-4404 are located in Tank Farm #4. Separate tank farms contain Tank Nos. 40 and 41, VR-1 and VR-2. The tank farms consist of sealed concrete floors with dike walls for secondary containment and also contain associated ancillary equipment. The Vat, which is also permitted as a waste tank is contained within a curbed area inside of a container storage area, however this unit is used only in the process of transferring materials from containers to the other tanks for fuel blending and is not used for hazardous waste storage.

I-1b Container Storage

Three concrete container storage areas with a total storage capacity of 143,440 gallons. Container Storage Area 1 within Building 10 has 6,762 ft^2 for a total capacity of 125,840 gallons (equivalent to ~2,288 – 55 gallon drums). Container Storage Area 2 within Building 11 has 1,896 ft^2 for a permitted capacity of 17,600 gallons (equivalent to ~320 – 55 gallon drums). Container Storage Area 3 within the Mix Pit Building has 3,397 ft^2 for a total capacity of 18,000 gallons (equivalent to ~327 – 55 gallon drums).

I-1c Waste Loading/Unloading (additional container storage)

Seventeen (17) Truck Stations and one rail facility with three (3) railcar sidings for hazardous waste management are used to store/transfer wastes from van trailers, tanker trailers and/or rail cars to tanks and/or waste processing equipment. Each of the truck stations are constructed of concrete pads that provide containment. These areas are also permitted for hazardous waste storage in containers and include an additional 472,500 gallons and 600 yd^3 of waste inventory.

I-1d Other Treatment/Mix Pits

Other treatment is conducted in two (2) mix pits located in the Mix Pit Building. The mix pits are steel-lined concrete in-ground structures with proper containment measuring 1,118 ft^3 per mix pit that can hold up to 8,078 gallons of hazardous wastes each.

I-2 PURPOSE

The Safety-Kleen Linden Recycle Center operates as a storage and treatment facility for hazardous wastes. The hazardous waste management units (HWMUs) must be closed in accordance with the closure requirements of 40 CFR 264.110 through 40 CFR 264.115. Closure of the facility will be carried out in accordance with the steps outlined in this plan and applicable Federal and State regulations. An estimated closure schedule and closure cost estimates are attached. The closure plan and closure cost estimate, as part of the permit, will be kept on site. Safety-Kleen will remove hazardous wastes and waste residues from the facility to a level that is protective of human health and the environment, thereby achieving clean closure and eliminating the need for further maintenance and care. Upon completion of closure activities, the need for post-closure maintenance will be minimized or eliminated.

S-K has developed this generalized closure plan for decontamination of the HWMUs at the site. The closure plan includes the following:

- The estimated expected year of closure and a closure schedule.
- An estimate of the maximum inventory of waste in storage at any time during the active life of the facility for development of the closure cost estimate.
- Notification procedures.
- A description of how and when the facility will be partially and/or finally closed.
- A description of decontamination procedures to be implemented during closure.
- Procedures for certification of closure activities by S-K and an independent professional engineer.

I-3 MAXIMUM INVENTORY OF WASTES

The maximum containerized waste inventory at the S-K Linden Recycle Center waste management units is:

I-3a Tank Storage

455,699 gallons (nominal) in 24 permitted aboveground storage tanks. The storage tanks and ancillary equipment are situated in two concrete dike areas for secondary containment. A tank schedule is provided in Attachment I-1.

I-3b Container Storage

Three container storage areas with a total storage capacity of 161,440 gallons.

I-3c Waste Loading/Unloading Areas

Eighteen truck stations and one rail facility with three railcar sidings for a maximum capacity of 472,500 gallons and 600 yd^3.

I-3d Other Treatment/Mix Pit

Two (2) mix pits with the capacity to hold 8,078 gallons each.

I-4 NOTIFICATION AND SCHEDULE FOR CLOSURE

S-K will remove all hazardous wastes and residuals from the facility to levels protective of human health and the environment and will therefore, eliminate the need for further maintenance and care. The estimated date of facility closure is undetermined.

S-K will notify the Department in writing of any intent to partially or fully close the facility at least 45 days before S-K begins full facility closure. The following general requirements apply to facility closure:

I-4a Completion [40 CFR 264.113 (b)]

The closure will be completed within 180 days of the receipt of the final volume of hazardous waste, and/or receipt of Agency approval, or unless an extended closure period is requested by S-K and approved by the Agency.

I-4b Certification of Closure [40CFR 264.115]

Upon completion of final closure, Certification of Closure, prepared and certified by both an independent registered professional engineer and S-K, will be submitted to the Agency.

I-4c Modified Permit [40 CFR 264.118 (4)]

If the facility permit is modified, this plan will also be amended to reflect those modifications, as appropriate. The request for modification and subsequent modified closure plan will be submitted to the Agency for acknowledgment and approval.

I-5 SECURITY [40 CFR 264.114]

During the performance of the closure activities, S-K will maintain site and hazardous waste management security measures. These measures will include site security, fencing and warning signs. Security measures will be maintained until decontamination activities are completed.

I-6 DISPOSAL OF DECONTAMINATION EQUIPMENT, STRUCTURES, AND SOILS [40 CFR 264.114]

Partial or full facility closure will be implemented in accordance with this plan and any subsequent modifications. The contractor selected to implement closure will also be required to prepare a health and safety plan in accordance with applicable regulations for their personnel. The health and safety plan shall be kept on-site during the closure activities.

I-6a Aboveground Tank Systems and Associated Piping

The permitted aboveground storage tank systems are situated within sealed concrete secondary containment structures. At facility closure or partial closure (i.e. closure of a tank unit) the following will generally be necessary to remove hazardous waste and waste residues: 1) opening of the tank and removal of wastes, 2) decontamination of the tank interior and piping, and 3) decontamination of the containment area, unless other permitted tanks remain (i.e. during partial closure of a tank). These procedures are briefly described below.

I-6a (1) Opening of the Tank and Removal of Waste

To safely open the tank and remove the waste material the following activities will be conducted:

a) Waste material from the tank will be removed using a tanker truck pump (for used solvent), vacuum truck (for heavy sludge) or similar equipment and either processed through the facility's

treatment units or transported to a permitted hazardous waste TSDF for reclamation and/or disposal.

b) Following removal of free-liquid wastes to the extent practicable, the aboveground waste tank will be entered to remove residual waste and sludge from the bottom of the tank. Depending on the quantity and consistency of residual wastes, it may be removed using shovels, squeegees etc, and transferred to drums, or may be removed with a pump during tank decontamination (described below).

I-6a (2) Tank Decontamination Procedures

Once residual wastes are removed, the tank and piping will be decontaminated. Decontamination procedures will be generally consistent with the following:

1. The tank interior will be washed with a detergent-water solution and high-pressure spay. The interior may also be scraped and/or squeegeed to remove residual waste material. Pressure washing will continue until the tank interior is visually clean, and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. It is anticipated that approximately 700 gallons of wash/rinse water per tank will be generated during tank decontamination activities (estimate includes piping and ancillary equipment).

2. Decontamination water and residual wastes that accumulate at the bottom of the tank will be removed using the existing piping and appurtenant equipment and transferred to onsite treatment units for processing. Alternatively, the wash water may be removed via remote pumps, buckets, or similar, and transferred to either a vac truck, tanker truck or into containers.

3. The decontamination wash water and residual waste from the tank will be managed as a hazardous waste and treated at the facility's process units, transported for treatment/disposal at an appropriately permitted TSDF, or characterized as non-hazardous waste in accordance with applicable regulations and appropriately managed.

4. Piping and appurtenant equipment will be flushed during residual waste removal and during transfer of decontamination wash and rinse water from the tanks to the treatment units. Since the piping will remain in place following decontamination, piping joints will not be broken during tank decontamination.

5. Should the tank system remain in place for potential reuse following decontamination, a sample of the final rinsate will be collected from each tank unit. Rinsate will be analyzed for the constituents representative of toxicity characteristic waste codes that historically are managed within a particular unit and which are listed in Table I-1. The rinsate analyses will consist of TCLP volatiles, semi-volatiles and metals. Clean closure criteria will be the TCLP limits for hazardous waste or the statistically significant background concentration for each applicable parameter. The statistically significant concentration is defined as the value lying two (2) standard deviations above the mean

concentration of a set of background analytical data. Background samples of source water will be collected at the time of closure.

6. If the tank and piping will be processed as scrap metal following decontamination [i.e. the decontaminated structures no longer meet the definition of solid or hazardous waste in 40 CFR 261], rinsate sampling will not be required.

I-6a (3) Decontamination of the Tank Containment Area

At the time of facility closure the tank containment areas will be inspected and decontaminated in accordance with the following general procedures.

1. The tank containment areas will be inspected by an independent New Jersey registered Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment area.

2. The containment dike will be swept to remove loose debris, washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 20 gallons of wash/rinse water for each 100 square feet of surface area will be generated during decontamination of the tank containment area.

3. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. Effectiveness of the decontamination activities will be determined using the same criteria as the tank system described above.

4. The decontamination wash water will either be treated onsite, managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

5. Soil samples will be collected from beneath the containment if necessary based on the engineer's inspection and in accordance with the protocol described below. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

6. As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

I-6b Container Storage Areas

The container storage areas are used to store/accumulate containers of used materials (e.g. used parts washer solvent, used immersion cleaner, dry cleaning waste, waste antifreeze, tank or drum washer sediment, paint waste, industrial solvents, or other non-regulated wastes or products). At the time of facility closure or partial closure of any container storage area, waste inventory will be removed and either processed onsite or transported under manifest to a permitted hazardous waste TSDF.

At the time of facility closure or partial closure, the following steps will be conducted:

1. The secondary containment structures will be inspected and decontaminated using procedures consistent with those described above for the tank secondary containment area. Rinsate will be generated during decontamination of the container storage areas (approximately 10 gallons per 100 square feet). The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF.

2. A sample of the final rinsate will be analyzed for the constituents representative of toxicity characteristic waste codes that historically are managed within a particular unit and which are listed in Table I-1. The rinsate analyses will consist of TCLP volatiles, semi-volatiles and metals. Clean closure criteria will be the TCLP limits for hazardous waste or the statistically significant background concentration for each applicable parameter. The statistically significant concentration is defined as the value lying two (2) standard deviations above the mean concentration of a set of background analytical data. Background samples of source water will be collected at the time of closure.

3. The rinsate sample results will be used to verify the effectiveness of decontamination. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met.

4. If the independent Professional Engineer determines that the unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described in the sampling protocol below.

I-6c Decontamination of Waste Loading/Unloading Areas

At the time of facility closure the waste loading/unloading areas (i.e., all Truck Stations and the rail facility) will be inspected and decontaminated in accordance with the following general procedures.

1. The truck station and rail containment areas will be inspected by an independent New Jersey registered Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment areas.

2. The containment areas will be swept to remove loose debris, washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 20 gallons of wash/rinse water for each 100 square feet of surface area will be generated during decontamination of the tank containment area.

3. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. Effectiveness of the decontamination activities will be determined using the same criteria as the tank system described above.

4. The decontamination wash water will either be treated onsite, managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

5. Soil samples will be collected from beneath the containment if necessary based on the engineer's inspection and in accordance with the protocol described below. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

6. As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

I-6d Decontamination of Mix Pits

At the time of facility closure the mix pits will be inspected and decontaminated in accordance with the following general procedures.

1. The mix pit areas will be inspected by an independent New Jersey registered Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment areas.

2. The mix pits and containment areas will be swept to remove loose debris, washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 20 gallons of wash/rinse water for each 100 square feet of surface area will be generated during decontamination of the tank containment area.

3. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. Effectiveness of the decontamination activities will be determined using the same criteria as the tank system described above.

4. The decontamination wash water will either be treated onsite, managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

5. Soil samples will be collected from beneath the containment if necessary based on the engineer's inspection and in accordance with the protocol described below. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

I-7 DECONTAMINATION OF CLEANUP EQUIPMENT

Equipment used during decontamination activities will be cleaned along with and within the respective secondary containment structure. Therefore, the anticipated amount of wash water to decontaminate equipment was included in the estimated quantity generated for each unit. Small consumable equipment (e.g., mops, rags, disposable PPE, etc.), which cannot be cleaned will be containerized, managed as a hazardous waste and disposed of at a permitted TSDF, or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

S-K does not anticipate that heavy equipment, such as cranes and backhoes, will come into contact with hazardous wastes. For example, a crane may be used to remove the storage tank, but only after the tank has been decontaminated. Therefore, an equipment decontamination area should not be necessary during closure. Further, no excavation activities are anticipated during implementation of closure.

I-8 SOIL SAMPLING PROTOCOL DURING CLOSURE

If warranted based on the results of the engineer's inspection, soil samples are typically collected from beneath fully-penetrating gaps or cracks in the containment areas during closure to verify that wastes have not migrated beneath containment. If sampling results meet appropriate screening or other approved risk-based levels, a unit may be certified as clean closed in accordance with applicable regulations. However, corrective action activities related to a previous release are currently ongoing at the Linden Recycle Center. As a result, numerous soil samples have been collected from beneath or immediately adjacent to each of the permitted hazardous waste units described in this closure plan. Therefore, soil samples will not be collected following unit decontamination if the current corrective action activities are ongoing at the time of closure. Under this scenario, the units may be certified closed based on decontamination procedures described in this closure plan while site wide remediation/corrective action activities will continue. Should the corrective action activities be completed prior to implementation of closure, soil samples will be collected as necessary, based on the engineer's inspection as described below.

If soil samples are determined necessary based on 1) status of ongoing corrective action activities and 2) results of the engineer's inspection of containment integrity at closure, such that evidence of a through-

going crack or gap in the containment may have allowed a potential release to the subsurface, soil samples will be collected from beneath containment area(s) in question. The number of soil samples required at closure will be determined at closure following the engineer's inspection of the respective containment areas.

In general, if required, soil samples will be collected from immediately beneath cracks or gaps noted by the engineer during inspection of each containment area, which are determined to have the potential for wastes to migrate to underlying soils. It is anticipated that samples will be analyzed for contaminants according to the analytical methods set forth in Table I-1. Analyses will be performed using an appropriately certified laboratory. If applicable, samples may also be collected from additional areas of the site for background comparison. Clean closure criteria will be determined by comparing results from the analyses either to background or other appropriate health-based soil screening criteria.

If required, the identification, characterization and remediation of any contamination that may exist beneath the containment areas shall be described in a workplan prepared following receipt of analytical results from any required soil sampling. The workplan will be submitted to the Agency for review and approval.

I-9 TIME ALLOWED FOR CLOSURE [40 CFR 264.113]

Within 90 days of receiving the final volume of hazardous wastes, S-K will remove all hazardous wastes from the site in accordance with the approved closure plan. S-K will complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of waste or upon Agency approval of the closure plan and procedures, whichever is later. The Agency may approve a longer period if S-K demonstrates that:

a) The activities necessary to remove waste or close the facility, will of necessity, take longer than 90 days or 180 days, respectively, to complete or the following requirements are met:
b) The facility has the capacity to receive additional wastes;
c) There is a likelihood that a person other than S-K will recommence operation at the site within one year;
d) Closure of the facility is incompatible with future use of the site. In this case, S-K will take all steps necessary to prevent threats to human health and the environment.
e) Safety-Kleen will complete the closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. Safety-Kleen may petition the agency for an extension to the closure period to ensure that the facility has achieved clean closure levels that are protective of human health and the environment.

A tentative closure schedule is attached (Attachment I-2).

I-10 CLOSURE CERTIFICATION [40 CFR 264.115]

When closure is completed, S-K shall submit to the Agency certification, both by the operator and a qualified independent professional engineer registered in New Jersey, that the facility has been closed in accordance with the approved closure plan. The closure certification will be presented in a Closure Certification Report, which will be prepared in accordance with applicable portions of 40 CFR 264.115. Information contained in the closure report will include a brief site history, site plan, closure field notes, documentation of decontamination procedures, photo-documentation, soil sampling locations (if required), laboratory analytical reports, tabular summaries of analytical results, volumes of wastes removed, copies of waste manifests, etc. Any deviations from the approved closure plan will also be documented in the report. The Closure Certification Report will be submitted within 60 days of completion of the closure activities.

I-11 CLOSURE COST ESTIMATE [40 CFR 264.142]

The closure cost estimate for the facility is attached (Attachment I-3). Unit costs are based on third-party costs to perform closure operations as specified in 40 CFR 264.142. In this closure cost estimate, Safety-Kleen has used third party costs in determining the total closure costs, assuming that a third party will operate the on-site fuel blending equipment at the time of closure. The closure cost estimate shall be revised whenever a change in the closure plan increases or decreases the cost of closure. The closure cost estimate is adjusted annually to reflect inflation, in accordance with and as required by and detailed in 40 CFR 264.142(b) and (c). A copy of the closure cost estimate and any adjustments due to inflation shall be kept at the facility during the facility's operating life.

I-12 CLOSURE COST FINANCIAL ASSURANCE [40 CFR 264.143]

Safety-Kleen Systems Linden, NJ Recycle Center maintains the appropriate financial assurance as requirement by 40 CFR 264.143 and documentation of such financial assurance is provided in accordance with 40 CFR 270.14(b)(15) – see Attachment I-4.

I-13 PARTIAL CLOSURE

Partial closure of any unit will be performed using the procedures described above.

I-14 POST CLOSURE [40 CFR 264.113]

As discussed in Section I-2 above, Safety-Kleen will remove all hazardous wastes and residuals from the facility during closure. There are no hazardous waste treatment or disposal units at the Facility. Therefore, a post-closure plan is not required at this time

ATTACHMENT I-1
PERMITTED TANK SCHEDULE

ATTACHMENT I-2
TENTATIVE CLOSURE SCHEDULE

ATTACHMENT I-3
CLOSURE COST ESTIMATE

Table 1. Closure Cost Estimate Worksheet, Safety-Kleen Recycle Center Center, **[Linden, NJ]** 12/7/2023

Activity		Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal Cost
1. INVENTORY REMOVAL					
Assumptions				**Capacity**	
- Tanks are full					
-Tank Farm #2	Total Tanks:	16		311,355	
-Tank Farm #4	Total Tanks:	4		102,670	
-Tanks Miscellaneous	Total Tanks:	4		41,684	
		Total Tank Capacity (GAL)		455,709	
- Container storage areas are full					
-CSA 1				125,840	
-CSA 2				17,600	
-CSA 3				18,000	
		Total CSA Capacity (GAL)		161,440	
-Mix Pits (2)					
		Total Mix Pits Capacity (TONS)		160	
		Mix Pits Capacity (GAL)		16,156	
- Truck Stations are full		Total Truck Station Capacity (GAL		396,000	
		Total Truck Station Capacity (TONS)		900	
- Rail Spots are full		Total Rail Spot Capacity (GAL)		76,500	
Subcontractor Costs					
- Transfer tank, tanker and rail contents to tankers					
Tank Capacity (total gallons)				944,365	
Work Rate to Unload Tank Capacity (hours per gallon)				0.0003	
Total Hours to Unload				283.3	
Labor and equipment rate to unload (PPE Level D) and cost		Labor/equipment	$175.95	283.3	$49,848
- Transport liquid waste to a TSD for treatment/disposal					
Number of tanker trailers required (6,000 gallons max each load)				158	
Cost per mile =$5.64/mile					
Mileage = 300 miles (Number in second column is 300 miles x number trucks)		Transport = 300 miles each	$5.64	47400	$267,336
Disposal/treatment cost (per gallon - average of low and average costs based on some suitability		TSD @$1.06/gallon	$1.06	944365	$1,001,027
- Transport solid waste to a TSD for treatment/disposal					
Number of roll off rail trucks required (20 tons max each load)				53	
Cost per mile =$5.64/mile					
Mileage = 300 miles (Number in second column is 300 miles x number trucks)		Transport = 300 miles each	$5.64	15900	$89,676
Disposal/treatment cost (per ton - Avg cost)		TSD @$152/ton	$152.00	1060	$161,120
- Transfer drums from CSA(s) to trucks					
Labor/Equipment (PPE Level D)		Labor/equipment per drum	$3.57	2936	$10,482
(Number in second column is number of drums determined from total CSA capacity)					
- Transport drums to TSD for Treatment/Disposal					
Total Number of Drums from CSA				2935	
Total Number of Trucks Required to Transport Drums (84 per truck max)				35	
Cost per mile =$5.64/mile					
Mileage = 300 miles (Number in second column is 300 miles x number of trucks)		Transport trailer(s) x 300 miles	$5.64	10500	$59,220
Disposal/treatment cost (per drum - average of low and average costs based on some suitability f		TSD @ $134.5/drum	$134.50	2935	$394,794
	Activity 1. Subtotal				$2,033,503
2. DECONTAMINATE STORAGE TANKS AND CONTAINMENT					
Assumptions:					
- Assume the tanks, piping and appurtenant equipment are decontaminated but not removed					
- Assume rinsate samples will be collected from each tank					
- Assume decontamination of the associated containment area					
- Assume containment areas will be demolished following decontamination					
- Assume 1 rinsate sample will be collected from each containment area					
- Assume 2 soil samples required from beneath each containment area					
- Number of Tanks				24	
- Tank Interior Square Footage (based on tank volume)				26421	
- Number of Tank Farms				4	
- Total Tank Farm Containment Square Footage (includes floor and walls)				8309	
- Other Units Interior Square Footage				7596	
- Tanks & Other Units Piping (300 feet per tank or unit for refineries)				5655	
Prime Contractor Costs					
-Costs for oversight and engineers inspection included in Closure Certification Activity below					
- Collect Rinsate Sample(s) (1 per tank and 1 per containment)					
Work Rate for Sampling (hours per sample)				0.5000	
Number of Samples				28	
Labor and equipment per work hour (PPE Level D)		Labor/equipment	$91.88	14.00	$1,286
- Coring for Soil Samples if fully penetrating cracks discovered					
Coring at $250 per hole				$250	
Number of soil samples				8	$2,000
- Collect Soil Samples					
Work Rate for Sampling (hours per sample)				2.0000	
Number of Samples (Indoor catch pans excluded)				8	
Labor and equipment per work hour (PPE Level D)		Labor/equipment	$91.88	16.00	$1,470
Subcontractor Costs					
- Decontaminate waste ASTs, piping, and appurtenant equipment					
Work Rate to Pressure Wash (hours per square foot)				0.0405	
Area of ASTs, Other Units, and piping to be decontaminated				32076	
Labor and equipment for tank decon (PPE Level C)		Labor/equipment	$97.23	1299	$126,310
- Decontaminate Tank Containment Area					
Work Rate to Pressure Wash 1 sq ft (hours per square foot)				0.0405	
Total Area of Containment (includes walls and floor)				8309	
Labor and equipment for containment decon (PPE Level D)		Labor/equipment	$65.77	337	$22,133
Laboratory Subcontractor Costs					
- Analyze rinsate sample(s) from tank(s) and containment area for VOCs, SVOCs and RCRA metals		VOCs @ $189/sample SVOCs @ $359/sample 8 RCRA Metals @ $110/sample			
		Total per sample cost	$658	28	$18,424
- Analyze soil sample(s) from containment area for VOCs, SVOCs and RCRA metals		VOCs @ $189/sample SVOCs @ $359/sample 8 RCRA Metals @ $110/sample			
		Total per sample cost	$658	8	$5,264

		Activity 2. Subtotal			$176,887

3. DECONTAMINATE CONTAINER STORAGE AREAS, TRUCK STATIONS, RAIL SPOTS, AND OTHER UNITS

Assumptions:
- Decontamination shall consist of washing with a detergent water solution and rinsing with a high-pressure spray
- CSA(s) and Process areas to remain in-place following closure. Relocation costs of equipment excluded.
- Decontamination of all Units include floor, curbing and containment trenches
- Assumes rinsate and soil samples required.
- Units:

- Number of CSAs, Truck Stations, Rail Spots, and Other Units			22	
- Total CSA, Truck Station, Rail Spot, and Othe Unit Square Footage			123,772	
Prime Contractor Costs				
-Costs for oversight and engineers inspection included in Closure Certification Activity below				
- Collect Rinsate Samples (1 per CSA)				
Work Rate for Sampling (hours per sample)			0.5000	
Number of Samples			22	
Labor and equipment per work hour (PPE Level D)	Labor/equipment	$91.88	11.00	$1,011
- Coring for Soil Samples if fully penetrating cracks discovered				
Coring at $250 per hole			$250	
Number of soil samples			22	$5,500
- Collect Soil Samples				
Work Rate for Sampling (hours per sample)			2.0000	
Number of Samples (Indoor catch pans excluded)			22	
Labor and equipment per work hour (PPE Level D)	Labor/equipment	$91.88	44.00	$4,043
Subcontractor Costs				
- Decontaminate CSA(s) and Process Equipment				
Work Rate to Pressure Wash (hours per square foot)			0.0100	
Total Area of Permitted CSA(s) to be decontaminated			123772	
Labor and equipment for CSA decon (PPE Level D)	Labor/equipment	$65.77	1238	$81,405
Laboratory Subcontractor Costs				
- Analyze rinsate sample(s) from each CSA for VOCs, SVOCs and RCRA metals	VOCs @ $189/sample SVOCs @ $359/sample 8 RCRA Metals @ $110/sample Total per sample cost	$658	22	$14,476
- Analyze soil sample(s) from each CSA for VOCs, SVOCs and RCRA metals	VOCs @ $189/sample SVOCs @ $359/sample 8 RCRA Metals @ $110/sample Total per sample cost	$658	22	$14,476
	Activity 3. Subtotal			$120,910

4. CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES

Assumptions:
- Amount of decon wash water generated derived from previous closure experience. Quantity based on approximately 1.0 gal/ sq ft

Unit Description	Square Footage	Number Gallons		Number Drums
DECONTAMINATION WASTE STORAGE TANKS & PIPING	32,076	32076		
DECONTAMINATION WASTE FROM TANK CONTAINMENT	8,309	8309		
DECONTAMINATION WASTE FROM CONTAINER STORAGE AREAS, TRUCK STATIONS, AND RAIL SPC	123,772	123772		
DECONTAMINATION WASTE FROM OTHER UNITS	7,596	7596		
PPE, CONSUMABLES, DEBRIS (Allowance)	NA	NA		35
	171753	171753		35
- Purchase 55-gallon drums to containerize wash water	Drums @ $83 each	$83	35	$2,905
Subcontractor Costs				
- Transfer decon wash water to tankers				
Volume (total gallons)			171753	
Work Rate to load volume (hours per gallon)			0.0003	
Total Hours to load			51.5	
Labor and equipment rate to unload (PPE Level D) and cost	Labor/equipment	$175.95	51.5	$9,066
- Transport decon waste to a TSD for treatment/disposal				
Number of tanker trailers required (6,000 gallons max each load)			29	
Cost per mile =$5.64/mile				
Mileage = 300 miles (Number in second column is 300 miles x number trucks)	Transport = 300 miles each	$5.64	8700	$49,068
Disposal/treatment cost (low cost per gallon based on dilute liquid)	TSD @$0.45/gallon	$0.450	171753	$77,289
- Transfer drums to trucks				
Labor/Equipment (PPE Level D)	Labor/equipment per drum	$3.57	35	$125
- Transport drums to TSD for Treatment/Disposal				
Total Number of Trucks Required to Transport Drums (80 per truck max)			1	
Cost per mile =$5.64/mile				
Mileage = 300 miles (Number in second column is 300 miles x number trucks)	Transport trailer(s) x 300 miles	$5.64	300	$1,692
Disposal/treatment cost for PPE drums (low cost haz to landfill)	TSD @$90/drum	$90	35	$3,150
	Activity 4. Subtotal			$143,295

5. ENGINEERING OVERSIGHT AND CLOSURE CERTIFICATION

Assumptions:
- Cost Pro unit rate per unit to be closed is $4,118 for 1-10 Units, >10 Units use 20% of total cost due to size efficiency
- Unit rate includes engineer inspection and decontamination oversight of each unit

		Total Units	50	
Prime Contractor Costs				
- Oversee and certify closure per unit times number of units	Project Manager/Engineer	$4,118	0	$0
	Project Manager/Engineer	20%		$494,919
	Activity 5. Subtotal			$494,919

COST ESTIMATE ACTIVITIES SUMMARY

1.	INVENTORY REMOVAL	$2,033,503
2.	DECONTAMINATE STORAGE TANKS AND CONTAINMENT	$176,887
3.	DECONTAMINATE CONTAINER STORAGE AREAS, TRUCK STATIONS, RAIL SPOTS, AND OTHER UNITS	$120,910
4.	CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES	$143,295
5.	ENGINEERING OVERSIGHT AND CLOSURE CERTIFICATION	$494,919
	SUBTOTAL	$2,969,514
	TOTAL WITH INFLATION ADDED FROM 2010 TO CURRENT YEAR (updated for inflation from the latest version of CostPro (6.0) in 2009)	$4,058,469

CONTINGENCY 10%	$405,847
TOTAL CLOSURE COST ESTIMATE	$4,464,316

Notes:

- All unit rates obtained from Cost Pro version 6.0 and includes the following:
  - Transportation @ $5.64/mile and 300 mile trip
  -Disposal for bulk liquids based on average ($1.06/gallon) of CostPro Low $0.45/gallon and Avg $1.67/ gallon based on 50% suitabilty as fuel
  -Disposal for CSA, TS, and RS liquids based on average ($134.5/drum) of CostPro Low $90/drum and Avg $179/drum based on 50% suitability as fuel
  -Disposal of solids based on CostPro Avg $152/ton haz bulk
  - Disposal of decon wash water $90/drum based on lack of hazardous constituents in waste (soapy water)
  -Subcontractor Decontamination Rate for tanks and return/fill based on PPE Level C
  -Subcontractor decontamination rates for tank containment, CSAs and Flam Shed (if applicable) based on PPE Level D
  -Prime Contractor Rates based on hourly rate for rinsate sampling, drilling and soil sample collection
  -Lab subcontractor rates for analysis of rinsate and soil samples (Assumes VOCs, SVOCs and metals)
  -Closure Certification Activity includes contractor oversight, PE integrity inspections and reporting/Certification

ATTACHMENT I-4
CLOSURE FINANCIAL ASSURANCE

TABLE I-1
HAZARDOUS CONSTITUENTS AND ANALYTICAL METHOD NUMBERS FOR TOXICITY CHARACTERISTIC WASTES

TABLE I-1. HAZARDOUS CONSTITUENTS AND ANALYTICAL METHOD NUMBERS FOR TOXICITY CHARACTERISTIC WASTES

Waste Code	Hazardous Constituent	Method No.[a]
D004	Arsenic	6010B
D005	Barium	6010B
D006	Cadmium	6010B
D007	Chromium	6010B
D008	Lead	6010B
D009	Mercury	7470A/7471A
D010	Selenium	6010B
D011	Silver	6010B
D018	Benzene	8260B
D019	Carbon Tetrachloride	8260B
D021	Chlorobenzene	8260B
D022	Chloroform	8260B
D023	O-Cresol	8270C
D024	M-Cresol	8270C
D025	P-Cresol	8270C
D026	Cresol	8270C
D027	1,4 Dichlorobenzene	8270C
D028	1,2 Dichloroethane	8240C
D029	1,1 Dichloroethene	8240C
D030	2,4 Dinitrotoluene	8270C
D032	Hexachlorobenzene	8270C
D033	Hexachlorobutadiene	8270C

Waste Code	Hazardous Constituent	Method No.[a]
D034	Hexachloroethane	8260B
D035	Methyl Ethyl Ketone	8260B
D036	Nitrobenzene	8270C
D037	Pentachlorophenol	8270C
D038	Pyridine	8270C
D039	Tetrachloroethylene	8260B
D040	Trichloroethylene	8260B
D041	2,4,5 Trichlorophenol	8270C
D042	2,4,6 Trichlorophenol	8270C
D043	Vinyl Chloride	8260B

[a] Test Methods for Evaluating Solid Wastes (SW-846*), Update III, June 1997*.

Section J

Redline

SECTION J SOLID WASTE MANAGEMENT UNITS (SWMUs)

J-1 EXISTING SWMUs [40 CFR 270.14(b)]

Operational Solid Waste Management Units (SWMUs) consist of the following units.

- Container Storage Area #1 (Building 10)
- Vat in Building 10 (Closed and Removed)
- Container Storage Area #2 (Building 11)
- Container Storage Area #3 (Mix Pit Building)
- Truck Station #1
- Truck Station #2
- Truck Station #3
- Truck Station #4
- Truck Station #5
- Truck Station #6
- Truck Station #6A
- Truck Station #7
- Truck Station #7A
- Truck Station #8
- Truck Station #8A
- Truck Station #9
- Truck Station #10
- Truck Station #11
- Truck Station #12

- Truck Station #13
- Tank Farm #2
- Tank Farm #4
- Tank Farm for VR1 and VR2
- Tank Farm for Tanks 40 & 41
- Rail Car Area (Rail Sidings #s 1, 2 and 6)
- Mix Pit 1
- Mix Pit 2

The locations of the operational SWMUs are illustrated on **Exhibit A2** and detailed in Section D.

J-2 HISTORIC SWMUs [40 CFR 270.14(b)]

In addition to the current operational SWMUs, historic SWMUs and Areas of Concern (AOCs) were identified in 1986 based on a Preliminary Review (PR) and a Visual Site Inspection (VSI)[1]. The PR/VSI was compiled from a variety of observations and NJDEP inspection reports in 1979 and the early 1980s and identified SWMUs and AOCs for investigation based on features visible at the Site in the early 1980s, but which now may be modified or no longer present. Based on the PR/VSI, the USEPA identified six SWMUs and three AOCs for evaluation as part of a RCRA Facility Investigation (RFI) that was required when the HSWA permit was issued in December 1993. The areas of the SWMUs identified by USEPA were modified somewhat during development of the Phase III RFI Work Plan and are shown on Figure J-1. The SWMUs and AOCs are listed in Table J-1 and described below.

[1] NJDEP, 1985. Preliminary Assessment for RCRA Corrective Action Program. November 1985.

Final

SECTION J SOLID WASTE MANAGEMENT UNITS (SWMUs)

J-1 EXISTING SWMUs [40 CFR 270.14(b)]

Operational Solid Waste Management Units (SWMUs) consist of the following units.

- Container Storage Area #1 (Building 10)
- Vat in Building 10 (Closed and Removed)
- Container Storage Area #2 (Building 11)
- Container Storage Area #3 (Mix Pit Building)
- Truck Station #1
- Truck Station #2
- Truck Station #3
- Truck Station #4
- Truck Station #5
- Truck Station #6
- Truck Station #6A
- Truck Station #7
- Truck Station #7A
- Truck Station #8
- Truck Station #8A
- Truck Station #9
- Truck Station #10
- Truck Station #11
- Truck Station #12

- Truck Station #13
- Tank Farm #2
- Tank Farm #4
- Tank Farm for VR1 and VR2
- Tank Farm for Tanks 40 & 41
- Rail Car Area (Rail Sidings #s 1, 2 and 6)
- Mix Pit 1
- Mix Pit 2

The locations of the operational SWMUs are illustrated on **Exhibit A2** and detailed in Section D.

J-2 HISTORIC SWMUs [40 CFR 270.14(b)]

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[1] NJDEP, 1985. Preliminary Assessment for RCRA Corrective Action Program. November 1985.

Section L

SECTION L: PART B CERTIFICATION

L-1

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

12/8/2023

David A. DeSha
Director Environmental Compliance
Clean Harbors Environmental Services, Inc.

Date

Exhibits

Volume II

2017 RCRA Part B Permit Application Exhibit A-List (Revised 12/8/2023)

Exhibit #	Description	Comments
A1	Safety-Kleen Facility - Linden, NJ - Area Topography and Wind Rose	
A2	Site Plan - Safety-Kleen Facility - Linden, NJ	
A3	Truck Station No.1 Concrete Construction Plan, Sections & Details	
A3	Truck Station No.1 Concrete Construction Plan, Sections & Details	
A5	Truck Station No.3 Concrete Construction Plan & Details	a, b, c, d
A6	Truck Station No.4 Concrete Construction Plan & Details	
A7	Truck Station No.5 Concrete Construction Plan & Details	
A8	Truck Station No.6 Concrete Construction Plan & Details	
A9	Truck Station No.6A Concrete Construction Plan & Details	
A10	Truck Station No.7 Concrete Construction Plan & Details	
A11	Truck Station No.7A Concrete Construction Plan & Details	
A12	Truck Station Nos.8, 8A, 9, 9A & 10 Construction Plan & Details	a, b
A13	Rail Siding Nos. 1, 2 & 6 Civil Plan, Sections & Details	a, b, c, d, e, f
A14	Container Storage Area No.1 Floor Plan	a, b
A15	Container Storage Area No.2 Floor Plan	
A16	Tank Farm No. 2 Concrete Construction Plan & Details	a, b
A17	Tank No. 201	
A18	Tank No. 202	
A19	Tank No. 203	
A20	Tank No. 204	
A21	Tank No. 205	
A22	Tank No. 206	
A23	Tank No. 207	
A24	Tank No. 208	
A25	Tank No. 209	
A26	Tank No. 210	
A27	Tank No. 211	
A28	Tank No. 212	
A29	Tank No. 213	
A30	Tank No. 214	
A31	Tank No. 215	
A32	Tank No. 216	
A33	Tank Farm No. 4 Concrete Construction Plan & Details	
A34	Tank No. 4401	
A35	Tank No. 4402	
A36	Tank No. 4403	
A37	Tank No. 4404	
A38	Tanks 40 & 41 Concrete Construction Plan & Details	
A39	Tank 40	
A40	Tank 41	
A41	Tanks VR1 & VR-2 Concrete Construction Plan & Details	
A42	Tanks VR1 & VR-2	
A43	Truck Station 11	
A44	Truck Station 12	
A45	Mix Pit Building (CSA3) Floor Plan	
A46	Mix Pit Building (CSA3) Exterior View 1	
A47	Mix Pit Building (CSA3) Exterior View 2	
A48	Mix Pit Building (CSA3) Secondary Containment Details	

Exhibit

A1	Safety-Kleen Facility - Linden, NJ - Area Topography and Wind Rose

N

0' 25' 100'
10' 50' 150'

LINDEN AIRPORT

NEW JERSEY STATE HIGHWAY – ROUTE 1 (FORMERLY ROUTE 25) EDGAR ROAD

W.M. CONNECTION POINT 12" X 6" HOT TAP W/VALVE

EXISTING 12" W.M.

WILDCAT WAY (A.K.A. LINDEN AIRPORT ACCESS ROAD)

EXISTING NORTH GATE #4

LOT 30.01 BLOCK 580

LOT 25

LOT 31 BLOCK 580

LOT 30.02

LOT 30.03 BLOCK 580

LOT 13 BLOCK 580

RAIL TRACK

POLE

GATE POST

EXISTING DROP INLET

SLIDING GATE

EXISTING 24' GATE #5

EXISTING 12' GATE #5

EXISTING DROP INLET

EXISTING GATE #6

10' X 23' CONCRETE PAD FOR NEW DRY CHEMICAL FIRE SUPPRESSION SYSTEM

70'-4" STORM WATER BASIN

FENCE ALONG PL

490.38'

SYLVAN STREET

GATE # 1

GATE # 2

GATE # 3

GATE # 4

GATE # 5

231'-8"

256'-6"

162'-4"

39'-8"

LOT 20 BLOCK 376

EX. MASONRY BLDG.

LOT 16

LOT 24

LOT 26

LOT 23

LOT 22

LOT 21

TIMBER PLANTER

4" METAL POST (TYP)

CHAIN LINK FENCE

RAIL CAR SIDING # 5

RAIL CAR SIDING # 4

RAIL CAR SIDING # 3

RAIL CAR SIDING # 2

RAIL CAR SIDING # 1

RAIL CAR SIDING # 6

RAIL CAR LOADING/ UNLOADING AREA

4" METAL POSTS

6" METAL POSTS

GRAVEL RR BED

TRUCK STATION # 8

TRUCK STATION # 9

TRUCK STATION 10

TS-#8A

TS-#8A

PIPE BRIDGE

WWF/AF/LUBE OIL/TANKFARM # 6

OUTLINE OF CANOPY

6" METAL POST (TYP)

HYDRANT

RC TANKERS 1 2 3 4

TRUCK STATION # 3

COVERED LOADING UNLOADING AREA TRUCK STATION # 6A

TRUCK STATION # 1

TRUCK STATION # 7A

OPERATORS SHELTER

TRUCK STATION # 2

TRUCK STATION #11

TRUCK STATION #8

CONC. WALL

TANK FARM

LOADING UNLOADING AREA WITH OVERHANG

CANOPY

PROP. AF/D.I. LINES TO/FROM BLDG. #6

EQP. CONTROL ROOM

TANK FARM # 5

COLUMN PAD

TRUCK STATION # 7

TRUCK STATION #12

CONTAINER STORAGE AREA # 2

CONTAINER STORAGE AREA #1

1 STORY METAL BLDG. WAREHOUSE BUILDING # 10

TRUCK STATION # 5

BUILDING # 11

BUILDING # 2

EMPLOYEES LOCKER ROOM

STUCCO & METAL BUILDING

BUILDING # 3

LUWA CONTROL ROOM

DRUM PROCESSING AREA

TRUCK STATION # 4

RAMP

TRENCH DRAIN

BOILER HOUSE # 6

PUMP HOUSE

COOLING TOWER

BLDG. #9

LRSU DISCHARGE TANK

NITROGEN TANK

LOW SULFUR DIESEL FUEL TANK

20' x 44' TRUCK PAD

DISPENSING UNIT

FLARE

1 STORY BLOCK BLDG.

CAUSTIC TANK C-3906

SCRUBBER

RTO

STEEL BEAM OVERHEAD PIPE

STEEL PLATE

CONC. BOLLARDS

ELECTRIC TRANS.

POLE

MH RIM

LIGHT. ROD

HYDRANT

WATER VALVE

TRANSFORMER PAD

11' X 70' TRUCK SCALE

METAL BUILDING GROUNDWATER TREATMENT SYSTEM

BOX TRUCKS

BOX TRUCKS

STONE AREA

TIMBER PLANTER

GAS CYL.

1 STORY CONCRETE BLOCK BLDG. # 1 ADMINISTRATION BUILDING

EMPLOYEE PARKING

CARD READER

VISITOR EMPLOYEE PARKING

WETLANDS

WETLANDS APPROVED BY LOE #0001-15-0021 FWW150001

50' SETBACK

MIX PIT

CONTAINER STORAGE AREA #3

MW-3

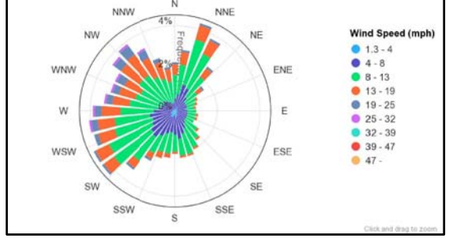
(BRANCH LINE RIGHT-OF-WAY)

CONRAIL

(FORMERLY PENNSYLVANIA RAILROAD)

NEWARK INTL AP (NJ) Wind Rose

Sep. 1, 2000 - Sep. 1, 2023
Sub-Interval: Jan. 1 - Dec. 31, 0 - 23



LEGEND

- PROPERTY BOUNDARY
- CHAINLINK FENCE
- RAILROAD TRACKS
- HAZARDOUS WASTE STORAGE/TREATMENT
- MW-3S IDENTIFIES SHALLOW WELL
- MW-3I IDENTIFIES INTERMEDIATE WELL
- MW-3D IDENTIFIES DEEP WELL
- MW-3W IDENTIFIES WEATHERED BEDROCK WELL
- FIRE HYDRANT
- FOAM MONITOR
- UP UTILITY POLE
- MH RIM MAN HOLE

PROPRIETARY STATEMENT

STATE OF NEW JERSEY
DENNIS F. RYOU
GE34195
LICENSED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE SITE CONDITIONS	JEK	DDS	DDS	120723
A	REVISE SITE CONDITIONS AND WIND ROSE	JEK	DDS	DDS	090123
0	NEW ISSUE	JEK	FR	FR	053017

REVISIONS

TITLE

SITE PLAN TOPOGRAPHY & WIND ROSE

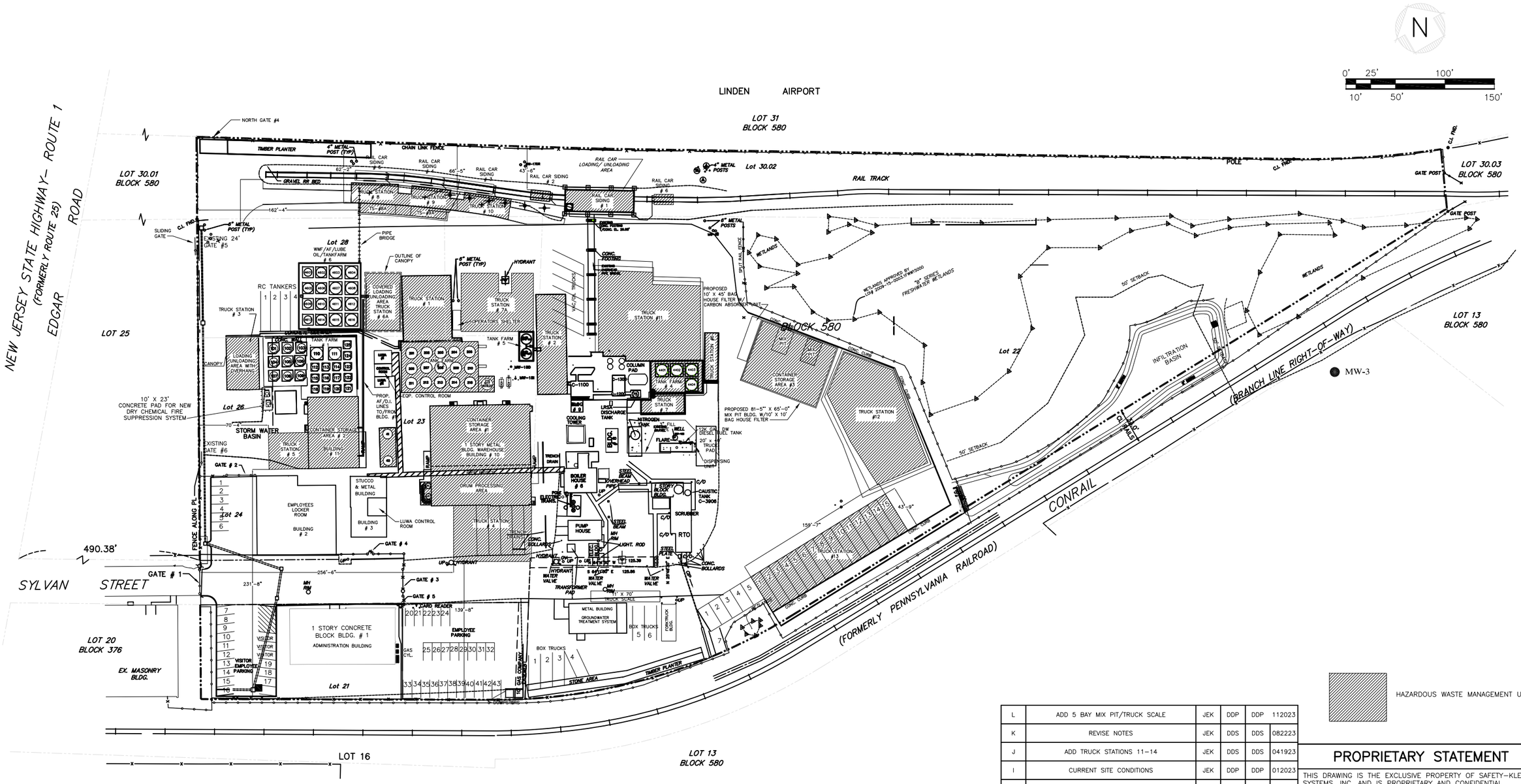
SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 781-792-5000

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=100'-0"	JEK	KJM	DP		5/30/17

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-0100-005	B

Exhibit

A2	Site Plan - Safety-Kleen Facility - Linden, NJ



NO.	DESCRIPTION	BY	CHK	APPR	DATE
L	ADD 5 BAY MIX PIT/TRUCK SCALE	JEK	DDP	DDP	112023
K	REVISE NOTES	JEK	DDS	DDS	082223
J	ADD TRUCK STATIONS 11–14	JEK	DDS	DDS	041923
I	CURRENT SITE CONDITIONS	JEK	DDP	DDP	012023
H	CURRENT SITE CONDITIONS	JEK	DAD	DAD	080222
G	ADD T-4505 & HX-4501	JEK	FR	FR	042921
F	ADD DEISEL TANK	JEK	DAD	DAD	102319
E	REVISED PER D.A.D. COMMENTS	JEK	DAD	DAD	121217
D	REVISED PER DEP RESPONSE	JEK	DDP	DDP	050317
C	REVISED PER DEP RESPONSE	JEK	DDP	DDP	011317
B	ADD OTHER CONCEPTUAL ITEMS	JEK	DDP	DDP	102015
A	ADD CONCEPTUAL ITEMS	JEK	DDP	DDP	092215
0	ISSUED FOR REVIEW	JEK	DDP	DDP	032015

REVISIONS

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

HAZARDOUS WASTE MANAGEMENT UNIT

PROPRIETARY STATEMENT

TITLE

SITE PLAN
1200 SYLVAN ST.
LINDEN, N.J. 07036

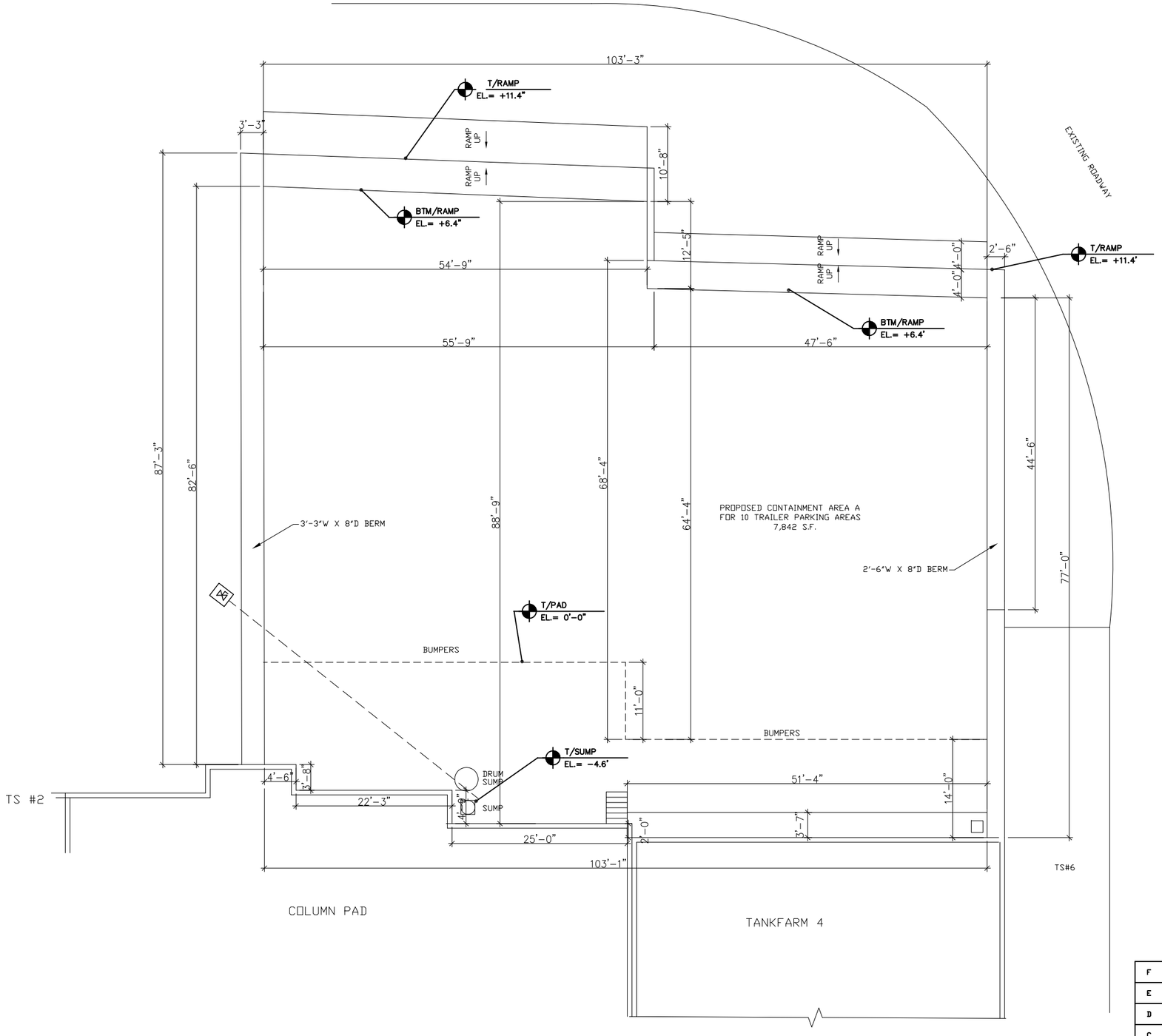
SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DRIVE, NORWELL, MA. 02061
PHONE: 781-792-5000

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=50'-0"	JEK	KJM	DP		3/20/15

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-SP00-010	L

Exhibit

A43	Truck Station No. 11



N

0' 3' 10'

1' 6' 25'

AREA "A" CONTAINMENT CALCULATION
CURB HEIGHT IS 5" PAD SLOPE IS 6.4"
AREA "A" IS DIVIDED INTO TWO PARTS, EAST AND WEST

AVERAGE DIMENSION FOR EAST AREA UP TO TOP OF ROLL OVER RAMP
IS 47.5' X 82.75'

CONTAINMENT AREA EAST = 47.5' X 82.75' = 3,930.6 SQ. FT.

CONTAINMENT AREA WEST IS DIVIDED INTO 3 RECTANGLES
55.75' X 87.5' + 25' X 8.42' + 22.33' X 3.67'
48.87' +210.5' + 82' = 5,170.6 SQ. FT.

TOTAL SURFACE AREA = 3930.6 SQ. FT. + 5170.6 SQ. FT. = 9,101.2 SQ. FT.

CONTAINMENT AREA VOLUME = DIKE AREA + SLOPE AREA
(5" = ROLL OVER BERM, 6.4" = SLOPE)

(9101.2 SQ. FT. X 5" + .5 X 9101.2 SQ. FT. X 6.4") X 7.48 GAL/CF = +46,519 GAL.

DISPLACEMENT OF ROLL OVER RAMPS=
103.25' X 5' X .5 X 7.48 GAL/CF = -532.8 GAL.

CONTAINMENT PROVIDED = 46,1519 GAL. - 532.8 GAL. = +44,055.7 GAL.

CONTAINMENT REQUIRED

(1) 6" 24 HR, 25 YR RAINFALL EVENT (6")
TOTAL SURFACE AREA X 6" X 7.48 GAL/CF=
9101.2 SQ. FT. X 6" X 7.48 GAL/CF/12 = -34,038.5 GAL.

(2) VOLUME OF LARGEST CONTAINER = -6,800 GAL.

TOTAL CONTAINMENT REQUIRED = -34,038 GAL. + -6,800 GAL. = -40,838.5 GAL.

44,055.7 GAL. > 40,838.5 GAL. CONTAINMENT PROVIDED IS GREATER THAN CONTAINMENT REQUIRED

AREA 'A' CONTAINMENT IS ADEQUATE (+3217.2 GAL.)

GENERAL NOTES

1. EXISTING ASPHALT AND PROPOSED BERMS SHALL HAVE CHEMICAL RESISTANT COATING APPLIED.
2. CONCRETE PAVING WILL REQUIRE CONCRETE BERMS AND SHALL BE SEALED WITH CHEMTAC SEALER.

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

PROPRIETARY STATEMENT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					
F	I.D. AS TRUCK STATION 11	JEK	DDS	DDS	041923
E	REFIGURE CALCS	JEK	FR	FR	032720
D	REVISE LAYOUT	JEK	FR	FR	032620
C	REVISE LAYOUT	JEK	FR	FR	082119
A	REFIGURE CALCS	JEK	DDP	DDP	032217
0	ISSUED FOR REVIEW	JEK	DDP	DDP	031717

TITLE

ASBUILT TRUCK STATION #11

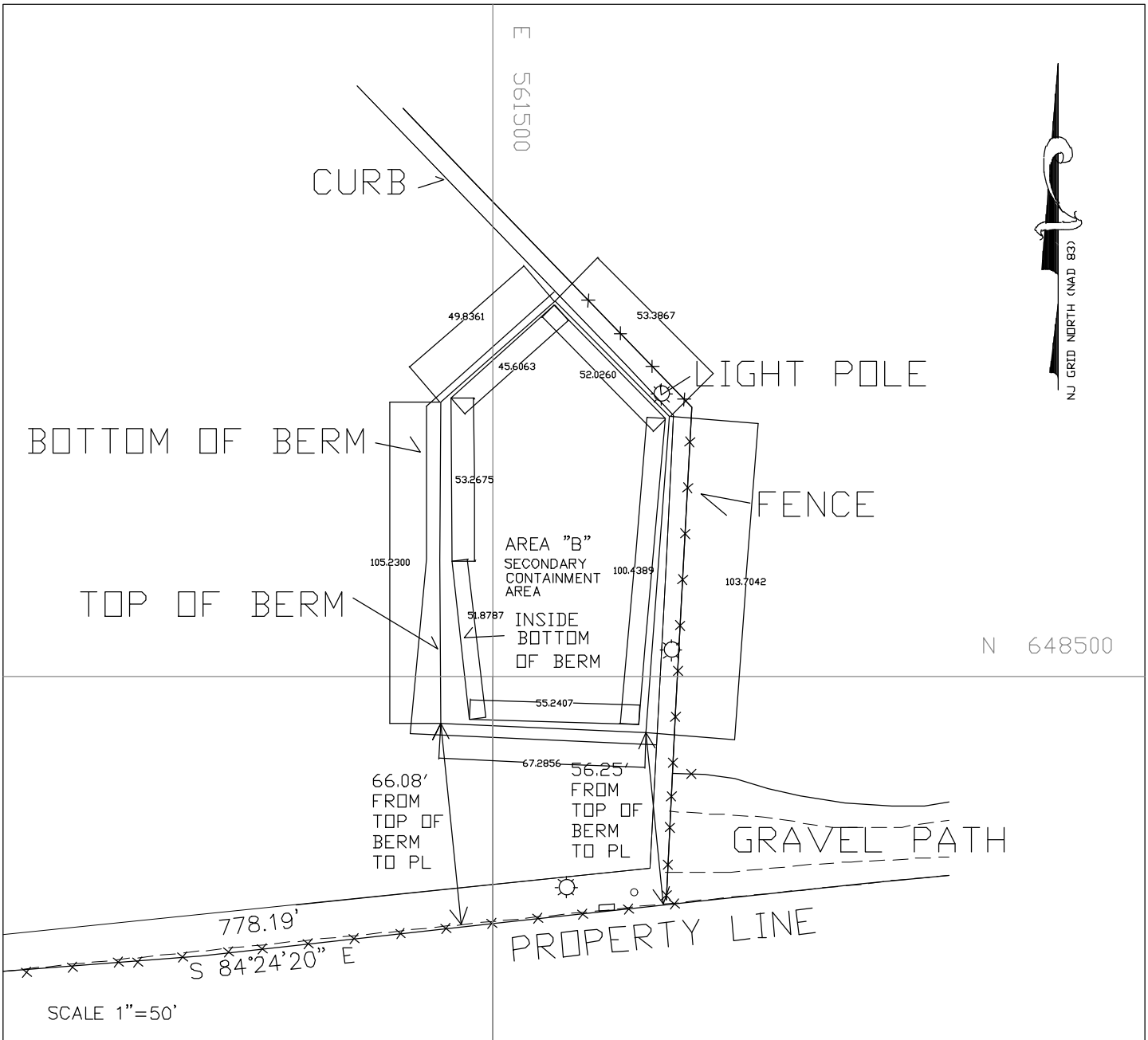
SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 781-792-5000

SCALE	BY	CHKD	P.E. APPR	DP. APPR	DATE
1/8" = 1'-0"	JEK	DDP	DDP	DDP	3/17/17

BRANCH LOCATION	STD-DWG-REV NO.
LINDEN, N.J.	7404-7200-500

Exhibit

A44	Truck Station No. 12



PREPARED BY

24GB01788400
N.J. LIC. NO.
DATE
7/09/2022

SAFETY-KLEEN SYSTEMS, INC
SYLVAN STREET
LINDEN, NJ

STEPHEN D. OMBALSKI
NEW JERSEY
PROFESSIONAL LAND SURVEYOR
1503 ARNET RD, EASTON, PA

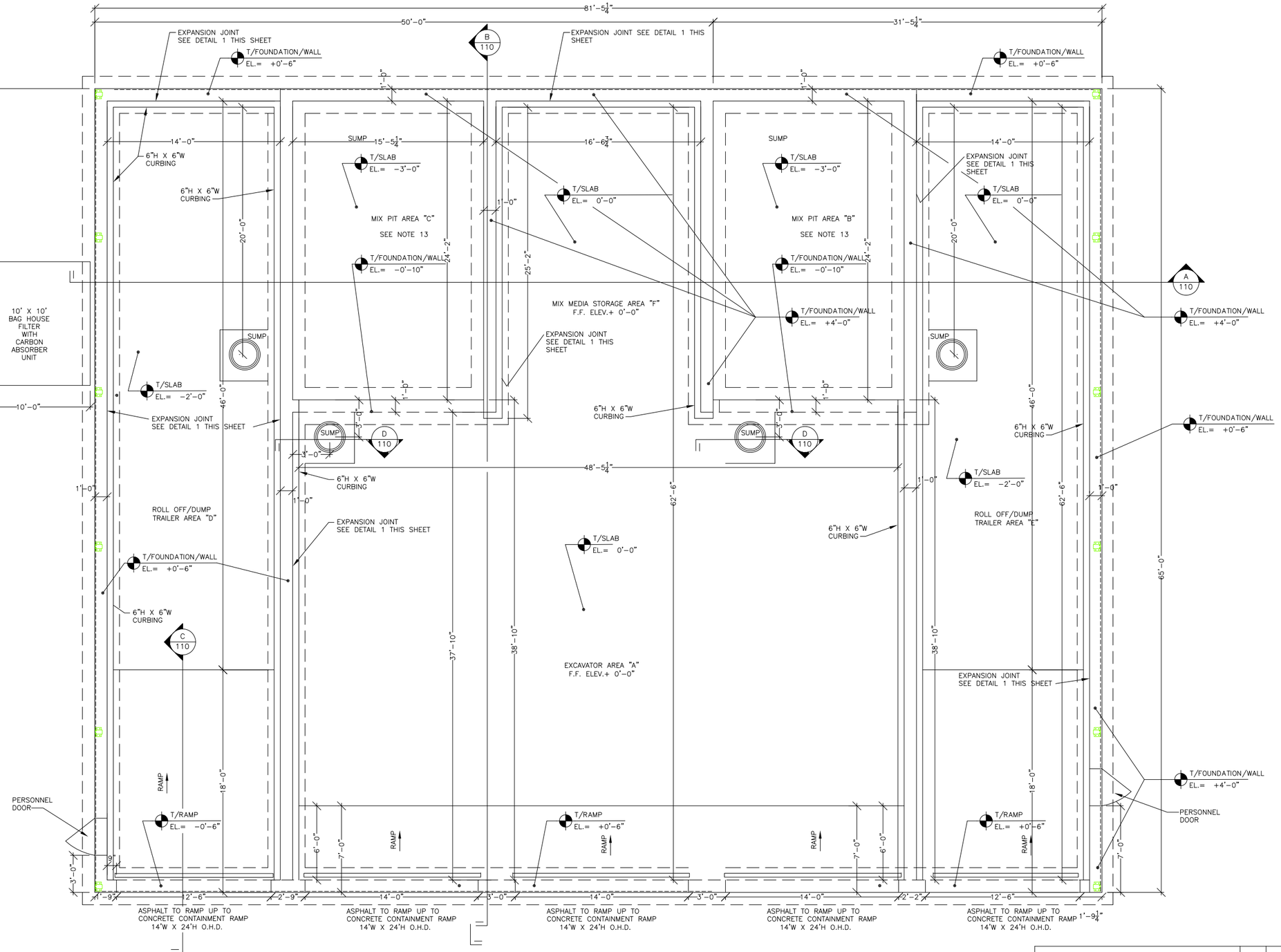
TITLE

SECONDARY CONTAINMENT AREA B
DPCC/DCR PLAN - 7/2022

STATE OF NEW JERSEY
N. DENNIS FRYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

Exhibit

A45	Mix Pit Building (CSA3) Floor Plan



SOLIDS AREA HANDLING CONCRETE PLAN

SCALE: 1/4" = 1'-0"

CONTAINMENT CALCULATIONS

AREA 'A'– EXCAVATOR AND MIX MEDIA STORAGE AREA
48'–5" X 38'–10" X 6" X 7.48 GAL/CF = + 7,031 GAL.–
.5 X 48'–5" X 6'–0" X 6" X 7.48 GAL/CF = –543 GAL.
= +6,488 GAL.

25'–2" X 16'6.75" X 6" X 7.48 GAL/CF. = +1,559 GAL.

AREA 'B'– MIX PIT AREA
20'–0" X 18'–0" X 3'–0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'C'– MIX PIT AREA
20'–0" X 18'–0" X 3'–0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'D & E'– ROLL–OFF/DUMP TRAILER AREA
64'–0" X 14'–0" X 2'–0" X 2 X 7.48 GAL/CF = +26,808 GAL.–
.5 X 14'–0" X 18'–0" X 2'–0" X 2 X 7.48 GAL/CF= –3,770 GAL.
= +23,038 GAL.

TOTAL CONTAINMENT = 47,241 GAL.

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, 315 AND 318 LATEST EDITIONS. FOLLOW ACI RECOMMENDATIONS FOR COLD AND HOT WEATHER CONDITIONS.

2.) ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM PERIOD OF FIVE DAYS.

3.) ALL CURBS SHALL BE CAST MONOLITHICALLY WITH SLAB.

4.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

5.) MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE CAST AGAINST SOIL AND 2" FOR CONCRETE EXPOSED TO WEATHER.

6.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% – 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

7.) ALL REBAR SHALL BE GRADE 50 BILLET STEEL CONFORMING TO ASTM A–615.

8.) BLDG. SLAB ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'–0" FOR EXISTING GRADE LEVEL.

9.) BLDG SLAB REQUIRED PREPARATION:
REMOVE SURFACE AND UNDERCUT SOIL TO THE PROPER SUB GRADE ELEVATION. SCARIFY AND RECOMPACT THE TOP 8" OF EXISTING SUB GRADE SOIL. INSTALL MIRAFI 500X GEOFABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BACK FILL AND COMPACT WITH AN 8" LAYER OF STRUCTURAL FILL (3" MINUS WELL GRADED CRUSHED STONE) AND 6" LAYER OF GRANULAR FILL (1" MINUS WELL GRADED CRUSHED STONE). SUBGRADE MATERIAL SHALL BE COMPACTED TO 95%. STRUCTURAL FILL AND GRANULAR FILL MATERIALS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAX. DRY DENSITY AND UNIFORM OVER THE ENTIRE AREA.
ACTUAL GRADE PREPARATION MAY VARY DUE TO EXISTING SOIL CONDITIONS.

10.) SLOPE GRADE AWAY FROM BUILDING AS REQUIRED TO ENSURE STORMWATER RUN–OFF AWAY FROM BUILDING.

11.) EXISTING GRADES AT PROPOSED BUILDING LOCATION VARIES. CONTRACTOR TO VERIFY EXISTING GRADES AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO CHES/SK PROJECT MANAGER. CONTRACTOR TO STEP FOOTINGS AS REQUIRED PER LOCAL CODES. CONTRACTOR TO MEET CONCRETE ELEVATIONS AT DOORWAYS WITH ASPHALT AND SLOPE AWAY AT MAX. 1:12 SLOPE AND BLEND WITH EXISTING ASPHALT.

12.) CONTRACTOR TO INSTALL CHEMTEC SEALER TO CONCRETE SURFACE, CHEMTEC SEALER SUPPLIED BY S–K.

13.) MIX PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
5051 Castello Drive
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1460 Breezy Way
Spring Hill, FL 34608
Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE
N.D. ERYOU
NJ PE # GE34195

STATE OF NEW JERSEY · N. DENNIS ERYOU · NO. GE34195 · LICENSED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

TITLE
MIX PIT/SOLIDS AREA CONCRETE PLAN

SAFETY–KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800–669–5740

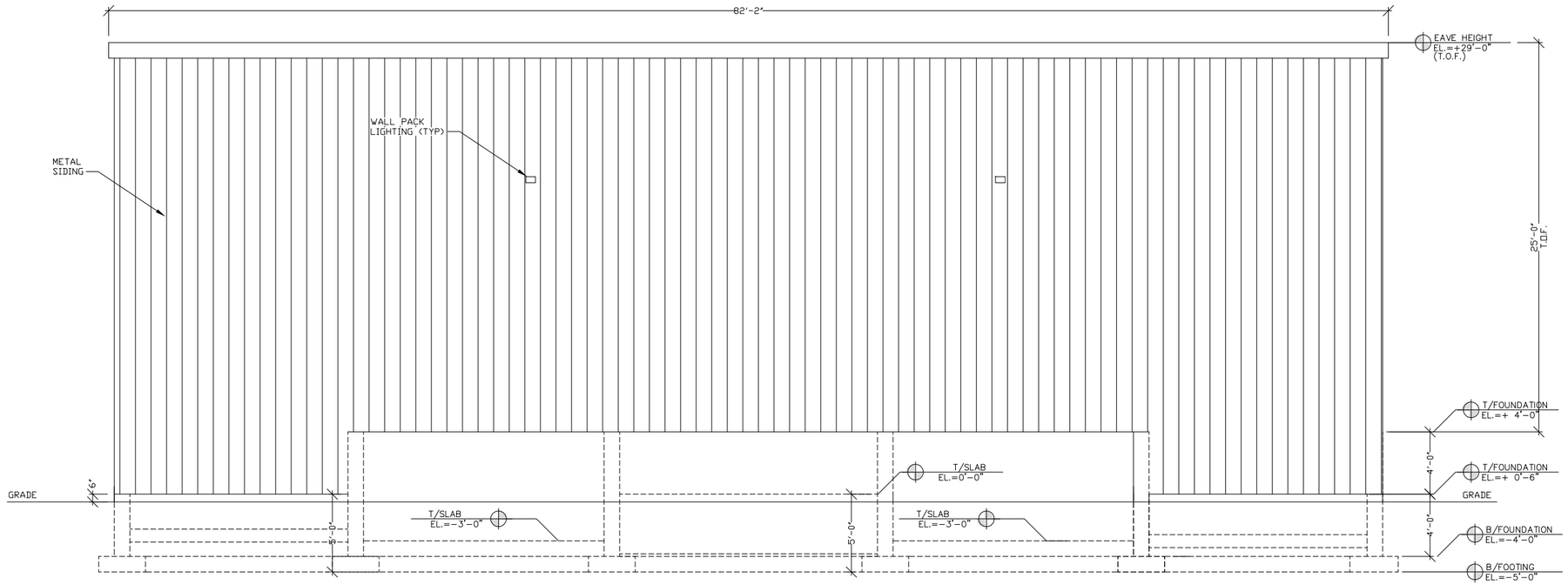
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'–0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD–DWG NUMBER	REV. NO.
LINDEN, N.J.	D–105	A

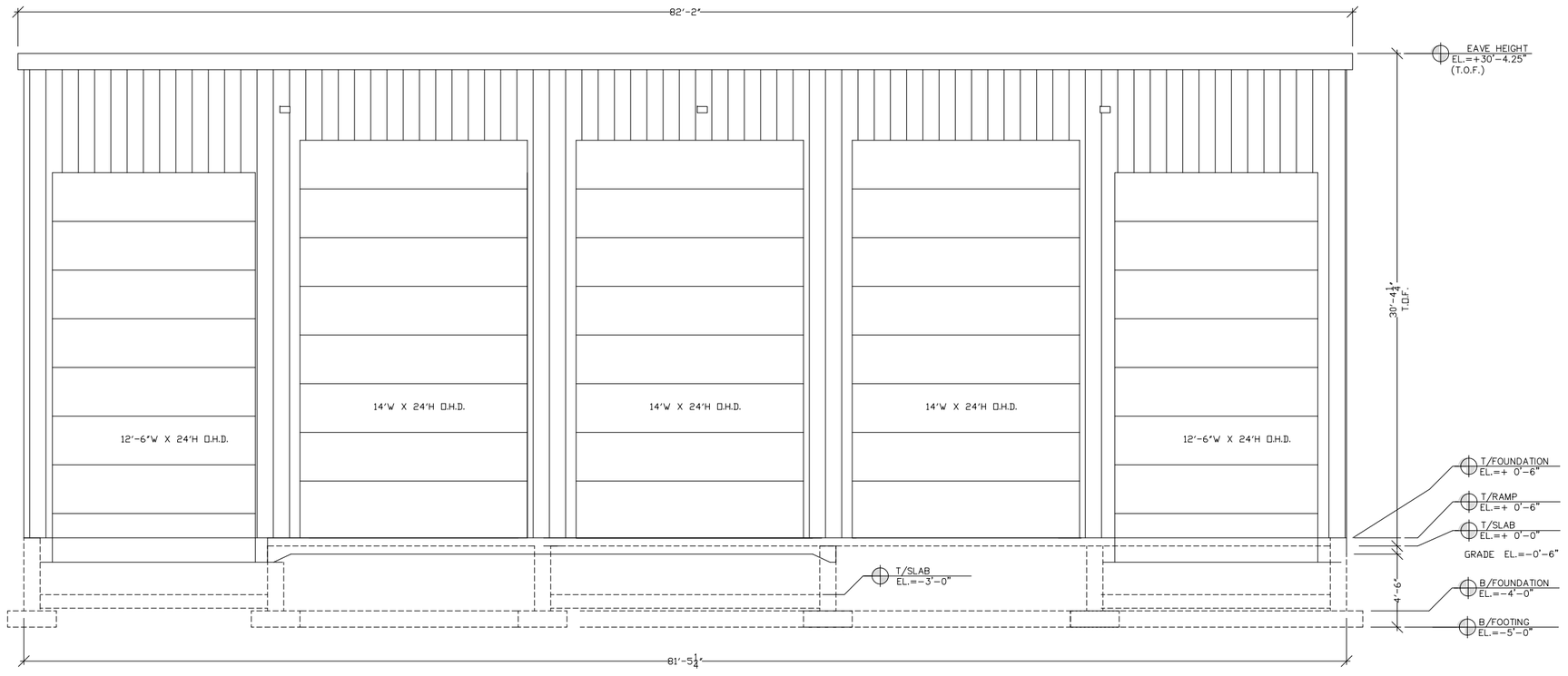
D–105 SOLIDS AREA RAMP CONCRETE PLAN.dwg, Nov 17, 2023, 11:31am

Exhibit

A46	Mix Pit Building (CSA3) Exterior View 1



NORTH ELEVATION



SIOUTH ELEVATION

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CAN3-A23.3-M.

2.) ALL CURBS & SUMP SHALL BE CAST MONOLITHICALLY WITH SLAB.

3.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

4.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% - 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

5.) ALL REBAR SHALL BE CSA G30.12 GRADE 400.

6.) SOLIDS AREA ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

7.) SOLIDS AREA RAMP AND FOUNDATION WALL SURFACES TO BE COATED WITH CHEMTEC SEALER PER SK SPECS.

8.) INSTALL A 3/4" UNDERGROUND WATER LINE AND 3/4" AIR LINE FROM MAIN BUILDING TO NORTHWEST CORNER OF SOLIDS PROCESSING STRUCTURE.

9.) PROVIDE 20 AMP ELECTRICAL OUTLET FOR POWER FOR SUMP AND POWER WASHER.

10.) PROCESSING PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR PERMIT	JEK	DDP	DDP	111523

REVISIONS

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
5051 Castello Drive
Suite 244
Naples, FL 34103
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Fax (800) 660-6724

Central Florida Office
1460 Breezy Way
Spring Hill, FL 34608
Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE
N.D. ERYOU
NJ PE # GE34195

TITLE

SOLIDS AREA BUILDING ELEVATIONS

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

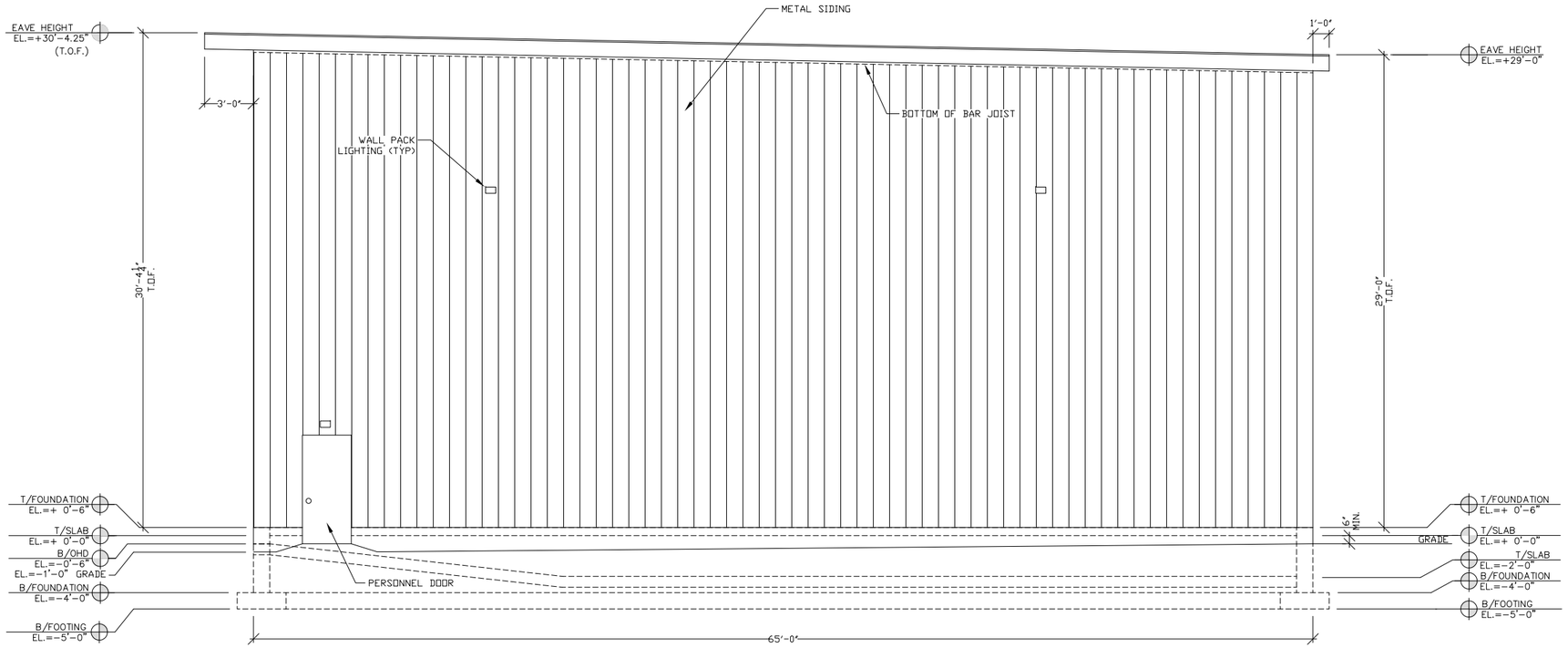
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-125	A

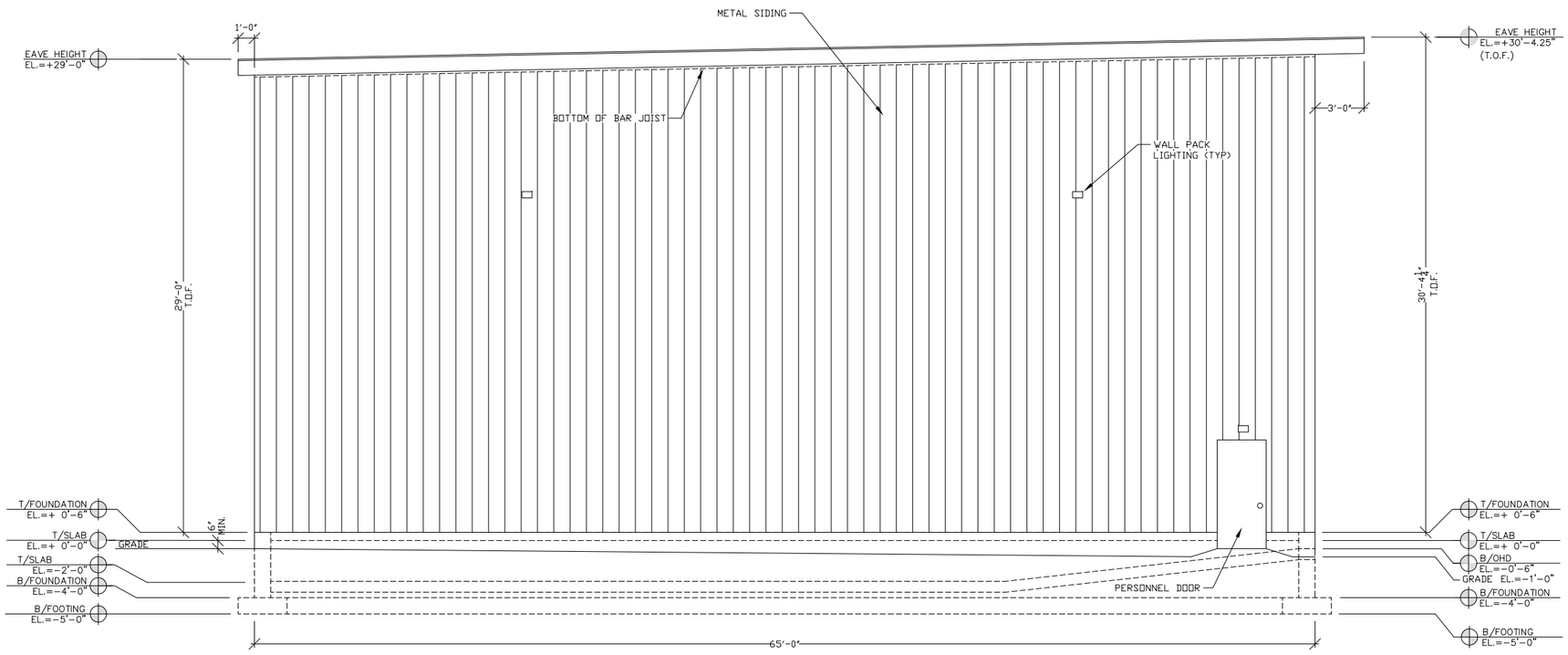
D-125 SOLIDS AREA BLDG ELEVATIONS.dwg, Nov 17, 2023, 11:33am

Exhibit

A47	Mix Pit Building (CSA3) Exterior View 2



EAST ELEVATION



WEST ELEVATION

D-135 SOLIDS AREA BLDG ELEVATIONS.dwg, Nov 17, 2023, 11:34am

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CAN3-A23.3-M.

2.) ALL CURBS & SUMP SHALL BE CAST MONOLITHICALLY WITH SLAB.

3.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

4.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% - 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

5.) ALL REBAR SHALL BE CSA G30.12 GRADE 400.

6.) SOLIDS AREA ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

7.) SOLIDS AREA RAMP AND FOUNDATION WALL SURFACES TO BE COATED WITH CHEMTEC SEALER PER SK SPECS.

8.) INSTALL A 3/4" UNDERGROUND WATER LINE AND 3/4" AIR LINE FROM MAIN BUILDING TO NORTHWEST CORNER OF SOLIDS PROCESSING STRUCTURE.

9.) PROVIDE 20 AMP ELECTRICAL OUTLET FOR POWER FOR SUMP AND POWER WASHER.

10.) PROCESSING PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR PERMIT	JEK	DDP	DDP	111523

REVISIONS

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

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Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE

N.D. ERYOU
NJ PE # GE34195

TITLE

SOLIDS AREA BUILDING ELEVATIONS

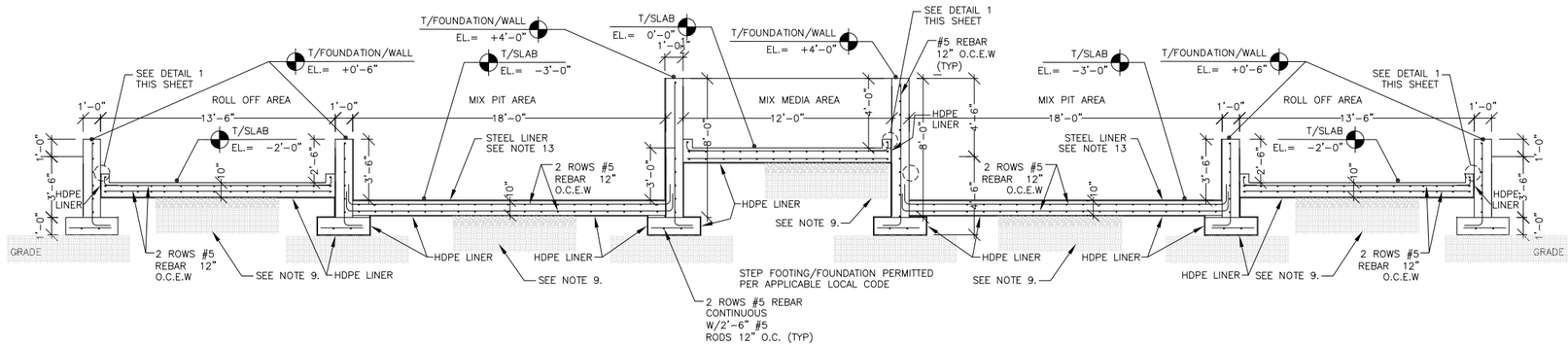
SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

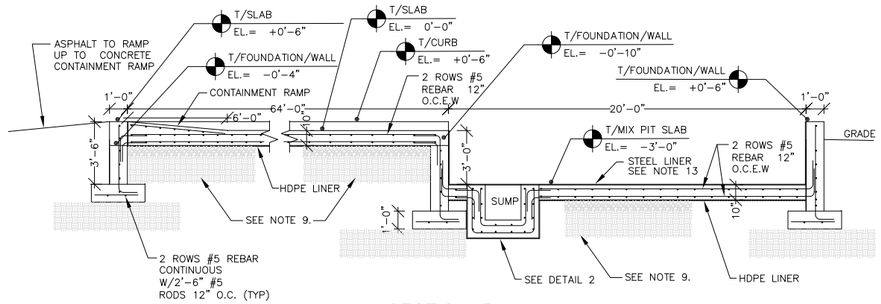
SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-135	A

Exhibit

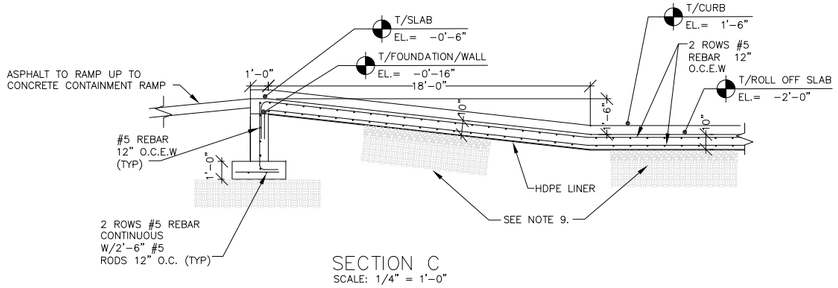
A48	Mix Pit Building (CSA3) Secondary Containment Details



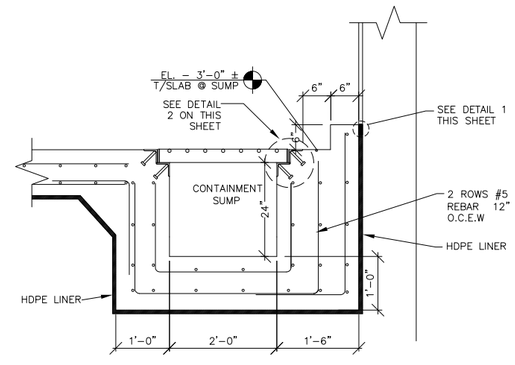
SECTION A
SCALE: 1/4" = 1'-0"



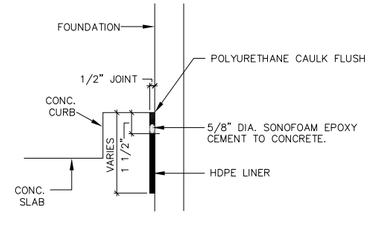
SECTION B
SCALE: 1/4" = 1'-0"



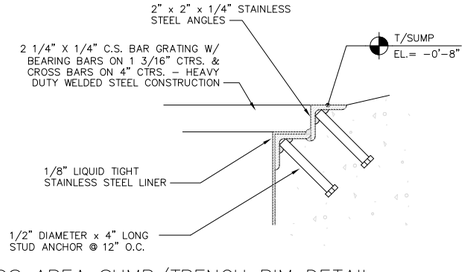
SECTION C
SCALE: 1/4" = 1'-0"



SECTION D
N.T.S.



1/115 EXPANSION JOINT DETAIL
SCALE: NONE



2/115 SOLIDS AREA SUMP/TRENCH RIM DETAIL
SCALE: 3" = 1'-0"

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, 315 AND 318 LATEST EDITIONS. FOLLOW ACI RECOMMENDATIONS FOR COLD AND HOT WEATHER CONDITIONS.

2.) ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM PERIOD OF FIVE DAYS.

3.) ALL CURBS SHALL BE CAST MONOLITHICALLY WITH SLAB.

4.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

5.) MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE CAST AGAINST SOIL AND 2" FOR CONCRETE EXPOSED TO WEATHER.

6.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% – 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

7.) ALL REBAR SHALL BE GRADE 50 BILLET STEEL CONFORMING TO ASTM A–615.

8.) BLDG. SLAB ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'–0" FOR EXISTING GRADE LEVEL.

9.) BLDG SLAB REQUIRED PREPARATION:
REMOVE SURFACE AND UNDERCUT SOIL TO THE PROPER SUB GRADE ELEVATION. SCARIFY AND RECOMPACT THE TOP 8" OF EXISTING SUB GRADE SOIL. INSTALL MIRAFI 500X GEOFABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BACK FILL AND COMPACT WITH AN 8" LAYER OF STRUCTURAL FILL (3" MINUS WELL GRADED CRUSHED STONE) AND 6" LAYER OF GRANULAR FILL (1" MINUS WELL GRADED CRUSHED STONE). SUBGRADE MATERIAL SHALL BE COMPACTED TO 95%. STRUCTURAL FILL AND GRANULAR FILL MATERIALS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAX. DRY DENSITY AND UNIFORM OVER THE ENTIRE AREA.
ACTUAL GRADE PREPARATION MAY VARY DUE TO EXISTING SOIL CONDITIONS.

10.) SLOPE GRADE AWAY FROM BUILDING AS REQUIRED TO ENSURE STORMWATER RUN–OFF AWAY FROM BUILDING.

11.) EXISTING GRADES AT PROPOSED BUILDING LOCATION VARIES. CONTRACTOR TO VERIFY EXISTING GRADES AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO CHES/SK PROJECT MANAGER. CONTRACTOR TO STEP FOOTINGS AS REQUIRED PER LOCAL CODES. CONTRACTOR TO MEET CONCRETE ELEVATIONS AT DOORWAYS WITH ASPHALT AND SLOPE AWAY AT MAX. 1:12 SLOPE AND BLEND WITH EXISTING ASPHALT.

12.) CONTRACTOR TO INSTALL CHEMTEC SEALER TO CONCRETE SURFACE, CHEMTEC SEALER SUPPLIED BY S–K.

13.) MIX PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office	Central Florida Office
5051 Castello Drive Suite 244 Naples, FL 34103 Phone: (352) 684-7275 Fax (800) 660-6724	**1460 Breezy Way Spring Hill, FL 34608 Phone: (352) 684-7275 Fax (800) 660-6724**

Email: alex@eryouengineering.com

SEAL & SIGNATURE

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

N.D. ERYOU
NJ PE # GE34195

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

TITLE
MIX PIT/SOLIDS AREA
CONCRETE DETAILS

SAFETY–KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800–669–5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD–DWG NUMBER	REV. NO.
LINDEN, N.J.	D–115	A

D–115 SOLIDS AREA RAMP CONCRETE DETAILS.dwg, Nov 17, 2023, 11:32am

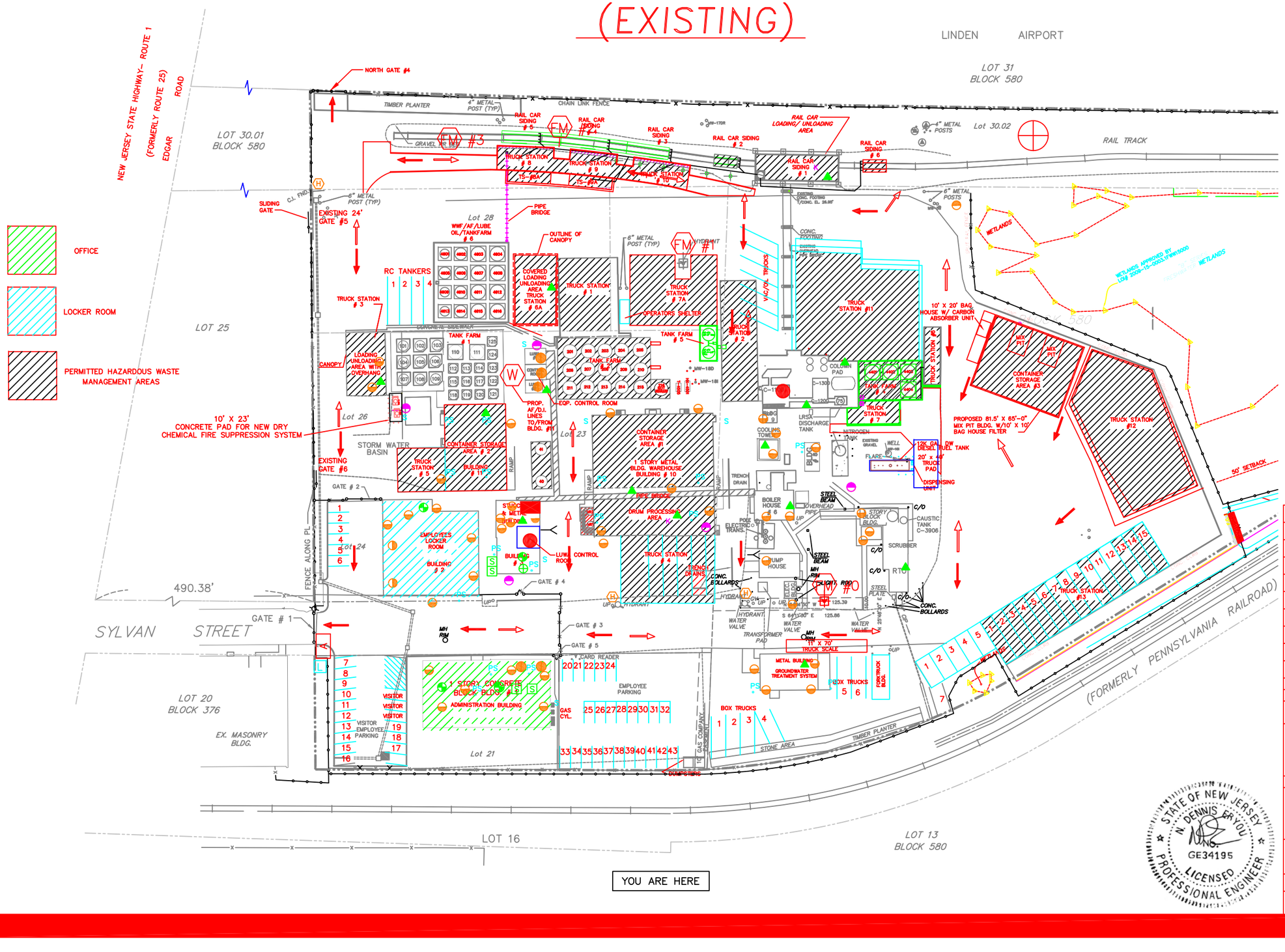
Volume III
2017 RCRA Part B Permit Application Exhibit B-List
(revised 12/8/2023)

Exhibit #	Description	Comments
B1	Safety-Kleen Facility - Linden, NJ - Site Location Map	
B2	Surrounding Land Use Safety-Kleen Facility - Linden, NJ	
B3	Storm Water Drainage Plan - Safety-Kleen Facility - Linden, NJ	
B4	Safety-Kleen Facility Emergency Equipment & Evacuation Site Plan	
B5	Safety-Kleen Facility - Linden, NJ - Flood Plain Information	
B6	Site Plan - Traffic Pattern Safety-Kleen Facility - Linden, NJ	
B7	Material Handling Process Flow Diagram	
B8	Truck Stations 1 and 3 Containment Basin	
B9	Return and Fill Flow Diagram	
B10	Return and Fill Drum Washer Diagram	
B11	Truck Station No. 2 Process Flow Diagram	
B12	Truck Station No. 3 Process Flow Diagram	
B13	Tank Farm No. 2 P&IDs	a, b, c, d
B14	Tank Farm No. 4 P&IDs	a, b
B15	VR-1/VR-2 P&ID	
B16	Solvent Recycling Unit Column C-1100 P&IDs	a, b, c, d, e, f
B17	Solvent Recycling Unit Column C-1300 P&IDs	a, b, c, d
B18	Solvent Recycling Unit LUWA P&ID	
B19	Solvent Dryer Unit P&ID	
B20	Solvent Recycling Unit Column C-1100 & 1300 Knock-out Pot P&ID	
B21	Air Emission Control System - RTO & Scrubber P&IDS	a, b, c
B22	Mix Pit Process Flow Diagram	

Exhibit

B4	Safety-Kleen Facility Emergency Equipment & Evacuation Site Plan

EMERGENCY EQUIPMENT & EVACUATION SITE PLAN (EXISTING)



OFFICE

LOCKER ROOM

PERMITTED HAZARDOUS WASTE MANAGEMENT AREAS

LEGEND

- HYDRANT
- DRY CHEMICAL FIRE EXTINGUISHER HAND HELD TYPE (10 ABC)
- DRY CHEMICAL FIRE EXTINGUISHER CART TYPE W/C CHARGE BOTTLE (150 ABC)
- DRY CHEMICAL FIRE EXTINNGUISHER HAND HELD TYPE (20 ABC)
- 9 HALON
- FIRST–AID KIT
- OXYGEN BOTTLE
- EMERGENCY EYE WASH AND SHOWER
- W — WATER CANNON
- FM — FOAM MONITOR
- WIND SOCK
- FOAM FOR TWO CANNONS
- FOAM FOR BUILDINGS 10 & 11
- A — FIRE ALARM BOX
- PRIMARY EMERGENCY EVACUATION ROUTES
- SECONDARY EMERGENCY EVACUATION ROUTES
- EVACUATION ASSEMBLY POINT
- EL — MAIN ELECTRIC SWITCH
- G — MAIN GAS VALVE
- SS — STORM SEWER CUTOFF
- STANDPIPE
- K — PURPLE K SYSTEM
- S — SCBA
- L — LOCK BOX
- PS — PS FULL STATION
- S — SPILL BOX

NO.	DESCRIPTION	BY	CK.	PRELIM/PROCESS APPR.	APPR.	DATE
10	REVISE SITE LAYOUT	JEK DDS				12/7/23
9	REVISE SITE LAYOUT	JEK DDS				7/21/23
8	ADD EQP. LOCATIONS	JEK FR.				5/08/17
7	MISC. REV'S & UPDATES	JEK FR.				12/3/09
6	MISC. REV'S & UPDATES	JEK FR.				9/10/09
5	MISC. REV'S & UPDATES	JEK FR.				8/14/09
4	MISC. REV'S & UPDATES	JEK FR.				8/05/09
3	MISC. REV'S & UPDATES	JEK FR.				6/16/09
2	MISC. REV'S & UPDATES	JCK FR.				12/07/08
1	AS–BUILT 2000	F.R. F.R.				03/25/00

REVISIONS

DF=F7404-0100-004-9

STATE OF NEW JERSEY
N. DENNIS FRYOU
GE34195
LICENSED PROFESSIONAL ENGINEER

SAFETY–KLEEN CORPORATION
EMERGENCY EQUIPMENT & EVACUATION SITE PLAN–EXIST.

SAFETY–KLEEN CORP.
42 LONGWATER DR. NORWELL, MA. 02061 PHONE 781–792–5000

SCALE	DRAWN	CHECKED	APPR.	OPERATION APPR	DATE
NONE	MASTER				3/25/00

LINDEN, NJ RECYCLE CENTER

DRAWING NO. 7404-0100-004

REV 10

Exhibit

B6	Site Plan - Traffic Pattern Safety-Kleen Facility - Linden, NJ

N

0' 25' 100'
10' 50' 150'

LINDEN AIRPORT

NEW JERSEY STATE HIGHWAY — ROUTE 1
(FORMERLY ROUTE 25)
EDGAR ROAD

SYLVAN STREET

(FORMERLY PENNSYLVANIA RAILROAD)

CONRAIL

(BRANCH LINE RIGHT-OF-WAY)

LOT 30.01 BLOCK 580
LOT 31 BLOCK 580
LOT 30.02
LOT 30.03 BLOCK 580
LOT 13 BLOCK 580
LOT 25
LOT 28
LOT 26
LOT 23
LOT 24
LOT 22
LOT 21
LOT 20 BLOCK 376
LOT 16

NORTH GATE #4
EXISTING 24' GATE #5
EXISTING GATE #6
GATE # 1
GATE # 2
GATE # 3
GATE # 4
GATE # 5
SLIDING GATE
GATE POST
POLE
RAIL TRACK
GRAVEL RR BED
TIMBER PLANTER
CHAIN LINK FENCE
4" METAL POST (TYP.)
6" METAL POST (TYP.)
4" METAL POSTS
6" METAL POSTS
C.L. PKG.
RAIL CAR SIDING # 1
RAIL CAR SIDING # 2
RAIL CAR SIDING # 6
RAIL CAR LOADING/ UNLOADING AREA
TRUCK STATION # 8
TRUCK STATION # 9
TRUCK STATION # 10
TS-#8A
TS-#9A
PIPE BRIDGE
OUTLINE OF CANOPY
RC TANKERS 1 2 3 4
TRUCK STATION # 3
LOADING UNLOADING AREA WITH OVERHANG
CANOPY
TANK FARM # 1
COVERED LOADING UNLOADING AREA TRUCK STATION # 6A
TRUCK STATION # 1
TRUCK STATION # 7A
OPERATORS SHELTER
HYDRANT
TANK FARM # 5
TRUCK STATION # 2
VAC/OIL TRUCKS
TRUCK STATION #11
TRUCK STATION #6
CONC. FOOTING
OVERHEAD PIPE BRIDGE
TANK FARM
COLUMN PAD
C-1100
C-1300
TANK FARM # 4
TRUCK STATION # 7
LRSA DISCHARGE TANK
NITROGEN TANK
FILL
WELL
FLARE
12K GAL DW DIESEL FUEL TANK
20' x 44' TRUCK PAD
DISPENSING UNIT
EQP. CONTROL ROOM
PROP. AF/DI. LINES TO/FROM BLDG. #10
CONTAINER STORAGE AREA #1
1 STORY METAL BLDG. WAREHOUSE BUILDING # 10
COOLING TOWER
BLDG. #10
TRENCH DRAIN
RAMP
BOILER HOUSE # 6
STEEL BEAM OVERHEAD PIPE
1 STORY BLOCK BLDG.
CAUSTIC TANK C-3906
SCRUBBER
RTO
PUMP HOUSE
MH RIM
LIGHT. ROD
STEEL PLATE
CONC. BOLLARDS
HYDRANT
W.V.
WATER VALVE
TRANSFORMER PAD
11' x 70' TRUCK SCALE
METAL BUILDING
GROUNDWATER TREATMENT SYSTEM
BOX TRUCKS
FORK TRUCK BASE
10' X 23' CONCRETE PAD FOR NEW DRY CHEMICAL FIRE SUPPRESSION SYSTEM
STORM WATER BASIN
CONTAINER STORAGE AREA # 2
TRUCK STATION # 5
BUILDING # 11
STUCCO & METAL BUILDING
BUILDING # 3
LUWA CONTROL ROOM
EMPLOYEES LOCKER ROOM
BUILDING # 2
DRUM PROCESSING AREA
TRUCK STATION # 4
1 STORY CONCRETE BLOCK BLDG. # 1
ADMINISTRATION BUILDING
CARD READER
EMPLOYEE PARKING
VISITOR EMPLOYEE PARKING
GAS CYL.
GAS COMPANY
EX. MASONRY BLDG.
CONTAINER STORAGE AREA #3
MIX PIT
TRUCK STATION #12
TRUCK STATION #13
WETLANDS
WETLANDS APPROVED BY LOI# 2008-75-0003.1 FW1000
50' SETBACK
INFILTRATION BASIN
MW-3
STONE AREA
TIMBER PLANTER
490.38'
256'-6"
231'-8"
162'-4"
70'-4"
66'-5"
62'-2"
43'-6"

LEGEND

- PROPERTY BOUNDARY
- CHAINLINK FENCE
- RAILROAD TRACKS
- TRAFFIC PATTERN

STATE OF NEW JERSEY
N. DENNIS SERVIDIO
No. GE34195
LICENSED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISED SITE CONDITIONS	JEK	DDS	DDS	120723
A	REVISED TO CURRENT CONDITIONS	JEK	DDS	DDS	082323
0	NEW ISSUE	JEK	FR	FR	053017

REVISIONS

TITLE
SITE TRAFFIC FLOW
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800-669-5740

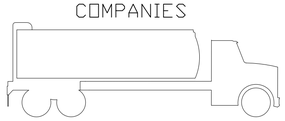
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=100'-0"	JEK	FR	FR		5/30/17

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-0100-003	B

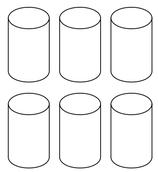
Exhibit

B22	Mix Pit Process Flow Diagram

INCOMING SLUDGE WASTE FROM PUBLIC & PRIVATE UTILITY & TRANSIT AUTHORITIES AND/OR COMPANIES

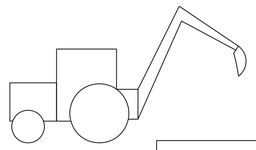


VIA VAC TRUCK/CUSCO



BATCH CONTAINERS FROM BULK & VARIOUS INDUSTRIAL & COMMERCIAL GENERATORS

STABILIZATION/ SOLIDIFICATION MATERIALS*



BACKHOE

STABILIZATION/ SOLIDIFICATION MIX PIT

SOLIDIFIED WASTE

STABILIZED/ SOLIDIFIED WASTE SHIPPED TO AUTHORIZED LANDFILL

GENERAL NOTES

WASTE COMES FROM UTILITY MANHOLE CLEANOUTS, OIL/WATER SEPARATOR CLEANOUTS, MAINTENANCE GARAGE TRENCH CLEANINGS, ETC.

*NOTE: PAPER PULP, WOOD FLOUR, DIAPER RESIDUALS, SWELL-GEL, PORTLAND CEMENT, KILN DUST, FLY ASH, LIME, FERROUS SULFATE, SAW DUST ETC.

PROPRIETARY STATEMENT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISE NOTES	JEK	DDS	DDS	083123
B	REVISE NOTES	JEK	DDP	DDP	082620
A	NEW ISSUE	JEK	DDP	DDP	041620

REVISIONS

TITLE

MIX PIT PROCESS FLOW DIAGRAM

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 781-792-5000

SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
1/8" = 1'-0"	JEK	DDP	DDP	DDP	4/6/20

STANDARD BRANCH LOCATION: LINDEN, N.J.

STD-DWG-REV NO.: M-100

Solid Waste Permit Modification Application

SOLID WASTE PERMIT MODIFICATION APPLICATION

New Jersey Department of Environmental Protection
Division of Solid and Hazardous Waste, Bureau of Solid Waste Permitting,
Trenton, New Jersey 08625

Linden Facility, NJ

Prepared for: **Clean Harbors Environmental Services, Inc.**

safety-kleen®
A Clean Harbors Company

Prepared by

Geosyntec consultants
engineers | scientists | innovators

December 2023

TABLE OF CONTENTS

1. INTRODUCTION 1

2. FACILITY DESCRIPTION 1

3. SOLID WASTE FACILITY APPLICATION FORM 2

4. ENVIRONMENTAL AND HEALTH IMPACT STATEMENT 2

5. GENERAL OPERATIONAL AND ENGINEERING REQUIREMENTS 3
   5.1 Engineering Report 3
   5.2 Operation and Maintenance Plan 3

6. CERTIFICATION 6

TABLES

Table 1 Cross Reference Table for N.J.A.C. 7:26-2B.9

ATTACHMENTS

Attachment SW-A1: Site Location Map
Attachment SW-A2: Zoning Map
Attachment SW-A3: Proposed Site Plan
Attachment SW-A4: Site Plan with Mix Pit Design
Attachment SW-A5: Surficial Geology Map
Attachment SW-A6: Mix Pit Process Flow Diagram
Attachment SW-A7: Site Traffic Flow
Attachment SW-B: Solid Waste Facility Application Form
Attachment SW-C1: Union County Approval
Attachment SW-C2: DEP Acknowledgement
Attachment SW-D: Air Permit Application
Attachment SW-E: Example Daily Solidification Log

1. INTRODUCTION

This application for New Jersey Department of Environmental Protection (NJDEP) Solid Waste Permit Modification has been prepared in support of a proposed mixing pit operations to be built and operated inside the existing Linden Recycle Center at 1200 Sylvan Street in Linden, New Jersey (Linden Recycle Center). The Linden Recycle Center is currently operating under Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit No. #NJD002182897 and #HWP190002. The proposed mixing pit operations are expected to treat non-hazardous wastes ID72 and ID27 via solidification in an enclosed building prior to offsite disposal at approved facilities.

2. FACILITY DESCRIPTION

The Linden Recycle Center is an industrial material recovery and reclamation facility that accepts wastes from Safety-Kleen customers and other industrial and commercial facilities, and processes many wastes to recover reusable materials for recycle or sale. The Linden Recycle Center also processes wastes received from other Safety-Kleen facilities, wastes generated on-site, and wastes received from Safety-Kleen customers into industrial furnace fuel, and serves as a storage, transfer and transship (store and reship) station for the movement of waste from waste generators to treatment and disposal facilities offsite elsewhere.

The Linden Recycle Center receives used solvents, solvent mixtures, and other liquid and solid wastes from industrial and commercial generators/customers, local, State and Federal agencies, Safety-Kleen service centers, and other Safety-Kleen Recycle Centers. Solvents are reclaimed/recovered and recycled into reusable products vis distillation (i.e., fractionalization distillation and thin-film evaporation) that are returned to their original generator/user or sold to other users in the marketplace for such materials. Non-hazardous liquid wastes (i.e., ID72) and dry solid wastes (i.e., ID27) are received for temporary storage prior to transfer offsite to other approved facilities. Hazardous wastes not suitable for reclamation/recovery/recycling received from offsite generators are stored onsite in permitted tanks and container storage areas. Hazardous wastes suitable as industrial fuels are treated in permitted tanks and shipped offsite to approved energy recovery facilities.

The facility is bounded to the north by the Linden Municipal Airport, to the west by a company owned/operated distribution center for its products sold to customers as well as a waste transfer facility and plastic fabricating plant and an industrial warehouse, and to the south and east by Conrail railroad tracks, and a shopping plaza. The location of the facility is shown in **Attachments SW-A1** and **SW-A2**.

The proposed mix pit operations consist of liquid-tight, steel-lined concrete in-ground structures and a secondary containment system. The mix pits will be used for treatment of certain non-hazardous waste (i.e., ID27) via solidification to remove and bind-up free liquids. The mix pits will be located in a new approximately 82’ by 65’ building. A new truck scale is proposed as part of the mix pit project. There is also an addition of three new truck stations that will be used for solid waste storage and loading/unloading. A more detailed site plan of the facility and the proposed mix pit operations are shown in **Attachment SW-A3**.

3. SOLID WASTE FACILITY APPLICATION FORM

The executed Solid Waste facility application form is included in **Attachment SW-B** and is signed and sealed by N. Dennis Eryou. Mr. Eryou is a Professional Engineer with the State of New Jersey (License #GE34195).

4. ENVIRONMENTAL AND HEALTH IMPACT STATEMENT

A zoning map and site plan of the Linden Recycle Center are shown in **Attachments SW-A2** and **SW-A3**. The mix pits will be constructed in a new building within the existing facility, and therefore, the mix pits are not expected to have any additional impact on drainage and soil characteristics, surface and ground water quality, endangered or threatened wildlife and vegetation, storm water and wastewater collection/treatment capability, water supply capability, ambient acoustical conditions, or conflict with the objective of any Federal, State, or local land use requirements. Detailed design of the mix pits is shown in **Attachment SW-A4**.

The impact on air quality is assessed in the air permit application provided in **Attachment SW-D**. In general mixing will be conducted an enclosed building designed to control potential air emissions from the process through a dust collector and carbon adsorption bed. An air permit application for the addition of the mix pit operations was submitted to NJDEP on September 13th, 2023. The mix pit operations will be part of the existing facility currently operating under active permits EPA ID No. #NJD002182897 and Permit No. HWP190002.

Per N.J.A.C. 7:26-29 (d)(2) requirements, the mix pit operations' purpose is to process contaminated wastes by the solidification and/or stabilization of inorganic hazardous waste and/or non-hazardous waste. The mix pits are designed to handle 84 tons/day waste type ID72 and 15 tons/day of waste type ID27. Safety-Kleen has submitted a request to handle 15 tons/day of ID27 waste to the Union County Utilities Authority (Resolution No. 57-2020) which was approved in November 2020. The waste type ID72 is exempt from the County's solid waste management plan, as was acknowledged by NJDEP in their letter dated April 24, 2021. The approval by the Union County and the NJDEP receipt of the administrative action are provided in **Attachments SW-C1 and SW-C2**, respectively.

The mix pits will be constructed within a new enclosed building within an existing facility that is already developed/paved. Local transportation patterns will remain unchanged after the facility is built and operating with a nominal increase of truck traffic (approximately an additional 10-15 trucks a day) after the mix pits are built and operating. There may be a slight temporary increase during construction when building and construction materials are delivered.

A soil erosion and sediment control plan approval from the Somerset-Union Soil Conservation District is required for soil disturbances greater than 5,000 square feet. Drawings detailing the measures to be implemented will be prepared and the application will be submitted to the Soil Conservation District at least 60 days before construction activities are to begin to ensure adequate time for plan review and plan approval. Erosion control and best management practices will be utilized during construction. Because disturbances are less than 1 acre, a stormwater construction (5G3) permit will not be required.

5. GENERAL OPERATIONAL AND ENGINEERING REQUIREMENTS

The mix pits will be constructed in a new enclosed building within the existing facility, and therefore, no additional geotechnical and soil reports are needed. A geological map from the United States Geological Survey is provided in **Attachment SW-A5**.

5.1 Engineering Report

An engineering report describing the specifications of all proposed waste disposal system processes is provided in the RCRA Class 3 permit modification submitted concurrently with this application. The mix pit process flow is shown in **Attachment SW-A6.** An average of 8 trucks per day are expected to deliver waste to be processed by the mix pit with a maximum of 15 trucks per day. An estimate of 10-20 tons of waste will be processed per hour. For storage and offsite transfer only, an average of 2 with a maximum of 5 trucks per day is expected. A traffic plan is shown in **Attachment SW-A7.**

5.2 Operation and Maintenance Plan

The solidification of non-hazardous wastes (NJDEP waste type ID72) is performed in two (2) mix pits – see **Attachment SW-A6** for a mix pit process flow diagram.

Non-hazardous waste solidification is conducted in the mix pits within an enclosed building designed to control potential air emissions from the process (e.g., dust emissions and low-level VOCs). Solidification is conducted in discrete "batches". Solidification recipes to determine the appropriate amounts and types of chemical reagents required for solidification will be determined by the facility's lab based on the incoming materials. The facility may optionally decant excessive free liquids from the waste prior to solidification. If the facility exercises this option, the decanted liquids will be managed in accordance with how it was received (e.g., ID72). The resultant solidified waste is disposed-of at approved offsite facilities.

SOLIDIFICATION IN A MIX PIT

The facility may receive bulk and non-bulk containers of semi-solids that contain free flowing liquid requiring solidification before ultimate disposal in a landfill (i.e., no free liquids). Containers are evaluated for proper disposal of the liquid layer. The liquid layer may be pumped out and the remaining solids managed based on applicable state and federal regulations.

Solidification activities are conducted in the mix pit building. Actual solidification of ID72 wastes occurs in the two (2) enclosed mix pits. Prior to commingling any waste containers, the compatibility is checked and verified as required. Solidification media is added as needed to ensure that no free liquids remain. The facility uses dehydration media such as calcium sulfate, cement dust, kiln dust, fly ash envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust or pozzolanic materials, etc. Excavators or backhoes are used to mechanically mix wastes with solidification media in the mix pits. All waste that is solidified will be managed to ensure compliance with applicable regulations and permit conditions.

Solidification Procedure

The maximum daily solidification limit is 84 tons per day. Solidification activities are conducted exclusively in the enclosed mix pit building. A backhoe or other mechanized equipment (e.g., excavator fitted with a mixing blade, robotic arm, etc.) is utilized to thoroughly mix the wastes and reagents. The waste and reagent are mixed until the mixture is homogeneous by visual examination (i.e., no free liquids). The approximate mixing time is typically 40 minutes per batch of treated waste.

The facility uses the company's electronic waste tracking system called WINWEB to track the amount of waste received each day in order to document compliance with the daily limit.

Solidification Acceptance/Approval

After bench scale testing has been completed and the bench scale solidification has been verified, information is recorded and forwarded electronically to facility management and operations' personnel. At this point, the waste stream is officially approved and is entered into Clean Harbor's WINWEB profile database as acceptable for the mix pits.

Solidification of Waste

Waste is solidified in the mix pits based on the treatment recipe, the appropriate proportional amount of reagent is added as a measure or weight of reagent. The type and amount of reagents added to the wastes is determined by the bench scale tests. Bulk reagent (usually calcium sulfate, cement dust, kiln dust, fly ash envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust or pozzolanic materials, etc.) is measured and used. However, other effective solidification media may be used to solidify ID72 wastes. Necessary amount of solidification media is placed in the mix tub and mixed with the non-hazardous wastes. This procedure is continued until the appropriate amount of reagent has been added.

The operator completes a daily solidification log which includes the shipping document number, waste profile number, volume of waste, amount of reagent, start and finish time, container number in which the stabilized material is transferred (if applicable), and the operator's name. An example copy of this log's format is included as **Appendix SW-E**. The log is recorded and filed electronically at the facility.

At the end of each operating day the operator enters the completed daily solidification log into the facility's operating record. Completed daily solidification logs are maintained on file electronically, however if electronic issues arise paper copies of forms may be completed and filed onsite.

The solidified waste is transferred to bulk containers (roll-off's, intermodals, dump trailers, railcars, etc.). These bulk containers are labeled and held in a permitted waste container storage area (e.g., Truck Station 1 - 13) pending offsite shipment.

OPERATIONAL SAFEGUARDS

Personal protective equipment will be used during the performance of solidification activities. Solidification activities in the mix pit building shall not interfere with the safe, free, unrestricted

flow of traffic into, out of, and within the facility or public roadways. Activities shall be conducted such that containers, equipment and supplies shall not be staged in the entry/egress roadway(s). This will ensure that emergency vehicles have unrestricted access throughout the facility.

MIX PIT INSPECTION/MAINTENANCE

The mix pits and associated secondary containments will be inspected daily to ensure there are no spills or leaks occurring, and to detect any potential compromise of the waste management units' structural integrity. The mix pit building's air pollution controls devices will also be inspected for damage and any defects that could adversely affect the ability of the devices to function. Containers staged and stored in the mix pit building or the container storage area will also be inspected for proper packaging/labeling/markings and to ensure no leaks, spills, reactions, etc. are occurring.

Any issues with and corrections/repairs for the mix pit operations will be recorded on inspection forms filed electronically onsite. If necessary, operational equipment in need of repair will be placed out-of-service until repairs are completed.

6. CERTIFICATION

This permit modification is being submitted concurrently with the RCRA Class 3 permit modification application and has been prepared in accordance with the NJDEP Solid and Hazardous Waste Management Program Regulations NJAC7:26-2B.9.

I certify that, to the best of my knowledge, all information contained in this report is accurate and complete.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit or vehicle registration for which I may be seeking approval or now hold."

N. Dennis Eryou, P.E.
New Jersey Professional Engineer No. GE34195

TABLE 1

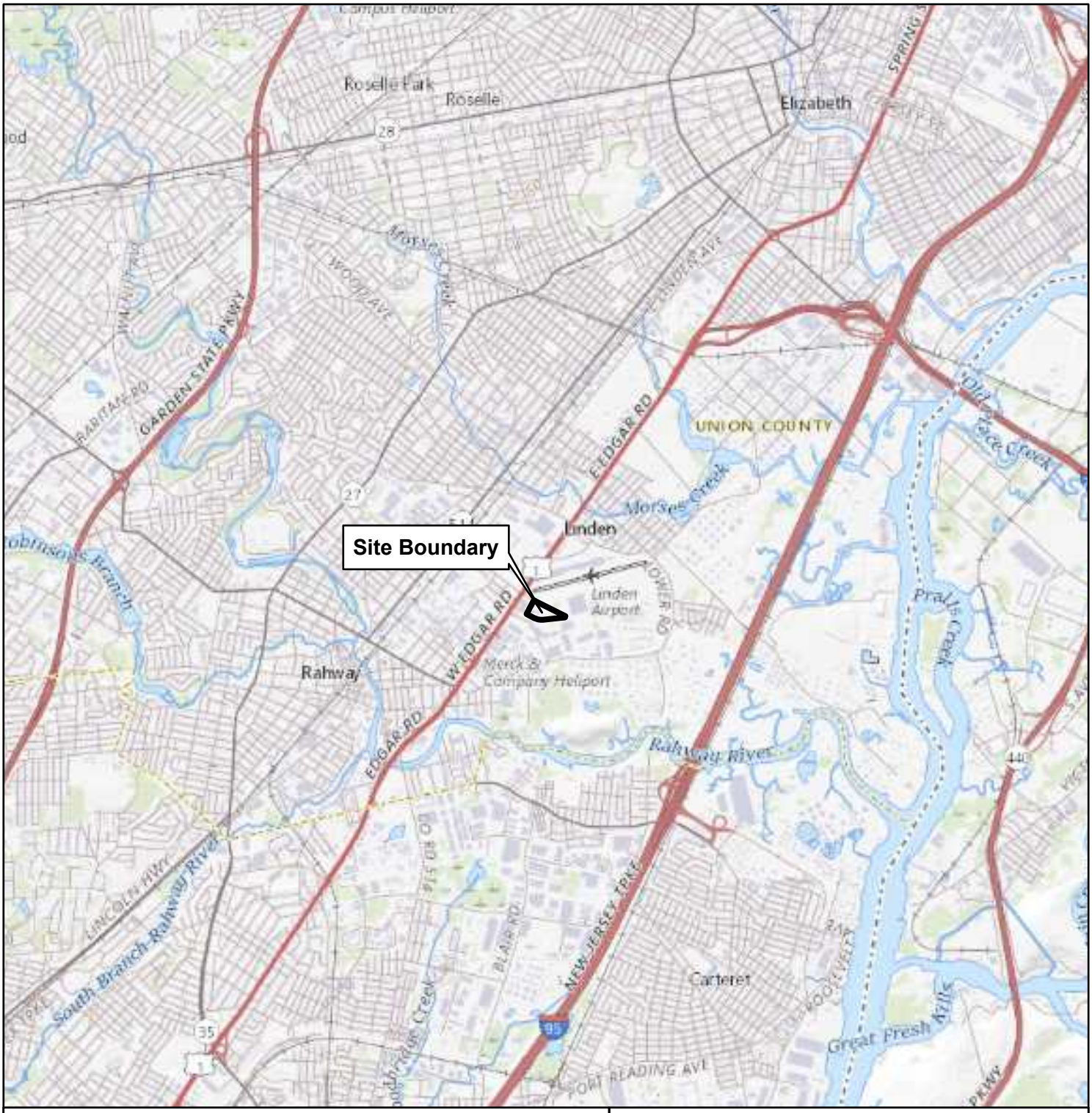
Cross Reference Table for N.J.A.C. 7:26-2B.9

N.J.A.C. 7:26	Requirement	Application Reference	Summary of Compliance
7:26 Part 2B.9(a)	At no time shall ID 27 solid waste be subject to mechanized processing, such as grinding, shredding or baling, such that the physical appearance of the material is altered prior to disposal at a designated district facility.	• Solid Waste Permit Modification Application Narrative Section 5.2 • RCRA Permit Application Section 2.2.5	Material will be mixed with mechanical equipment in the mix pits.
7:26 Part 2B.9(b)	All facility processing, tipping, sorting, loading, storage and compaction of materials (that is, solid waste and mixtures of solid waste and recyclable materials) shall occur within the confines of an enclosed building.	• Solid Waste Permit Modification Application Narrative Section 2 • RCRA Permit Application Section 2.2.5	Material will be mixed in the designated enclosed building with the mix pits.
7:26 Part 2B.9(c)	The installation, maintenance, operation, and repair of all systems identified within the interior layout of the facility shall comply with the requirements established by the Federal Occupational Health and Safety Administration and the New Jersey Worker and Community Right to Know Act.	• RCRA Permit Application Section G	The facility operates in accordance with the facility's health and safety plan prepared in accordance with Federal Occupational Health and Safety Administration and the New Jersey Worker and Community Right to Know Act.
7:26 Part 2B.9(d)	The queuing and staging of solid waste vehicles on any public roadway is prohibited.	• Solid Waste Permit Modification Application Narrative Section 4 and Attachment A-7	The traffic plan includes designated truck staging areas and storage areas within the facility and not on public roadways.
7:26 Part 2B.9(e)	The queuing and staging of solid waste vehicles shall be conducted in accordance with the approved on-site queuing plan for the facility so as to prevent traffic backups and related traffic hazards on access roads servicing the facility	• Solid Waste Permit Modification Application Narrative Section 4 and Attachment A-7	The traffic plan includes designated truck staging areas and storage areas within the facility and not on public roadways.
7:26 Part 2B.9(f)	Owners or operators of transfer stations who receive, store, treat or transfer only ID 72 liquid wastes are not required to comply with (a) and (b) above.	-	-
7:26 Part 2B.9(g)	Additional operational requirements for ID 72 liquid waste transfer stations are as follows: 1. The following are the label standards for ID 72 liquid waste transfer facilities: i. Containers and above ground tanks used to store or treat ID 72 liquid wastes at transfer stations shall be labeled or marked clearly with the words "ID 72 Waste"; and ii. Piping used to transfer ID 72 liquid wastes to and from containers and/or aboveground tanks at transfer stations shall be labeled or marked clearly with the words "ID 72 Waste." 2. The following are the waste analysis requirements for ID 72 liquid waste transfer facilities: i. Before an owner or operator receives, stores, treats or transfers any ID 72 liquid waste, the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, the analysis shall contain all the information which must be known to receive, store, treat or transfer the waste in accordance with this chapter. ii. The analysis required by (g)2i above may include existing published or documented data on the waste, or on wastes generated from similar processes.	• RCRA Permit Application Section 2 • Solid Waste Permit Modification Application Narrative Section 4 and Attachment A6	The operational requirements for the mix pits have been developed to meet the requirements of the N.J.A.C. rules for importing, labeling, mixing, solidifying, and staging wastes.

N.J.A.C. 7:26	Requirement	Application Reference	Summary of Compliance
	iii. The analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated: (1) When the owner or operator is notified, or has reason to believe, that the process or operation generating the waste has changed; and (2) When the results of the inspection required in (g)2iv below indicate that the waste received at the transfer facility does not match the waste designated on the accompanying shipping paper. iv. The owner or operator of an ID 72 liquid waste transfer station shall inspect and, if necessary, analyze each waste shipment received at the facility to determine whether it matches the identity of the waste specified on the accompanying shipping paper. 3. The following are incompatible wastes requirements for ID 72 liquid waste transfer facilities: i. Owners or operators of ID 72 liquid waste transfer stations that receive, store, treat or transfer incompatible wastes or mixtures of incompatible wastes and other materials shall take precautions to prevent reactions which: (1) Generate extreme heat or pressure, fire or explosions, or violent reactions; (2) Produce uncontrolled toxic mists, fumes or gases in sufficient quantities to threaten human health or the environment; (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fires or explosions; (4) Damage the structural integrity of the equipment or the facility; or (5) Through other like means threaten human health or the environment. ii. The owner shall document compliance with (g)3i(1) through (5) above. This documentation may be based on references to published scientific literature, data from trial tests (for example, bench scale or pilot scale tests), waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions. 4. Upon detection of a release of ID 72 liquid waste to the environment at a transfer station, the owner/operator shall perform the following cleanup steps: i. Stop the release; ii. Contain the released waste materials; iii. Clean up and manage properly the released wastes and other materials; and iv. If necessary, repair or replace any leaking storage or treatment containers or tanks prior to returning them to service.		

ATTACHMENT SW-A1

Site Location Map



Notes:
1. United States Geologic Survey (USGS) Topographic Quadrangles: Elizabeth, NJ/NY; Authur Kill, NJ/NY; Perth Amboy, NJ/NY; Roselle, NJ.

0 4,000 US Feet

N

Site Location Map

Safety-Kleen Facility
Linden, New Jersey

Geosyntec consultants

Blue Bell, PA | November 2023

Figure 1

P:\GIS\GISprojects\JR0394 - Safety-Kleen\Projects\Site_Location.aprx\Site Location Map Layout 11/2/2023 10:36 AM (AKaufman)

ATTACHMENT SW-A2

Zoning Map

N

Legend

- Site_Boundary
- 1,000 Feet Radius
- Airport Facilities
- Altered Lands
- Commercial/Services
- Deciduous Brush/Shrubland
- Deciduous Forest
- Deciduous Scrub/Shrub Wetlands
- Deciduous Wooded Wetlands
- Herbaceous Wetlands
- Industrial
- Major Roadway
- Mixed Transportation Corridor Overlap Area
- Other Urban Or Built-Up Land
- Railroads
- Residential, Single Unit, Medium Density
- Stormwater Basin
- Transitional Areas
- Transportation/Communication/ Utilities

Notes:
1. Land Use source: NJDEP
2. Aerial Imagery source: ESRI

0 400 Feet

Zoning Map

Safety-Kleen Facility
Linden, NJ

Geosyntec consultants

Blue Bell, PA | November 2023

Figure 1

P:\GIS\GISprojects\JR0394 - Safety-Kleen\Projects_Templates\ProTemplates\Basemaps\NJ_RE_Basemap\NJ_RE_Basemap.aprx\11 x 17 RE Landscape 11/2/2023 10:33 AM (AKaufman)

ATTACHMENT SW-A3

Proposed Site Plan

LOT AREA
SQUARE FEET – 478,444.29
ACRES – 10.98
BLDG SQUARE FOOTAGE – 33,689

LEGEND

- PROPERTY BOUNDARY
- CHAINLINK FENCE
- RAILROAD TRACKS
- HAZARDOUS WASTE STORAGE/TREATMENT

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

PROPRIETARY STATEMENT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

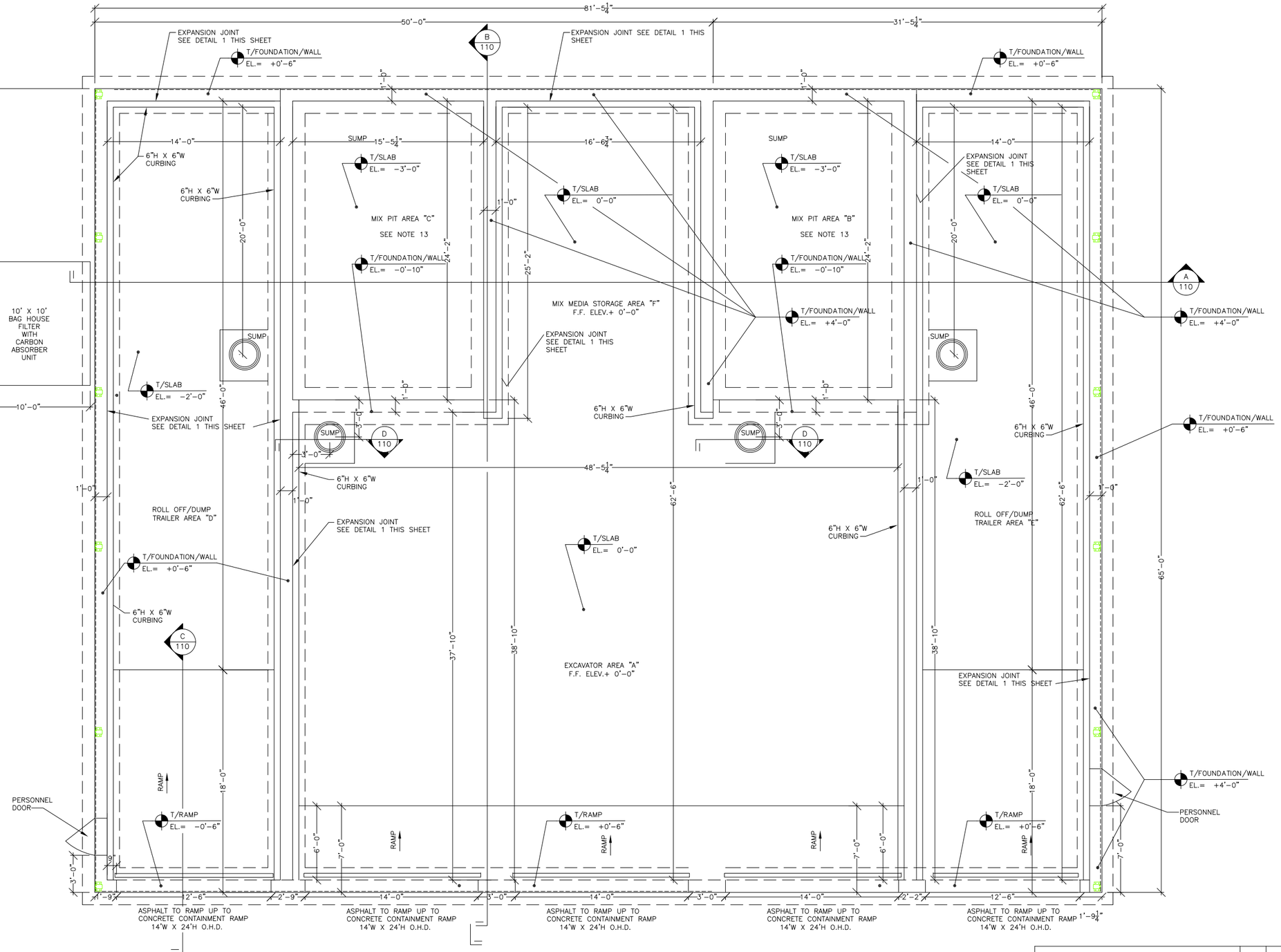
TITLE

PROPOSED SITE PLAN
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY–KLEEN SYSTEMS, INC.
42 LONGWATER DRIVE, NORWELL, MA. 02061
PHONE: 781–792–5000

SCALE	BY	CHKD	APPROVAL	OP. APPR	DATE
1"=50'–0"	JEK	KJM	DP		11/15/23

SERVICE CENTER LOCATION	SC–DWG NUMBER	REV. NO.
LINDEN, N.J.	C–205	A



SOLIDS AREA HANDLING CONCRETE PLAN

SCALE: 1/4" = 1'-0"

CONTAINMENT CALCULATIONS

AREA 'A'- EXCAVATOR AND MIX MEDIA STORAGE AREA
48'-5" X 38'-10" X 6" X 7.48 GAL/CF = + 7,031 GAL.-
.5 X 48'-5" X 6'-0" X 6" X 7.48 GAL/CF = -543 GAL.
= +6,488 GAL.

25'-2" X 16'6.75" X 6" X 7.48 GAL/CF. = +1,559 GAL.

AREA 'B'- MIX PIT AREA
20'-0" X 18'-0" X 3'-0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'C'- MIX PIT AREA
20'-0" X 18'-0" X 3'-0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'D & F'- ROLL-OFF/DUMP TRAILER AREA
64'-0" X 14'-0" X 2'-0" X 2 X 7.48 GAL/CF = +26,808 GAL.-
.5 X 14'-0" X 18'-0" X 2'-0" X 2 X 7.48 GAL/CF= -3,770 GAL.
= +23,038 GAL.

TOTAL CONTAINMENT = 47,241 GAL.

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, 315 AND 318 LATEST EDITIONS. FOLLOW ACI RECOMMENDATIONS FOR COLD AND HOT WEATHER CONDITIONS.

2.) ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM PERIOD OF FIVE DAYS.

3.) ALL CURBS SHALL BE CAST MONOLITHICALLY WITH SLAB.

4.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

5.) MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE CAST AGAINST SOIL AND 2" FOR CONCRETE EXPOSED TO WEATHER.

6.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% - 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

7.) ALL REBAR SHALL BE GRADE 50 BILLET STEEL CONFORMING TO ASTM A-615.

8.) BLDG. SLAB ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

9.) BLDG SLAB REQUIRED PREPARATION:
REMOVE SURFACE AND UNDERCUT SOIL TO THE PROPER SUB GRADE ELEVATION. SCARIFY AND RECOMPACT THE TOP 8" OF EXISTING SUB GRADE SOIL. INSTALL MIRAFI 500X GEOFABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BACK FILL AND COMPACT WITH AN 8" LAYER OF STRUCTURAL FILL (3" MINUS WELL GRADED CRUSHED STONE) AND 6" LAYER OF GRANULAR FILL (1" MINUS WELL GRADED CRUSHED STONE). SUBGRADE MATERIAL SHALL BE COMPACTED TO 95%. STRUCTURAL FILL AND GRANULAR FILL MATERIALS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAX. DRY DENSITY AND UNIFORM OVER THE ENTIRE AREA.
ACTUAL GRADE PREPARATION MAY VARY DUE TO EXISTING SOIL CONDITIONS.

10.) SLOPE GRADE AWAY FROM BUILDING AS REQUIRED TO ENSURE STORMWATER RUN-OFF AWAY FROM BUILDING.

11.) EXISTING GRADES AT PROPOSED BUILDING LOCATION VARIES. CONTRACTOR TO VERIFY EXISTING GRADES AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO CHES/SK PROJECT MANAGER. CONTRACTOR TO STEP FOOTINGS AS REQUIRED PER LOCAL CODES. CONTRACTOR TO MEET CONCRETE ELEVATIONS AT DOORWAYS WITH ASPHALT AND SLOPE AWAY AT MAX. 1:12 SLOPE AND BLEND WITH EXISTING ASPHALT.

12.) CONTRACTOR TO INSTALL CHEMTEC SEALER TO CONCRETE SURFACE, CHEMTEC SEALER SUPPLIED BY S-K.

13.) MIX PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
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Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE
N.D. ERYOU
NJ PE # GE34195

STATE OF NEW JERSEY · N. DENNIS ERYOU · NO. GE34195 · LICENSED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

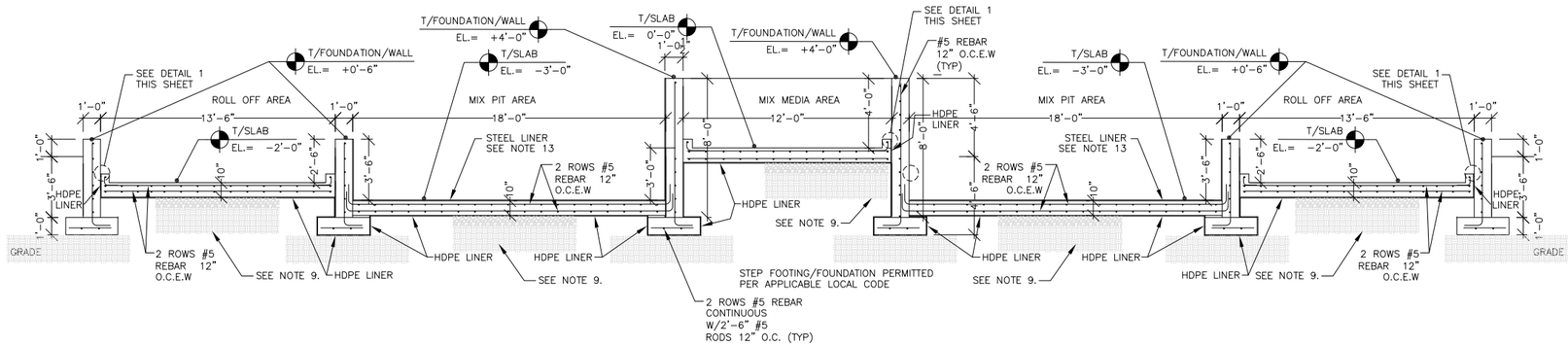
TITLE
MIX PIT/SOLIDS AREA CONCRETE PLAN

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-105	A

D-105 SOLIDS AREA RAMP CONCRETE PLAN.dwg, Nov 17, 2023, 11:31am



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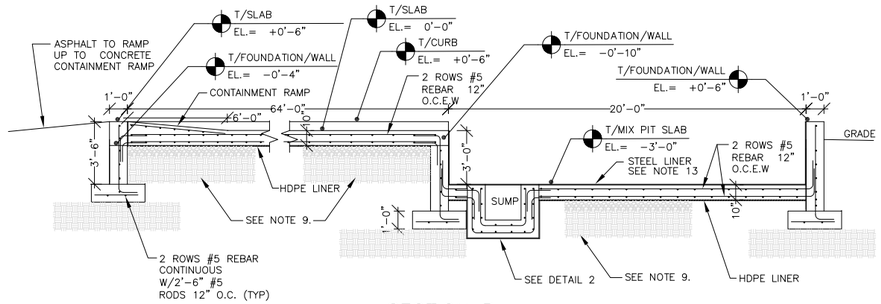

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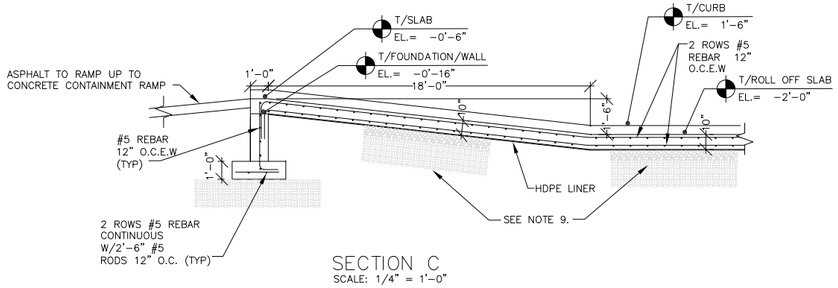

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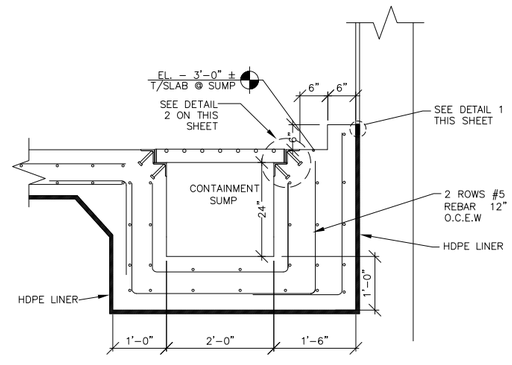

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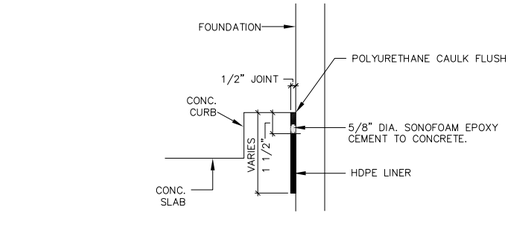
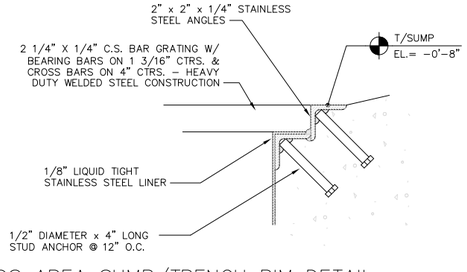


1/115 EXPANSION JOINT DETAIL
SCALE: NONE



2/115 SOLIDS AREA SUMP/TRENCH RIM DETAIL
SCALE: 3" = 1'-0"

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, 315 AND 318 LATEST EDITIONS. FOLLOW ACI RECOMMENDATIONS FOR COLD AND HOT WEATHER CONDITIONS.

2.) ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM PERIOD OF FIVE DAYS.

3.) ALL CURBS SHALL BE CAST MONOLITHICALLY WITH SLAB.

4.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

5.) MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE CAST AGAINST SOIL AND 2" FOR CONCRETE EXPOSED TO WEATHER.

6.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% – 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

7.) ALL REBAR SHALL BE GRADE 50 BILLET STEEL CONFORMING TO ASTM A–615.

8.) BLDG. SLAB ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'–0" FOR EXISTING GRADE LEVEL.

9.) BLDG SLAB REQUIRED PREPARATION:
REMOVE SURFACE AND UNDERCUT SOIL TO THE PROPER SUB GRADE ELEVATION. SCARIFY AND RECOMPACT THE TOP 8" OF EXISTING SUB GRADE SOIL. INSTALL MIRAFI 500X GEOFABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BACK FILL AND COMPACT WITH AN 8" LAYER OF STRUCTURAL FILL (3" MINUS WELL GRADED CRUSHED STONE) AND 6" LAYER OF GRANULAR FILL (1" MINUS WELL GRADED CRUSHED STONE). SUBGRADE MATERIAL SHALL BE COMPACTED TO 95% STRUCTURAL FILL AND GRANULAR FILL MATERIALS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAX. DRY DENSITY AND UNIFORM OVER THE ENTIRE AREA.
ACTUAL GRADE PREPARATION MAY VARY DUE TO EXISTING SOIL CONDITIONS.

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11.) EXISTING GRADES AT PROPOSED BUILDING LOCATION VARIES. CONTRACTOR TO VERIFY EXISTING GRADES AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO CHES/SK PROJECT MANAGER. CONTRACTOR TO STEP FOOTINGS AS REQUIRED PER LOCAL CODES. CONTRACTOR TO MEET CONCRETE ELEVATIONS AT DOORWAYS WITH ASPHALT AND SLOPE AWAY AT MAX. 1:12 SLOPE AND BLEND WITH EXISTING ASPHALT.

12.) CONTRACTOR TO INSTALL CHEMTEC SEALER TO CONCRETE SURFACE, CHEMTEC SEALER SUPPLIED BY S–K.

13.) MIX PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office	Central Florida Office
5051 Castello Drive Suite 244 Naples, FL 34103 Phone: (352) 684-7275 Fax (800) 660-6724	**1460 Breezy Way Spring Hill, FL 34608 Phone: (352) 684-7275 Fax (800) 660-6724**

Email: alex@eryouengineerlng.com

SEAL & SIGNATURE

STATE OF NEW JERSEY
N. DENNIS ERYOU
No. GE34195
LICENSED
PROFESSIONAL ENGINEER

N.D. ERYOU
NJ PE # GE34195

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

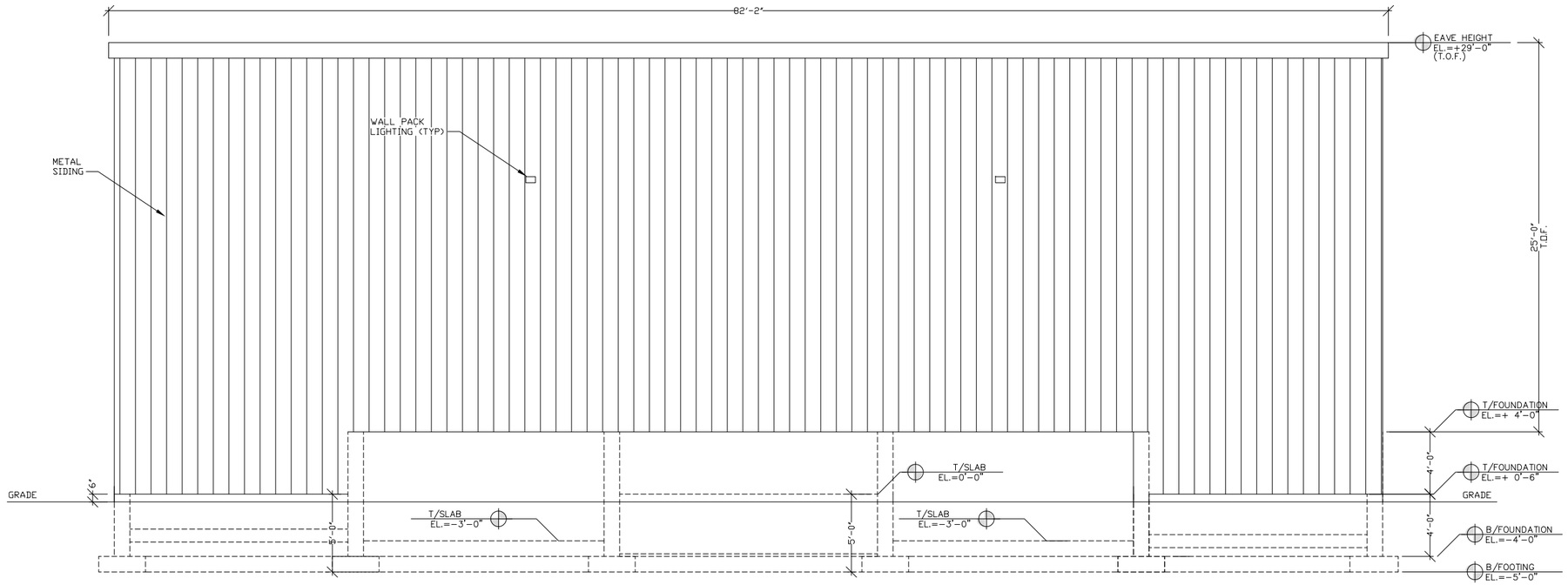
TITLE
MIX PIT/SOLIDS AREA
CONCRETE DETAILS

SAFETY–KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800–669–5740

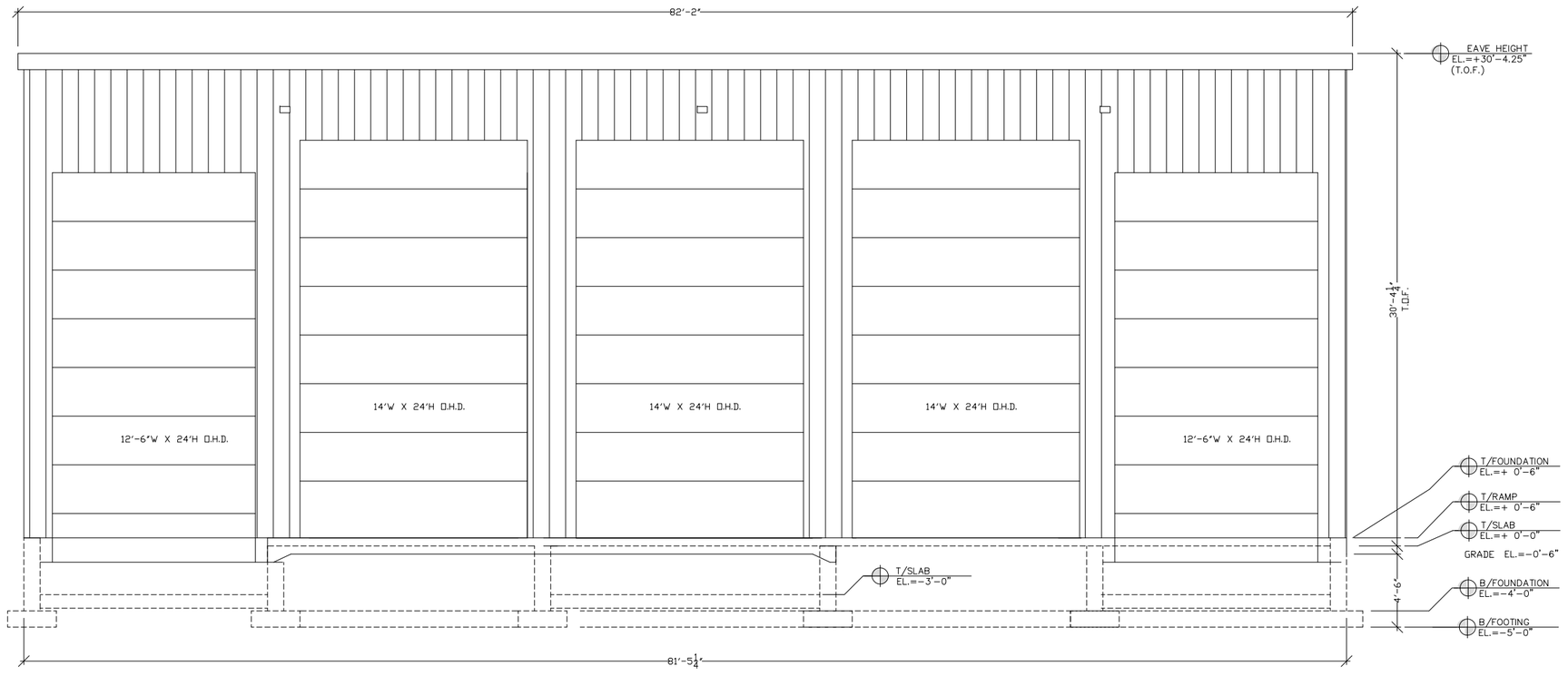
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD–DWG NUMBER	REV. NO.
LINDEN, N.J.	D–115	A

D–115 SOLIDS AREA RAMP CONCRETE DETAILS.dwg, Nov 17, 2023, 11:32am



NORTH ELEVATION



SIOUTH ELEVATION

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CAN3-A23.3-M.

2.) ALL CURBS & SUMP SHALL BE CAST MONOLITHICALLY WITH SLAB.

3.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

4.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% - 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

5.) ALL REBAR SHALL BE CSA G30.12 GRADE 400.

6.) SOLIDS AREA ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

7.) SOLIDS AREA RAMP AND FOUNDATION WALL SURFACES TO BE COATED WITH CHEMTEC SEALER PER SK SPECS.

8.) INSTALL A 3/4" UNDERGROUND WATER LINE AND 3/4" AIR LINE FROM MAIN BUILDING TO NORTHWEST CORNER OF SOLIDS PROCESSING STRUCTURE.

9.) PROVIDE 20 AMP ELECTRICAL OUTLET FOR POWER FOR SUMP AND POWER WASHER.

10.) PROCESSING PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR PERMIT	JEK	DDP	DDP	111523

REVISIONS

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
5051 Castello Drive
Suite 244
Naples, FL 34103
Phone: (352) 684-7275
Fax (800) 660-6724

Central Florida Office
1460 Breezy Way
Spring Hill, FL 34608
Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE
N.D. ERYOU
NJ PE # GE34195

TITLE

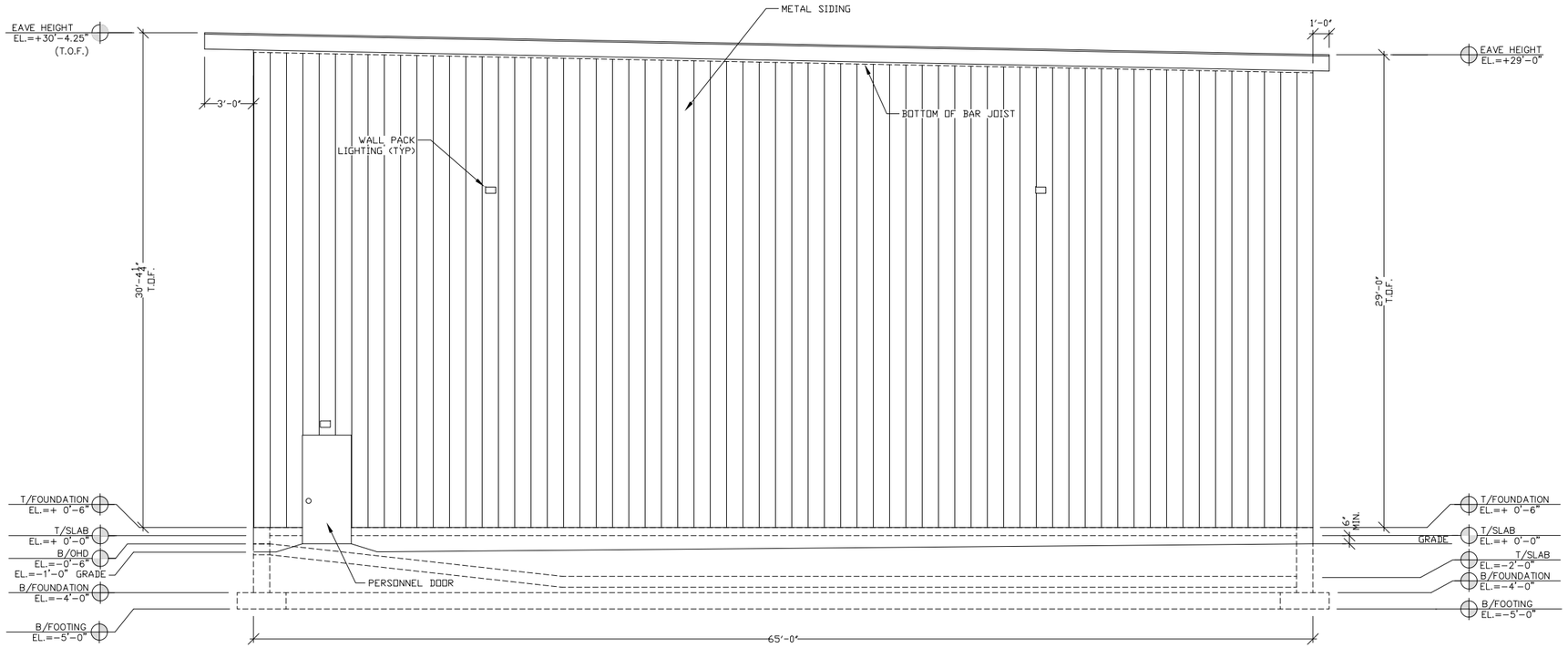
SOLIDS AREA BUILDING ELEVATIONS

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

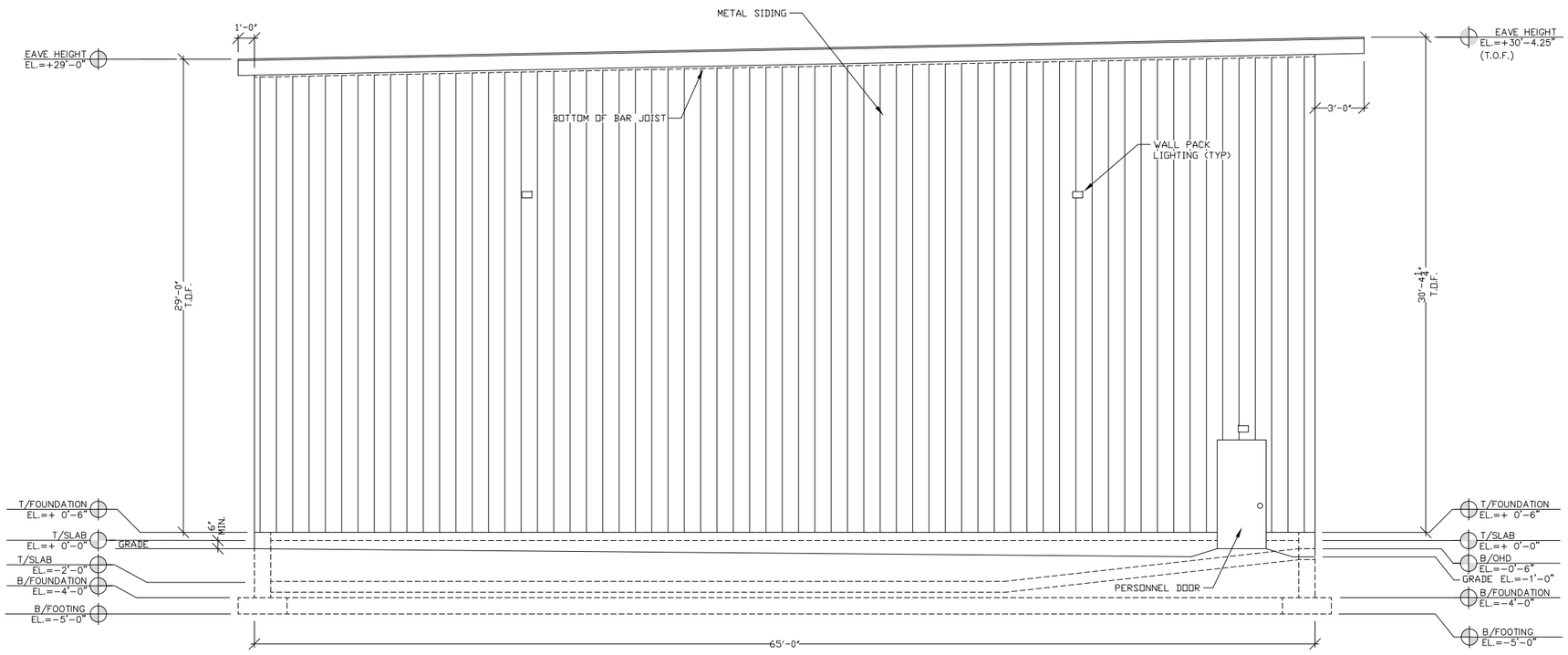
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-125	A

D-125 SOLIDS AREA BLDG ELEVATIONS.dwg, Nov 17, 2023, 11:33am



EAST ELEVATION



WEST ELEVATION

D-135 SOLIDS AREA BLDG ELEVATIONS.dwg, Nov 17, 2023, 11:34am

STATE OF NEW JERSEY
N. DENNIS ERYOU
NO. GE34195
LICENSED
PROFESSIONAL ENGINEER

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CAN3-A23.3-M.

2.) ALL CURBS & SUMP SHALL BE CAST MONOLITHICALLY WITH SLAB.

3.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

4.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% – 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

5.) ALL REBAR SHALL BE CSA G30.12 GRADE 400.

6.) SOLIDS AREA ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

7.) SOLIDS AREA RAMP AND FOUNDATION WALL SURFACES TO BE COATED WITH CHEMTEC SEALER PER SK SPECS.

8.) INSTALL A 3/4" UNDERGROUND WATER LINE AND 3/4" AIR LINE FROM MAIN BUILDING TO NORTHWEST CORNER OF SOLIDS PROCESSING STRUCTURE.

9.) PROVIDE 20 AMP ELECTRICAL OUTLET FOR POWER FOR SUMP AND POWER WASHER.

10.) PROCESSING PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR PERMIT	JEK	DDP	DDP	111523

REVISIONS

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
5051 Castello Drive
Suite 244
Naples, FL 34103
Phone: (352) 684-7275
Fax (800) 660-6724

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Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE

N.D. ERYOU
NJ PE # GE34195

TITLE

SOLIDS AREA BUILDING ELEVATIONS

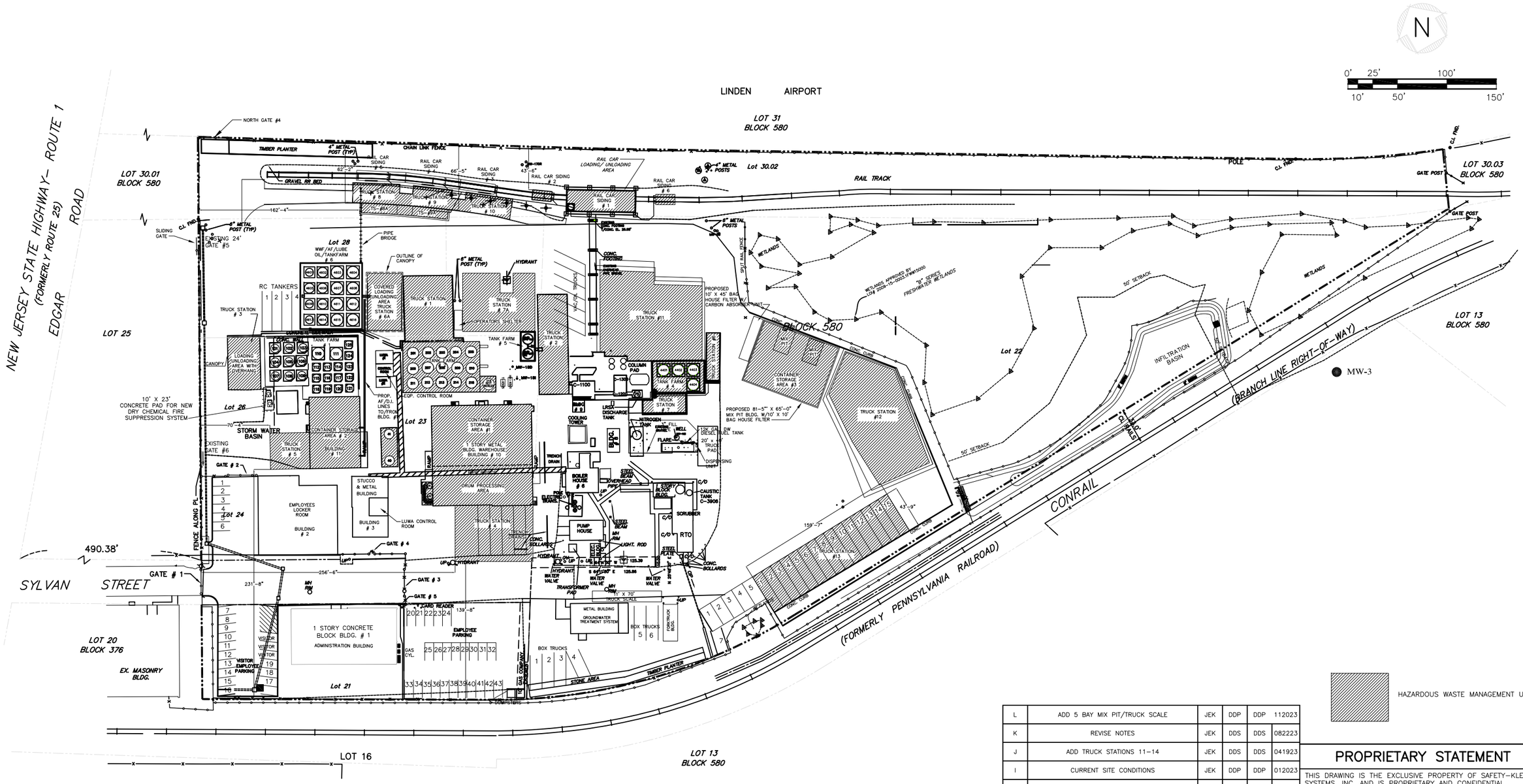
SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-135	A

ATTACHMENT SW-A4

Site Plan with Mix Pit Design



HAZARDOUS WASTE MANAGEMENT UNIT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
L	ADD 5 BAY MIX PIT/TRUCK SCALE	JEK	DDP	DDP	112023
K	REVISE NOTES	JEK	DDS	DDS	082223
J	ADD TRUCK STATIONS 11–14	JEK	DDS	DDS	041923
I	CURRENT SITE CONDITIONS	JEK	DDP	DDP	012023
H	CURRENT SITE CONDITIONS	JEK	DAD	DAD	080222
G	ADD T-4505 & HX-4501	JEK	FR	FR	042921
F	ADD DEISEL TANK	JEK	DAD	DAD	102319
E	REVISED PER D.A.D. COMMENTS	JEK	DAD	DAD	121217
D	REVISED PER DEP RESPONSE	JEK	DDP	DDP	050317
C	REVISED PER DEP RESPONSE	JEK	DDP	DDP	011317
B	ADD OTHER CONCEPTUAL ITEMS	JEK	DDP	DDP	102015
A	ADD CONCEPTUAL ITEMS	JEK	DDP	DDP	092215
0	ISSUED FOR REVIEW	JEK	DDP	DDP	032015

REVISIONS

STATE OF NEW JERSEY
N. DENNIS ERVIOU
NO. GE34195
LICENSED PROFESSIONAL ENGINEER

PROPRIETARY STATEMENT

TITLE

SITE PLAN
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DRIVE, NORWELL, MA. 02061
PHONE: 781-792-5000

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=50'-0"	JEK	KJM	DP		3/20/15

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-SP00-010	L

ATTACHMENT SW-A5

Surficial Geology Map

N

Legend

- Site Boundary
- ALLUVIUM
- ICE-CONTACT DEPOSITS
- LATE WISCONSINAN GLACIOFLUVIAL DEPOSITS
- RAHWAY TILL
- SALT-MARSH AND ESTUARINE DEPOSITS

Notes:
1. Surficial geology source: NJ Geologic Survey
2. Aerial Imagery source: ESRI

0 1,520 Feet

Surficial Geology Map

Safety-Kleen Facility
Linden, NJ

Geosyntec consultants

Blue Bell, PA | November 2023

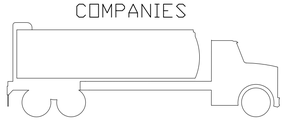
Figure 1

\\Philly-01\Data\GIS\GISprojects\JR0394 - Safety-Kleen\Projects_Templates\ProTemplates\Basemaps\NJ_RE_Basemap\NJ_RE_Basemap.aprx\11 x 17 RE Landscape 11/7/2023 8:58 PM (AKaufman)

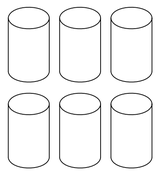
ATTACHMENT SW-A6

Mix Pit Process Flow Diagram

INCOMING SLUDGE WASTE FROM PUBLIC & PRIVATE UTILITY & TRANSIT AUTHORITIES AND/OR COMPANIES

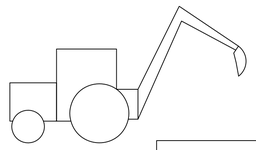


VIA VAC TRUCK/CUSCO



BATCH CONTAINERS FROM BULK & VARIOUS INDUSTRIAL & COMMERCIAL GENERATORS

STABILIZATION/ SOLIDIFICATION MATERIALS*



BACKHOE

STABILIZATION/ SOLIDIFICATION MIX PIT

SOLIDIFIED WASTE

STABILIZED/ SOLIDIFIED WASTE SHIPPED TO AUTHORIZED LANDFILL

GENERAL NOTES

WASTE COMES FROM UTILITY MANHOLE CLEANOUTS, OIL/WATER SEPARATOR CLEANOUTS, MAINTENANCE GARAGE TRENCH CLEANINGS, ETC.

*NOTE: PAPER PULP, WOOD FLOUR, DIAPER RESIDUALS, SWELL-GEL, PORTLAND CEMENT, KILN DUST, FLY ASH, LIME, FERROUS SULFATE, SAW DUST ETC.

PROPRIETARY STATEMENT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISE NOTES	JEK	DDS	DDS	083123
B	REVISE NOTES	JEK	DDP	DDP	082620
A	NEW ISSUE	JEK	DDP	DDP	041620

REVISIONS

TITLE

MIX PIT PROCESS FLOW DIAGRAM

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 781-792-5000

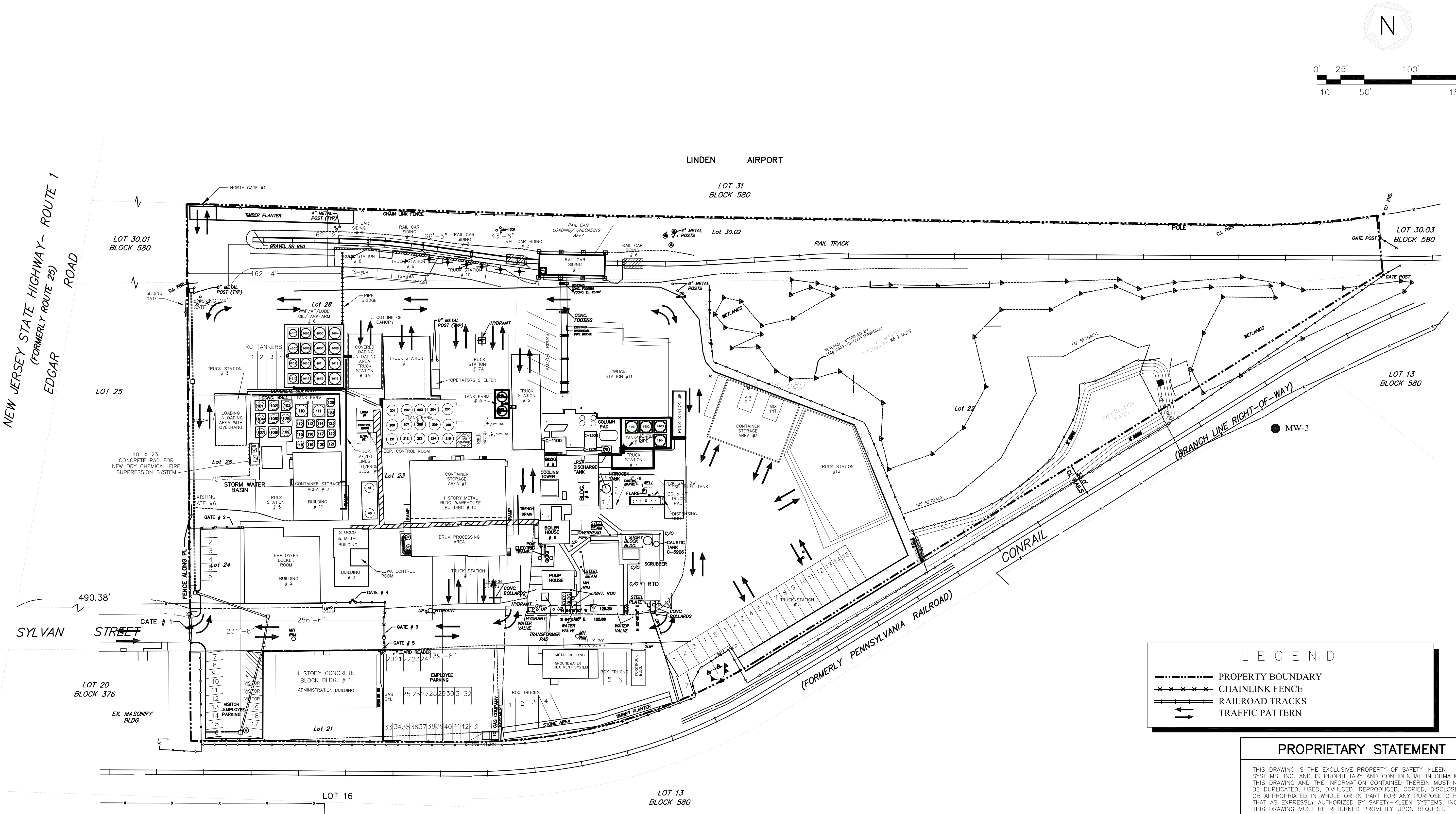
SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
1/8" = 1'-0"	JEK	DDP	DDP	DDP	4/6/20

STANDARD BRANCH LOCATION: LINDEN, N.J.

STD-DWG-REV NO.: M-100

ATTACHMENT SW-A7

Site Traffic Flow



LEGEND

- PROPERTY BOUNDARY
- CHAINLINK FENCE
- RAILROAD TRACKS
- TRAFFIC PATTERN

PROPRIETARY STATEMENT

TITLE

SITE TRAFFIC FLOW
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY–KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800–669–5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=100'–0"	JEK	FR	FR		5/30/17

SERVICE CENTER LOCATION	SC–DWG NUMBER	REV. NO.
LINDEN, N.J.	7404–0100–003	B

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISED SITE CONDITIONS	JEK	DDS	DDS	120723
A	REVISED TO CURRENT CONDITIONS	JEK	DDS	DDS	082323
0	NEW ISSUE	JEK	FR	FR	053017

ATTACHMENT SW-B

Solid Waste Facility Application Form

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Solid & Hazardous Waste
Bureau of Solid Waste Permitting
401 E. State Street
PO Box 420, Mail Code 401-02C
Trenton, New Jersey 08625
Tel: (609) 292-9880 ♦ Fax: (609) 984-0565
www.nj.gov/dep/dshw/swp

SOLID WASTE FACILITY PERMIT APPLICATION FORM

PLEASE PRINT OR TYPE

1A. **Applicant/Owner:** Safety-Kleen Systems, Inc. Telephone: (908) 986-5176; (781) 792-5000

Permanent Legal Address: 42 Longwater Drive

City: Norwell State: MA Zip Code: 02061

Federal Tax I.D #: 39-6090019

1B. **Applicant/Operator:** Safety-Kleen Systems, Inc. Telephone: (908) 986-5176

Permanent Legal Address: 1200 Sylvan Street

City: Linden State: NJ Zip Code: 07036

1C. **Co-permittee:** Not Applicable Telephone:

Permanent Legal Address:

City: State: Zip Code:

2. **Location of Work:**

Name of Facility: Safety-Kleen Systems, Inc.

Address (Street/Road): 1200 Sylvan Street

Lot #: 21-24 and 26-30

Block #: 580

Municipality: Linden County: Union

NJEMS Preferred ID #:

SW Facility ID #:

EPA ID #: NJD 002 182 897

3. **Professional Engineer:**

Name: Dennis Eryou N.J. License P.E. #: GE034195

Name of Firm: Consulting Engineer, Eryou Engineering

Address: 15051 Castello Drive, Suite 244

City: Naples State: FL Zip Code: 34103

Telephone: 352-684-7275

4. **Application Type:** (Circle applicable letter)

A. Initial Solid Waste Facility (SWF) Permit
B. Existing SWF Annual Update
C. SWF Permit Modification (check here ✓ if expansion)
D. SWF Permit Renewal
E. SWF Transfer of Ownership
F. Closure/Post-Closure Plan
G. Disruption Approval
H. Other – describe here _____

5. **Facility Type:** (Circle all that apply)

A. Sanitary Landfill
B. Incinerator/Resource Recovery Facility
C. Transfer Station
D. Transfer Station/Materials Recovery Facility
E. Intermodal Container Facility
F. Compost
G. Other – describe here _____

6. **Waste Types:**(Circle all types of waste requested for facility acceptance)

10. Municipal Waste	27. Dry Industrial Waste
12. Dry Sewage Sludge	27A. Asbestos Containing Waste
13. Bulky Waste	27I. Incinerator Ash/Ash Containing Waste
13C. Construction and Demolition Waste	72. Bulk Liquid and Semi-Liquid
23. Vegetative Waste	73. Septic Tank Clean-Out Wastes
25. Animal and Food Processing Waste	74. Liquid Sewage Sludge
Treated Regulated Medical Waste	Untreated Regulated Medical Waste

7. **Facility Life and Capacity:**	YEARS	TONS	CUBIC YDS
A. Currently Permitted/Authorized	5	50 tons/day	
B. Proposed in this Application	5	99 tons/day*	

*15 tons/day ID27 + 84 tons/day ID72, ID72 is exempt from Union County's solid waste management plan

8. **Utility Regulation:** Not Applicable

A. Is (will) this facility (be) Public or Sole Source? (circle one)

B. Certificate of Public Convenience & Necessity (CPCN) #

USE ADDITIONAL PAPER, IF REQUIRED, IN ORDER TO GIVE FULL AND COMPLETE DISCLOSURES TO THE FOLLOWING ITEMS.

9. **Type of Organization**: (Circle appropriate letter.)

A. Proprietorship	D. Municipal Government	G. Authority
B. Partnership	E. County Government	H. Federal
C. Corporation	F. State Government	X. Other

10. **Organization Data:**

A. PARTNERSHIP DATA - State the name and address of each partner, including silent or limited, and their interest: Not Applicable

NAME	ADDRESS	PORTION OF INTEREST

Registered in State:_____ County:_____

Date of Filing:_____

Agent's Name:_____

Street Address:_____ Telephone:_____

City:_____ State:_____ Zip Code:_____

B. CORPORATE DATA

Date of Incorporation: **Safety-Kleen Systems, Inc. was registered to do business in New Jersey on 10/15/1969**

Agent's Name: **CT Corporation System**

Street Address: **820 Bear Tavern Road** Telephone: **(609)538-1818**

City: **West Trenton** State: **NJ** Zip Code: **08628**

Corporate Officers:

OFFICIAL TITLE	NAME	BUSINESS ADDRESS
President	**Rebecca Underwood**	**42 Longwater Drive, Norwell, MA 02061**
SVP & Treasurer	**Gregory Malerbi**	**42 Longwater Drive, Norwell, MA 02061**
Secretary	**Daniel Janis**	**One Boston Place, Boston, MA 02108**
VP & Asst. Secretary	**Michael McDonald**	**42 Longwater Drive, Norwell, MA 02061**

Directors:

NAME	RESIDENCE	TERM OF OFFICE
Eric Dugas	**Massachusetts**	**Until successors are elected**
Rebecca Underwood	**Massachusetts**	**Until successors are elected**

Identify below any individual, corporation or other business organization having ownership or a controlling interest in the applicant. If applicable, the chain of ownership or control should be traced to the main parent company.

NAME: **Clean Harbors, Inc.**

ADDRESS: **42 Longwater Drive, Norwell, MA 02061**

NATURE OF CONTROL: **Safety-Kleen Systems. Inc. is a wholly owned subsidiary of Clean Harbors Disposal Services, Inc. which is a wholly owned subsidiary of Clean Harbors, Inc., a publicly traded corporation; Clean Harbors Environmental Services, Inc.**

Principal Security Holders and Voting Power. Identify owner(s) of all securities in the applicant corporation having more than ten (10) percent of value.

NAME	ADDRESS	TYPE OF SECURITIES*	NUMBER OF VOTES

*(Common stock, Preferred stock, etc.)

11. **Other Permits Applied for or Obtained**

PERMIT TYPE:		N.A.	APPLICATION STATUS Pending	APPLICATION STATUS Approved	Date Applied for or Project Number
A.	CAFRA	✓			
B.	Waterfront Development	✓			
C.	Tidal or Coastal Wetlands	✓			
D.	Freshwater Wetlands Permit	✓			
E.	Freshwater Wetlands Transitional Area Waiver (after July 1, 1989)	✓			
F.	Stream Encroachment	✓			
G.	Water Quality Certificate (Section 401)	✓			
H.	Open Water Fill	✓			
I.	Tidelands (Riparian) Grant, Lease or License	✓			
J.	Divert Surface Waters for Private Use	✓			
K.	Temporary Water Lowering	✓			
L.	Sewer Systems: Collectors, Pump Station, etc			✓	Permit #036
M.	Underground Storage Tanks	✓			
N.	Hazardous Waste Permits			✓	Permit #HWP190002

PERMIT TYPE: (Use additional sheets if necessary)	N.A.	APPLICATION STATUS Pending	APPLICATION STATUS Approved	Date Applied for or Project Number
O. Air Quality Permits			✓	See Attachment D
P. Delaware and Raritan Canal Review Zone "Certificate of Approval"	✓			
Q. Pinelands Certificate	✓			
R. Green Acres Program Review	✓			
S. Other State Agencies' Permit			✓	Permit #NJG0122718
Type of Permit: NJPDES Stormwater MSGP				
T. Federal Permit			✓	Permit #NJD002182897
Type of Permit: RCRA Hazardous Waste Facility				

Brief Description of the Proposed Project and Intended Use: **Operate enclosed mix pits with appropriate air pollution controls in order to treat non-hazardous wastes ID72 (84 tons/day) and ID27 (15 tons/day) via mixing/solidification prior to offsite disposal at a Subtitle D landfill. Pursuant to the facility's current permit, ID72 and ID27 wastes will continue to be stored/transferred onsite in Building 10 (Container Storage Area (CSA) 1) and Building 11 (CSA2) as well as Truck Stations (TS) 1, 2, 3, 4, 5, 6, 6b, 7, 7b, 8, 8b, 9, 9b and 10. Storage in the Mix Pit Building (CSA3) will also be conducted in addition to TS 11, 12, 13 and 14.**

12. **Certifications:**

A. APPLICANT'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit or vehicle registration for which I may be seeking approval or now hold.

David A. DeSha	
Print/Type Applicant/Owner Name	Signature of Applicant/Owner
12/8/2023	Director Environmental Compliance
Date	Title
David A. DeSha	
Print/Type App./Operator Name	Signature of Applicant/Operator
	Director Environmental Compliance
Date	Title
Not Applicable	
Print/Type Co-Applicant Name	Signature of Co-Applicant
Date	Title

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that Safety-Kleen Systems, Inc.

Property Owner's Name

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity and authorizes that staff of DEP may conduct on-site inspections as necessary for the review of this application.

In addition, the aforementioned property owner shall certify:

1. Whether any work is to be done within an easement -

Yes _____ (Initial) No _____ (Initial)

2. Whether any part of the entire project will be located within property belonging to the State of New Jersey -

Yes _____ (Initial) No _____ (Initial)

3. Whether any part of the entire project will be located within property belonging to a municipality or county -

Yes _____ (Initial) No _____ (Initial)

Same as Item 1, Page 1

Type or Print Name and Address of Owner if different from Item 1 on Page 1

12/8/2023
Date

Signature of Owner

C. APPLICANT'S AGENT Not Applicable

I, _____ and/or _____,
(Applicant/Owner) (App./Operator or Co-Permittee)
authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name:_____

Title:_____

Firm:_____

Address:_____

City:_____ State:_____ Zip Code:_____

Telephone:_____

Occupation/Profession:_____

_____
(Signature of Applicant/Owner)

_____
(Signature of Applicant/Operator)

_____
(Signature of Co-permittee)*

AGENT'S CERTIFICATION

Sworn before me
this _____ day of

_____ _____
Notary Public

I agree to serve as agent for the above-mentioned applicant

_____
(Signature of Agent)

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I hereby certify that the engineering plans, specifications and engineer's reports applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.

Signature of Engineer

N.Dennis Eryou, P.E.

Print or Type Name

Principal

_ Position

N.D. Eryou, PhD, PE, Consulting Engineer

Name of Firm

12/7/23

Date

PROFESSIONAL ENGINEER'S/ARCHITECT'S EMBOSSED SEAL

ATTACHMENT SW-C1

Union County Approval

DeSha, David A

From: Lisa da Silva <ldasilva@ucua.org>
Sent: Wednesday, December 23, 2020 2:31 PM
To: Desha, David A.
Subject: RE: 11/5/2020 SWAC meeting
Attachments: doc01482720201222112137.pdf

Hi David,
Here is the approved resolution. Please let me know if you have any questions
Thanks, Merry Christmas
Li

Lisa M. da Silva
Deputy Executive Director/Director of Administrative Services
Union County Utilities Authority
1499 Routes 1 & 9 North
Rahway, NJ 07065
(732) 382-9400*228
LdaSilva@ucua.org

From: Desha, David A. <desha.david@cleanharbors.com>
Sent: Friday, December 18, 2020 10:51 AM
To: Lisa da Silva <ldasilva@ucua.org>
Subject: RE: 11/5/2020 SWAC meeting

Thank you and have a good weekend.

Safety Starts with Me: Live It 3-6-5

David DeSha
Director Environmental Compliance
Clean Harbors Environmental Services, Inc.
Mobile: 423.413.1218
Email: desha.david@cleanharbors.com
Web: www.cleanharbors.com

From: Lisa da Silva <ldasilva@ucua.org>
Sent: Friday, December 18, 2020 10:50 AM
To: Desha, David A. <desha.david@cleanharbors.com>
Subject: Re: 11/5/2020 SWAC meeting

Hi David,
No I do not have an update but I will follow up next week when I am in the office.

UNION COUNTY UTILITIES AUTHORITY

1499 US Highway One, Rahway, New Jersey 07065

(732) 382-9400
FAX (732) 382-5862

RESOLUTION NO.: 57 -2020 **DATE:** November 10, 2020

RESOLUTION OF THE UNION COUNTY UTILITIES AUTHORITY RECOMMENDING AN ADMINISTRATIVE ACTION PLAN AMENDMENT TO THE UNION COUNTY DISTRICT SOLID WASTE MANAGEMENT PLAN PERTAINING TO THE APPLICATION OF SAFETY-KLEEN SYSTEMS, INC. FOR A MODIFICATION OF ITS CLASS D RECYCLING FACILITY IN THE CITY OF LINDEN, NEW JERSEY

APPROVED AS TO FORM:
Joseph C. Bodek, RMC
Clerk of the Authority

By: Joseph C Bodek

APPROVED AS TO SUFFICIENCY OF FUNDS
[ ] YES [ ] NO [X] NONE REQUIRED
UNION COUNTY UTILITIES AUTHORITY

By:

	PRESENT	ABSENT	AYE	NAY	ABSTAIN	MOTION	SECOND
Eastman	✓		✓				✓
Jackus		✓					
Kahn	✓		✓				
Lombardo	✓		✓				
McManus	✓		✓				
People	✓		✓				
Rachlin	✓		✓			✓	
Szpond	✓		✓				
Scutari	✓		✓				
Alma, Alternate No. 1	✓		✓				
Scott Bey, Alternate No. 2	✓						

RESOLUTION OF THE UNION COUNTY UTILITIES AUTHORITY RECOMMENDING AN ADMINISTRATIVE ACTION PLAN AMENDMENT TO THE UNION COUNTY DISTRICT SOLID WASTE MANAGEMENT PLAN PERTAINING TO THE APPLICATION OF SAFETY-KLEEN SYSTEMS, INC. FOR A MODIFICATION OF ITS CLASS D RECYCLING FACILITY IN THE CITY OF LINDEN, NEW JERSEY

WHEREAS, pursuant to the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., each county within the State of New Jersey is designated a solid waste management district with responsibility for the development of a solid waste management plan setting forth the solid waste disposal strategy to be applied in the district; and

WHEREAS, the Union County District Solid Waste Management Plan ("County Plan"), developed in accordance with the SWMA, was initially adopted by the Union County Board of Chosen Freeholders ("Freeholders") on June 7, 1979 and certified by the New Jersey Department of Environmental Protection ("NJDEP") on August 13, 1980, and has since been amended from time to time; and

WHEREAS, the Union County Utilities Authority (the "Authority") was created by the Freeholders, in accordance with the provisions of the Municipal and County Utilities Authorities Law, N.J.S.A. 40:14B-1 et seq., by an Ordinance adopted on June 5, 1986, as amended on December 11, 1986, and has been designated by the Freeholders, pursuant to and in accordance with the Solid Waste Management Act, as the agency responsible for implementation of the County Plan; and

WHEREAS, Safety-Kleen Systems, Inc. ("Safety-Kleen") owns and operates a Class D Recycling Facility ("Facility"), located at 1200 Sylvan Street, Linden, New Jersey, that maintains permits issued by NJDEP, including a RCRA Part B Hazardous Waste Facility Operating Permit that incorporates a Solid Waste Facility Permit to accept Solid Waste Types ID 27 (dry industrial waste) and ID 72 (liquid and semi-liquid waste), and bearing EPA ID Number NJD002182897 and NJDEP HWP 190001; and

WHEREAS, Safety-Kleen filed an application with the Authority on February 7, 2020, requesting an amendment of the County Plan for a major modification to the Facility to permit the Facility to accept, store, process and solidify Solid Waste Types ID 27 and ID 72 generated on-site and off-site operational and remediation activities that may include utility manhole clean-outs, oil/water separator clean-outs, maintenance garage trench cleanings, and similar activities; and

WHEREAS, Solid Waste Types ID 27 and ID 72 accepted for processing will be stored at the Facility in a new area to be constructed with a specific purpose building, mix pit and storage area, and fourteen existing truck stations may be used for storage and staging of the materials; and

WHEREAS, Safety-Kleen initially projected that the amounts of Solid Waste Types ID 27 and ID 72 from existing customers, municipalities, utilities and transit authorities would approximate 1,500 shipments, 7,000 tons per year that amounts to an average of 135 tons per week, with a maximum of 140 tons per day, based upon an anticipation of 40 tons per day of Solid Waste ID Type 27 and 100 tons per day of Solid Waste Type ID 72; and

WHEREAS, a modification to the plan amendment application was submitted by Safety-Kleen that revised it maximum daily tonnage to 75 tons per day, based upon an anticipation of 15 tons per day of Solid Waste ID Type 27 and 60 tons per day of Solid Waste Type ID 72; and

WHEREAS, the plan amendment application, as modified, was presented to the Solid Waste Advisory Council for Union County ("SWAC") during a virtual meeting held on November 5, 2020 and, through correspondence transmitted to the Authority, the members of SWAC present at the meeting expressed no objection to the proposed modification of the Facility and the plan amendment included in the County Plan; and

WHEREAS, the plan amendment application, as modified, was reviewed by the Authority's Consulting Engineer – CME Associates, who sent correspondence to the Authority, setting forth all engineering issues and recommending that the proposed modification to the Facility be included in the County Plan; and

WHEREAS, the solid waste regulations of NJDEP (N.J.A.C. 7:26-1.1 et seq.) provide certain actions to amend a county solid waste management plan may be taken by administrative action by the implementing agency as opposed to a full plan amendment requiring notice and a public hearing before the governing body of the county; and

WHEREAS, the Authority has determined that the inclusion in the County Plan of a modification to the Facility to accept a maximum daily tonnage of 75 tons per day, based upon an anticipation of 15 tons per day of Solid Waste ID Type 27 and 60 tons per day of Solid Waste Type ID 72, constitutes the first increase in the daily tonnage capacity at the Facility and, as set forth in N.J.A.C. 7:26-6.10 (b)8 and 7:26-6.11 (b)4, does not warrant a full plan amendment process, and may be addressed through an administrative plan amendment process; and

WHEREAS, the approval of Safety-Kleen's application to amend the County Plan to reflect the inclusion of a modification to the Facility to accept a maximum daily tonnage of 75 tons per day, based upon an anticipation of 15 tons per day of Solid Waste ID Type 27 and 60 tons per day of Solid

Waste Type ID 72 is consistent with the Statewide Solid Waste Management Plan, is in the best interests of the County and its citizens, and is necessary for UCUA's continued effective operation as the agency responsible for implementation of the County Plan;

NOW, THEREFORE, BE IT RESOLVED, by the Union County Utilities Authority as follows:

Section 1. The aforesaid recitals are hereby incorporated by reference, as if set forth at length herein.

Section 2. UCUA hereby authorizes, by administrative action, an amendment to the County Plan to reflect the inclusion of a modification to the Facility owned and operated by Safety-Kleen in Linden, New Jersey to accept a maximum daily tonnage of 75 tons per day, based upon an anticipation of 15 tons per day of Solid Waste ID Type 27 and 60 tons per day of Solid Waste Type ID 72 as more comprehensively described in the plan amendment application filed with the Authority and incorporated in this Resolution.

Section 3. The Executive Director of the Authority and Solid Waste Counsel are hereby authorized and directed to submit the plan amendment application from Safety-Kleen and this Resolution to NJDEP as an administrative action plan amendment pursuant to an in accordance with in N.J.A.C. 7:26-6.10 (b)8 and 7:26-6.11 (b)4 in order to obtain such approvals as may be necessary under applicable law.

Section 4. A copy of this Resolution, together with a copy of Safety-Kleen's application to amend the County Plan, shall be forwarded to the Clerk of the County for public inspection, and shall also available, upon execution by the parties, for public inspection at the offices of the Authority at 1499 Routes 1 & 9 North, Rahway, New Jersey.

Section 5. This Resolution shall take effect immediately.

Signature: Joseph C Bodek
Joseph C Bodek (Nov 13, 2020 06:18 EST)

Email: jcb693@msn.com

ATTACHMENT SW-C2

DEP Acknowledgement

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID AND HAZARDOUS WASTE
401 East State Street
P.O. Box 420, Mail Code 401-02C
Trenton, New Jersey 08625-0420
Tel. (609) 984-4250 • Fax (609) 777-1951
www.nj.gov/dep/dshw

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

SHAWN M. LATOURETTE
Acting Commissioner

Daniel P. Sullivan, Executive Director
Union County Utilities Authority
1499 Routes 1 & 9
Rahway, NJ 07065

APR 27 2021

Dear Mr. Sullivan:

The Department of Environmental Protection's Division of Solid and Hazardous Waste is in receipt of an Administrative Action request to the Union County District Solid Waste Management Plan (County Plan) dated March 21, 2021. This request proposes County Plan inclusion of a revised maximum daily tonnage of solid waste types 27 and 72 at the Safety Kleen Systems, Inc. (Safety Kleen) Transfer Station/Materials Recovery Facility (TS/MRF) located at 1200 Sylvan Street in the City of Linden.

Safety Kleen TS/MRF was included in the County Plan on June 20, 2002 to accept a maximum of 50 tons per day (tpd) of solid waste type 27. This request proposes a revised maximum daily capacity of 15 tpd of solid waste type 27 and the addition of 60 tpd of solid waste type 72. However, please note that per N.J.A.C. 7:26-6.3(a)1, solid waste type 72 is exempted from the County Plan inclusion process.

Therefore, pursuant to N.J.A.C. 7:26-6.11(b)14, the revision of the maximum daily tonnage of a solid waste facility can be accomplished via an administrative action. Therefore, the County Plan inclusion of the revised maximum daily tonnage of 15 tpd of solid waste type 27 at the Safety Kleen TS/MRF is hereby approved as an administrative action pursuant to N.J.A.C. 7:26-6.11(f).

Please be advised that this administrative action approval shall not be construed as an expression of the Department's intent to issue a permit modification to the subject facility for the above noted operational changes.

If you have any questions relative to this matter, please contact Dawn Slawsky of my staff at (609) 984-4250 or by e-mail at dawn.slawsky@dep.nj.gov.

Sincerely,

Seth Hackman, Chief
Bureau of Planning and Licensing

ATTACHMENT SW-D

Air Permit Application

MIX PIT AIR PERMIT APPLICATION
SAFETY-KLEEN SYSTEMS, INC.

NJDEP FACILITY # 40097

Submitted to:
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 E. State Street
PO Box 420
Trenton, New Jersey 08625

September 13, 2023

Submitted By:
Safety-Kleen Systems, Inc.
1200 Sylvan Street
Linden, New Jersey 07036

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General Information

Safety-Kleen Systems, Inc. Linden Recycle Center is located at 1200 Sylvan Street in Linden New Jersey and has a New Jersey Department of Environmental Protection (NJDEP) Facility ID of 40097. The Linden Recycle Center receives used solvents, solvent mixtures, and other liquid and solid wastes from industrial and commercial generators/ customers, local, State and Federal agencies, Safety-Kleen service centers, and other Safety-Kleen Recycle Centers. Waste Characteristics include but are not limited to chlorinated hydrocarbons, amines, alcohols, aliphatic and aromatic compounds, waste oils, oil filters, paint wastes, aqueous wastes, and other hazardous and non-hazardous wastes. Wastes are received in various containers, in tank trucks and railcars. Used solvents, solvent mixtures, and other wastes are managed in several ways. These include recovery, fuel blending for off-site use, storage, transfer and shipment off-site. The recovery processes include but not limited to distillation, fractionation, and drying. Recovered products are either returned or distributed for use by Safety-Kleen customers or marketed as recovered solvent.

The Linden facility will be introducing a new treatment option with the treatment of metal-bearing hazardous wastes via stabilization in a mix pit in order to render it non-hazardous wastes.

Supporting Information

Process Description

The purpose of the mix pit is processing of contaminated soil waste by the solidification and/or stabilization of inorganic characteristic hazardous (RCRA heavy metals) and/or non-hazardous wastes. Please refer to the attached mix pit process flow diagram (**Attachment A**). The mix pit consists of a steel-lined concrete in-ground pit of the proper design to contain liquids and detect leaks in the secondary containment system. Please refer to **Attachment B** for diagrams of the mix pit and associated building.

An evaluation is made to determine the suitability of the waste for solidification and/or stabilization. The lab performs tests on the sample taken upon receipt of the waste (or for routine/consistent waste a pre-acceptance sample) to determine the most appropriate treatment recipe in order to render the waste non-hazardous. Decanting of excess water for aqueous mixtures of some wastes with high water content generates wastewater that may contain organic and/or inorganic chemicals. Wastewater generated by the facility is stored in Tank Farm 2 or pumped directly to tanker trucks for off-site disposal and/or discharged in accordance with the facility's wastewater discharge permit.

Treatment/stabilization is conducted in batches. Processing rate of 200 tons per day of hazardous waste or 99 tons per day of non-hazardous waste. Short term process rates could not exceed 60 tons per hour. Estimated annual rates would be ~70,000 tons of hazardous waste and ~36,000 tons of non-hazardous waste. Actual rates will be a combination of hazardous and non-hazardous wastes at lesser annual amounts each.

This single source, **Equipment E2000** operations are conducted within an enclosed building designed to control potential air emissions from the process through a dust collector (baghouse **Control Device CD2001**) and carbon adsorption bed (**Control Device CD2002**). Refer to **Attachment C** for location of the mix pit building from the Site Diagram.

Operating Scenarios

Operating Scenario 1: Loading stabilization material to the building

The facility uses reagents such as Portland cement, ferrous sulfate or kiln dust for the stabilization of hazardous waste. The stabilization reagents are contained in large bags/sacks and are stored in bunkers within the mix pit building. They are loaded by an excavator/backhoe. Water spray may be applied to control dust within the building. Please refer to **Attachment D** for the estimated particulate emissions from these operations.

Operating Scenario 2: Loading solidification material to the building

The facility uses dehydration media such as calcium sulfate, lime, fly ash, envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust and/or pozzolanic materials. The solidification media is also stored in bunkers within the mix pit building. These materials typically are not as "fine" as the stabilization materials, therefore different emissions rates would apply. Please refer to **Attachment D** for the estimated particulate emissions from these operations.

Operating Scenario 3: Loading RCRA hazardous waste material to the building

The facility conducts stabilization of heavy metal contaminated wastes in the mix pit. Lead would be the prevalent occurrence metal in the waste, with the potential for arsenic, barium, beryllium, cadmium, chromium, nickel, selenium and silver. This activity is conducted in the Mix Pit Building. The waste material may also include polychlorinated biphenyls (PCBs) at a maximum concentration of 49 parts per million (ppm). The Linden facility is not permitted to accept TSCA regulated PCB contaminated waste greater than 50 ppm. Volatile organic compounds (VOCs) are estimated at a worst-case scenario of 500 ppm. All waste that is stabilized will be managed to ensure compliance with the provisions of applicable regulations. The maximum daily stabilization limit for hazardous wastes is 200 tons per day in the mix pit. Please refer to **Attachment D** for the estimated particulate, lead, PCB, VOC and solid and volatile hazardous air pollutants (HAPs) emissions from these operations.

Operating Scenario 4: Loading non-hazardous waste material to the building

The facility may receive bulk and non-bulk containers of semi-solids that contain free flowing liquid requiring solidification before ultimate disposal in a landfill. The non-hazardous waste will not contain lead or PCBs, but may have a concentration of VOCs not to exceed 500 ppm. Please refer to **Attachment D** for the estimated particulate and VOC emissions from these operations.

Operating Scenario 5: Loading stabilization reagents to hazardous waste material in the mix pit

Hazardous waste is stabilized in the mix pit. The type and amount of reagents added to the wastes is determined by the Bench Scale Test. Bulk reagent (usually Portland cement dust or ferrous sulfate, lime, etc.) is measured and used. Based on the treatment recipe, the appropriate proportional amount of reagent is added as a measure or weight of reagent, maximum of 15% of the total waste. Please refer to **Attachment D** for the estimated particulate emissions from these operations.

Operating Scenario 6: Loading solidification media to non-hazardous waste material in the mix pit

Waste is solidified in the mix pit. The facility uses dehydration media such as lime, fly ash envirite (burnt rice husks and silica), speedi-dri, sawdust, paper pulp, diaper dust or pozzolanic materials. The type and amount of media added to the wastes is determined by the Bench Scale Test. Based on the treatment recipe, the appropriate proportional amount of media is added, maximum of 50% of the total waste. Please refer to **Attachment D** for the estimated particulate emissions from these operations.

Operating Scenario 7: Mixing of stabilization/solidification media to waste material in the mix pit

Necessary amount of stabilization media is placed in the mix pit and mixed with the hazardous waste. A backhoe or other mechanized equipment (e.g., excavator fitted with a mixing blade, robotic arm, etc.) is utilized to mix the waste and reagent. Based on the treatment recipe, water may be added during the mixing process to enhance the stabilization process. The waste and reagent are mixed until the mixture is homogeneous by visual examination. The approximate mixing time is typically 40 minutes per ~40 cubic yards or about 56 short tons of hazardous wastes (i.e., approximate capacity of the mix pit which can hold up to 8,372 gallons of hazardous wastes).

The maximum concentration of VOCs is 500 ppm. Predominately non-HAP VOCs may be present (i.e. hydrocarbons). However, potential VOCs that are also HAPs have been included as part of this application. Additional VOCs with minimal concentrations may include benzene, chlorobenzene, ethylene glycol, methanol, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride (non-VOC but a HAP), phenol, tetrachloroethylene, toluene, trichloroethylene and xylenes. Please refer to **Attachment D, Table 1** for the estimated VOC and HAP emissions from this operation. It is assumed that all VOC emissions will be released during Operating Scenario 7.

After mixing is complete, two grab samples are taken to a NJDEP certified environmental laboratory for analysis.

Operating Scenario 8: Loading of stabilization/solidification material to trucks for off-site disposal

The stabilized/solidified waste is transferred to bulk containers (roll-off's, intermodals or dump trailers). These bulk containers are labeled and held in a permitted hazardous waste container storage area pending analytical test results. The proper analysis is conducted on the samples for

the metal of concern and the analytical results confirms that the results are below the regulatory threshold for the metal of concern. These wastes typically go to Subtitle D solid waste landfills.

Emission Calculations

As presented in Attachment D, the emissions were estimated by each operating scenario on an hourly and annual basis. Table 1 consists of the Volatile Organic Compounds (VOCs) and hazardous air pollutants (HAPs). The basis for emissions and assumptions are provided on the Table. PCB concentrations are established on a worst-case short term basis of 49 ppm (non-TSCA facility cannot accept greater). Typical concentration will be less than 7 ppm for overall annual basis. Analysis for PCBs is conducted on incoming loads.

Additional HAP maximum concentrations are provided on the Tables in Attachment D. Whereas a PDF copy of the Emissions Calculations is included, an Excel version of the emissions calculations showing all formulas and calculations is submitted separately through the NJDEP Online portal during the submittal of this permit application.

Table 2 includes the particulate and HAP emissions from the operating scenarios indicated above. Again, the basis for emissions and assumptions are provided on the Table.

Currently, the facility is a synthetic minor for volatile organic compounds (and other priority pollutants). The addition of this operation does not change the facility's status and will remain a synthetic minor, with potential to emit of VOCs less than 25 tons per year.

Technical Supporting Documents

Impacts Analysis

Due to the introduction hazardous air pollutants (HAPs) with this permit application, the facility is required to prepare a Risk Screening Analysis. The short-term and annual potential to emit of the following were input into the Risk Screening spreadsheet, with a Negligible result for all contaminants.

- Arsenic Compounds
- Barium Compounds
- Benzene
- Beryllium Compounds
- Cadmium Compounds
- Chlorobenzene
- Chromium Compounds
- Cumene
- Ethylene Glycol
- Lead Compounds

- Methanol
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Methylene Chloride
- Nickel Compounds
- Phenol
- Polychlorinated Biphenyls (PCBs)
- Selenium Compounds
- Tetrachloroethylene
- Toluene
- Trichloroethylene
- Xylene

The spreadsheet will be attached to the Permit Application submittal under separate cover through the NJDEP Online Portal.

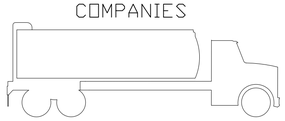
RADIUS Permit Application

The permit application for this new source was created through the mandated RADIUS software. A PDF copy of the application is included as **Attachment E**. The file was uploaded and submitted through the NJDEP Online portal.

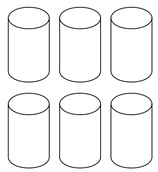
Attachment A

Process Flow Diagram

INCOMING SLUDGE WASTE FROM PUBLIC & PRIVATE UTILITY & TRANSIT AUTHORITIES AND/OR COMPANIES

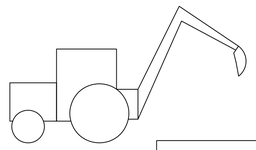


VIA VAC TRUCK/CUSCO



BATCH CONTAINERS FROM BULK & VARIOUS INDUSTRIAL & COMMERCIAL GENERATORS

STABILIZATION/ SOLIDIFICATION MATERIALS*



BACKHOE

STABILIZATION/ SOLIDIFICATION MIX PIT

SOLIDIFIED WASTE

STABILIZED/ SOLIDIFIED WASTE SHIPPED TO AUTHORIZED LANDFILL

GENERAL NOTES

WASTE COMES FROM UTILITY MANHOLE CLEANOUTS, OIL/WATER SEPARATOR CLEANOUTS, MAINTENANCE GARAGE TRENCH CLEANINGS, ETC.

*NOTE: PAPER PULP, WOOD FLOUR, DIAPER RESIDUALS, SWELL-GEL, PORTLAND CEMENT, KILN DUST, FLY ASH, LIME, FERROUS SULFATE, SAW DUST ETC.

PROPRIETARY STATEMENT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISE NOTES	JEK	DDS	DDS	083123
B	REVISE NOTES	JEK	DDP	DDP	082620
A	NEW ISSUE	JEK	DDP	DDP	041620

REVISIONS

TITLE

MIX PIT PROCESS FLOW DIAGRAM

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 781-792-5000

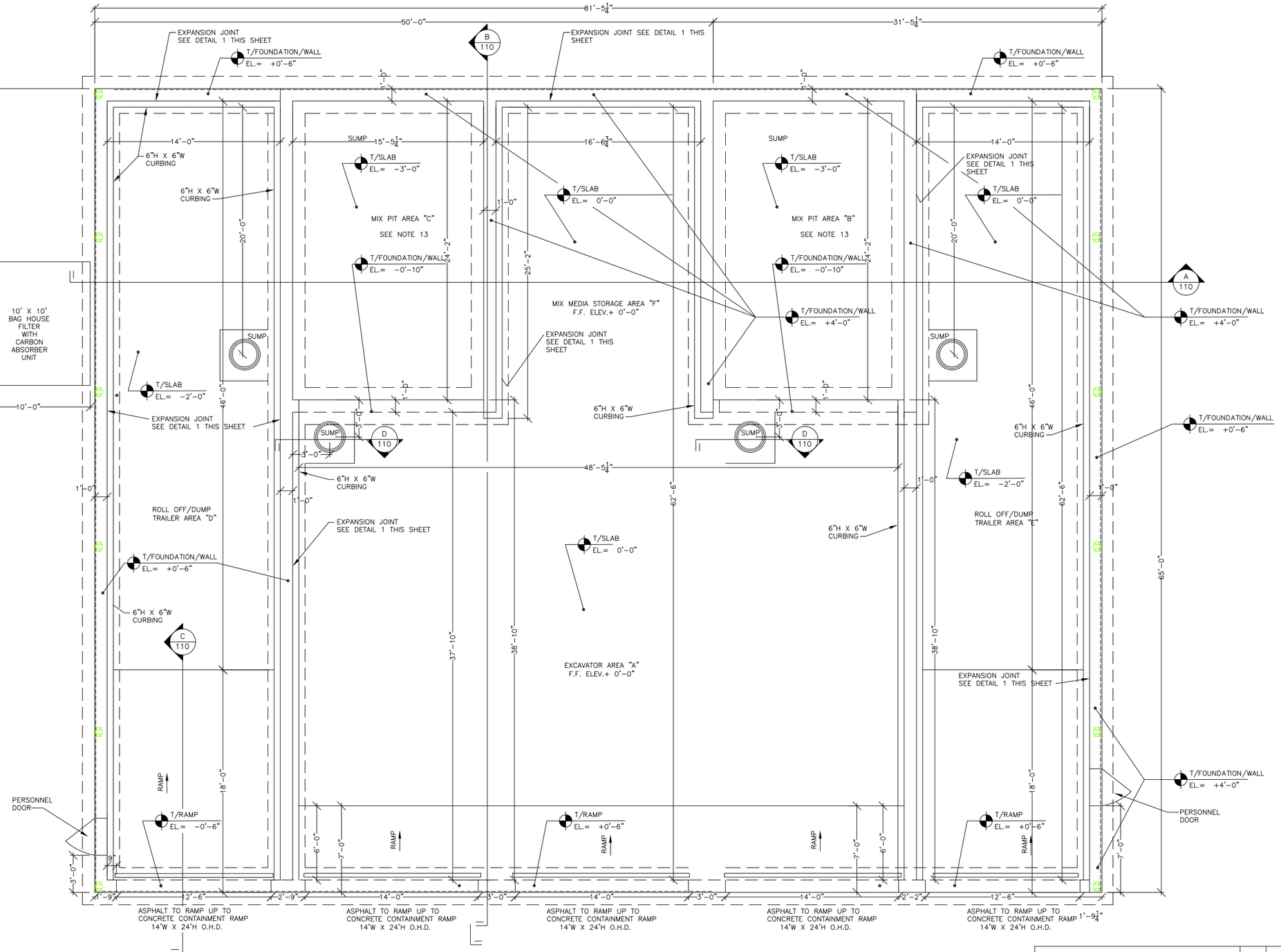
SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
1/8" = 1'-0"	JEK	DDP	DDP	DDP	4/6/20

STANDARD BRANCH LOCATION: LINDEN, N.J.

STD-DWG-REV NO.: M-100

Attachment B

Mix Pit Diagram



SOLIDS AREA HANDLING CONCRETE PLAN

SCALE: 1/4" = 1'-0"

CONTAINMENT CALCULATIONS

AREA 'A'- EXCAVATOR AND MIX MEDIA STORAGE AREA
48'-5" X 38'-10" X 6" X 7.48 GAL/CF = + 7,031 GAL.-
.5 X 48'-5" X 6'-0" X 6" X 7.48 GAL/CF = -543 GAL.
= +6,488 GAL.

25'-2" X 16'6.75" X 6" X 7.48 GAL/CF. = +1,559 GAL.

AREA 'B'- MIX PIT AREA
20'-0" X 18'-0" X 3'-0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'C'- MIX PIT AREA
20'-0" X 18'-0" X 3'-0" X 7.48 GAL/CF = +8,078 GAL.

AREA 'D & F'- ROLL-OFF/DUMP TRAILER AREA
64'-0" X 14'-0" X 2'-0" X 2 X 7.48 GAL/CF = +26,808 GAL.-
.5 X 14'-0" X 18'-0" X 2'-0" X 2 X 7.48 GAL/CF= -3,770 GAL.
= +23,038 GAL.

TOTAL CONTAINMENT = 47,241 GAL.

GENERAL NOTES

1.) ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, 315 AND 318 LATEST EDITIONS. FOLLOW ACI RECOMMENDATIONS FOR COLD AND HOT WEATHER CONDITIONS.

2.) ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM PERIOD OF FIVE DAYS.

3.) ALL CURBS SHALL BE CAST MONOLITHICALLY WITH SLAB.

4.) SLOPE CONCRETE SLAB AS SHOWN ON PLAN.

5.) MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3" FOR CONCRETE CAST AGAINST SOIL AND 2" FOR CONCRETE EXPOSED TO WEATHER.

6.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH MAX. SIZE AGGREGATE OF 1 1/2" AND ENTRAINED AIR OF 4% - 6% IN ADDITION FOR TRUCK STATION MIN. MODULUS OF RUPTURE OF 600 PSI AT 28 DAYS WITH MAX. W/C RATIO OF .50 AND MIN. CEMENT FACTOR OF 560 LB/CY.

7.) ALL REBAR SHALL BE GRADE 50 BILLET STEEL CONFORMING TO ASTM A-615.

8.) BLDG. SLAB ELEVATIONS ARE RELATIVE AND SHALL BE BASED ON THE ASSIGNED REFERENCE ELEVATION OF 0'-0" FOR EXISTING GRADE LEVEL.

9.) BLDG SLAB REQUIRED PREPARATION:
REMOVE SURFACE AND UNDERCUT SOIL TO THE PROPER SUB GRADE ELEVATION. SCARIFY AND RECOMPACT THE TOP 8" OF EXISTING SUB GRADE SOIL. INSTALL MIRAFI 500X GEOFABRIC OR APPROVED EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BACK FILL AND COMPACT WITH AN 8" LAYER OF STRUCTURAL FILL (3" MINUS WELL GRADED CRUSHED STONE) AND 6" LAYER OF GRANULAR FILL (1" MINUS WELL GRADED CRUSHED STONE). SUBGRADE MATERIAL SHALL BE COMPACTED TO 95%. STRUCTURAL FILL AND GRANULAR FILL MATERIALS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAX. DRY DENSITY AND UNIFORM OVER THE ENTIRE AREA.
ACTUAL GRADE PREPARATION MAY VARY DUE TO EXISTING SOIL CONDITIONS.

10.) SLOPE GRADE AWAY FROM BUILDING AS REQUIRED TO ENSURE STORMWATER RUN-OFF AWAY FROM BUILDING.

11.) EXISTING GRADES AT PROPOSED BUILDING LOCATION VARIES. CONTRACTOR TO VERIFY EXISTING GRADES AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO CHES/SK PROJECT MANAGER. CONTRACTOR TO STEP FOOTINGS AS REQUIRED PER LOCAL CODES. CONTRACTOR TO MEET CONCRETE ELEVATIONS AT DOORWAYS WITH ASPHALT AND SLOPE AWAY AT MAX. 1:12 SLOPE AND BLEND WITH EXISTING ASPHALT.

12.) CONTRACTOR TO INSTALL CHEMTEC SEALER TO CONCRETE SURFACE, CHEMTEC SEALER SUPPLIED BY S-K.

13.) MIX PIT TO BE LINED WITH 3/8" STEEL PLATING WITH ALL SEAMS WELDED WATER TIGHT.

PROPRIETARY STATEMENT

N. D. Eryou, PhD, PE
Consulting Engineer

Southwest Florida Office
5051 Castello Drive
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Naples, FL 34103
Phone: (352) 684-7275
Fax (800) 660-6724

Central Florida Office
1460 Breezy Way
Spring Hill, FL 34608
Phone: (352) 684-7275
Fax (800) 660-6724

Email: alex@eryouengineering.com

SEAL & SIGNATURE
N.D. ERYOU
NJ PE # GE34195

STATE OF NEW JERSEY · N. DENNIS ERYOU · NO. GE34195 · LICENSED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	ISSUED FOR REVIEW	JEK	DDP	DDP	111523

REVISIONS

TITLE
MIX PIT/SOLIDS AREA CONCRETE PLAN

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DR. NORWELL, MA. 02061
PHONE 800-669-5740

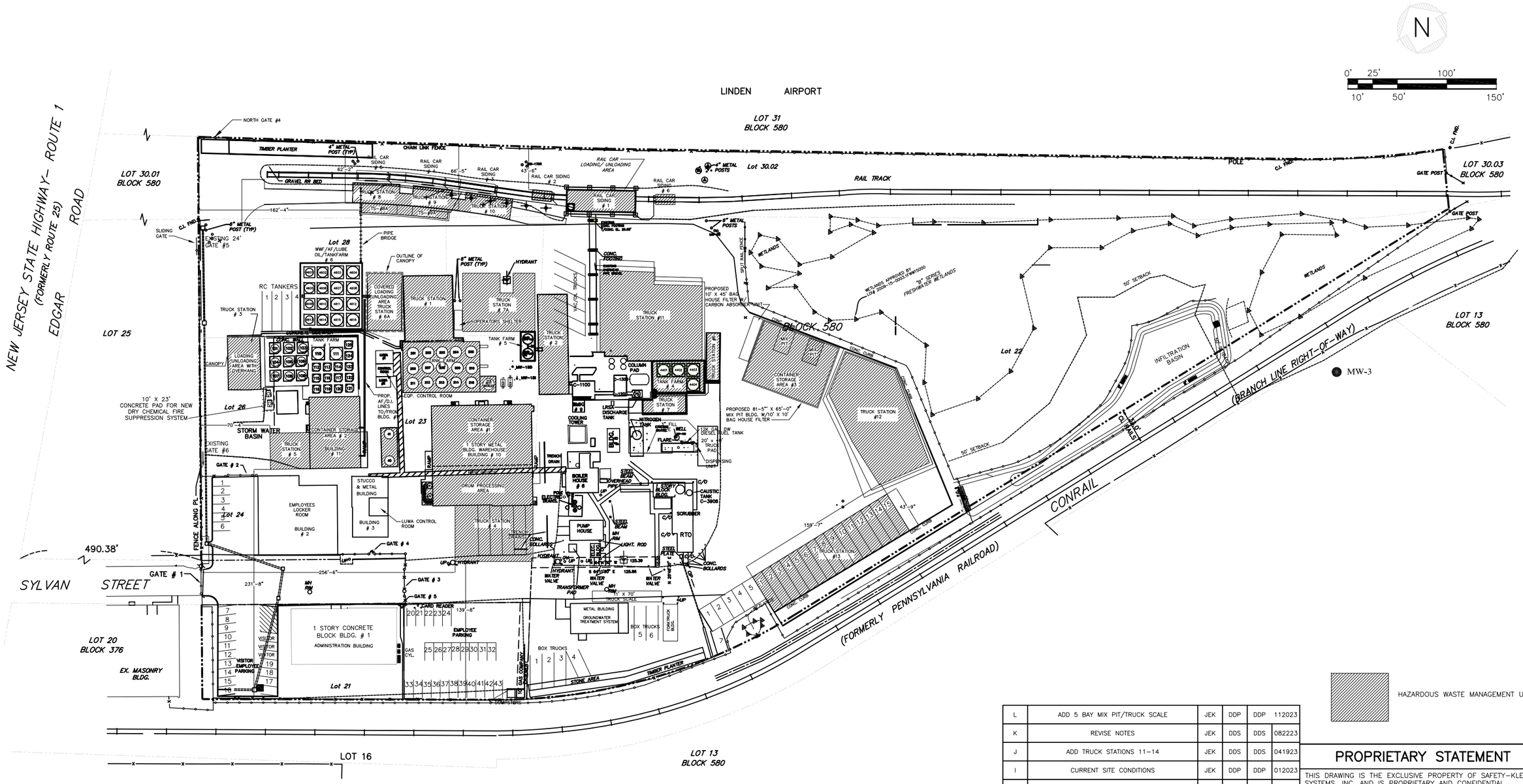
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	DDP	DDP	DDP	11/15/23

SERVICE CENTER	STD-DWG NUMBER	REV. NO.
LINDEN, N.J.	D-105	A

D-105 SOLIDS AREA RAMP CONCRETE PLAN.dwg, Nov 17, 2023, 11:31am

Attachment C

Site Diagram



HAZARDOUS WASTE MANAGEMENT UNIT

NO.	DESCRIPTION	BY	CHK	APPR	DATE
L	ADD 5 BAY MIX PIT/TRUCK SCALE	JEK	DDP	DDP	112023
K	REVISE NOTES	JEK	DDS	DDS	082223
J	ADD TRUCK STATIONS 11–14	JEK	DDS	DDS	041923
I	CURRENT SITE CONDITIONS	JEK	DDP	DDP	012023
H	CURRENT SITE CONDITIONS	JEK	DAD	DAD	080222
G	ADD T-4505 & HX-4501	JEK	FR	FR	042921
F	ADD DEISEL TANK	JEK	DAD	DAD	102319
E	REVISED PER D.A.D. COMMENTS	JEK	DAD	DAD	121217
D	REVISED PER DEP RESPONSE	JEK	DDP	DDP	050317
C	REVISED PER DEP RESPONSE	JEK	DDP	DDP	011317
B	ADD OTHER CONCEPTUAL ITEMS	JEK	DDP	DDP	102015
A	ADD CONCEPTUAL ITEMS	JEK	DDP	DDP	092215
0	ISSUED FOR REVIEW	JEK	DDP	DDP	032015

REVISIONS

STATE OF NEW JERSEY
N. DENNIS ERVIOU
NO. GE34195
LICENSED PROFESSIONAL ENGINEER

PROPRIETARY STATEMENT

TITLE

SITE PLAN
1200 SYLVAN ST.
LINDEN, N.J. 07036

SAFETY-KLEEN SYSTEMS, INC.
42 LONGWATER DRIVE, NORWELL, MA. 02061
PHONE: 781-792-5000

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=50'-0"	JEK	KJM	DP		3/20/15

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
LINDEN, N.J.	7404-SP00-010	L

Attachment D

Table 1: VOC and HAP Emissions

Table 2: Particulate and HAP Emissions

VOC/HAP Emissions (Carbon Adsorption)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 1

OS7

Process: Mixing of Waste Material in Mix Pit [a]

Pollutant	Worst Case Concentration [b] (ppm)	Pollutant Concentration (%)	Moisture Content[b] (%)	Maximum Hourly Throughput (lb/hr)	Maximum Annual Throughput (lb/year)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[c] (lb/hr)	Controlled Annual Emissions[c] (ton/yr)	Controlled Annual Emissions (lb/yr)	Reporting Threshold [d] (lbs/yr)
VOC	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000		
PCB [e]	49	0.0049%	40%	120,000		3.528		0.1764			
	7	0.0007%	40%		10,000,000	0.000	0.0210		0.001050	2.10	2.1
Benzene	1	0.0001%	10%	120,000	140,000,000	0.108	0.0630	0.0054	0.003150	6.30	6
Chlorobenzene	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Cumene	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Ethylene Glycol	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Methanol	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Methylene Chloride	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Methyl Ethyl Ketone	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Methyl Isobutyl Ketone	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Phenol	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Tetrachloroethylene	3	0.0003%	10%	120,000	140,000,000	0.3	0.1890	0.016	0.009450	18.900000	180
Toluene	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000
Trichloroethylene	1	0.0001%	10%	120,000	140,000,000	0.108	0.0630	0.005	0.003150	6.300000	8
Xylene	500	0.05%	10%	120,000	140,000,000	54.0	31.5000	2.70	1.575000	3150.0	2000

Basis for Emissions:

(a) Hourly, Daily, and Annual emissions based on the assumptions listed below.

(b) Worst case concentration and moisture content of waste material based on Waste Profile information.

(c) Controlled emissions based on the estimated volatile organic compound removal efficiency for the carbon adsorption system: 95%

(d) Reporting Threshold as indicated in NJAC 7:27-17.9 (b) Table 3A

(e) PCB concentrations are established on a worst-case short term basis of 49 ppm (non-TSCA facility cannot accept greater). Typical concentration will be less than 7 ppm for overall annual basis. Analysis for PCBs is conducted on incoming loads.

Assumptions: RCRA Hazardous Waste

Daily Waste Throughput (Max)	200 tons	Max Daily Operating Schedule	24 hrs/day
Hourly Waste Throughput (Max)	60 tons	Annual Operating Schedule	365 days/yr
		Annual RCRA Hazardous Waste	70,000 tons/yr
Assumptions: Non Hazardous Waste		Annual Non-Hazardous Waste	36,000 tons/yr
Daily Waste Throughput (Max)	60 tons	Annual PCB Sludge Waste	5,000 tons/yr
Hourly Waste Throughput (Max)	40 tons	Total Annual Waste Processed	111,000 tons/year

Particulate Matter and Lead Emissions (Baghouse Control)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 2

OS1

Process: Loading Stabilization Material to Building [a] (Front end loader to bunker)

Pollutant	Moisture Content[b] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e,f] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	0.25	0.74	2.0	1.32E-02	30	29250	0.3967	0.1934	0.0003967	0.000193
PM 10	0.25	0.35	2.0	6.25E-03	30	29250	0.1876	0.0915	0.00188	0.00091
PM 2.5	0.25	0.053	2.0	9.47E-04	30	29250	0.0284	0.0139	0.000284	0.00014

OS2

Process: Loading Solidification Material to Building [a] (Front end loader to bunker)

Pollutant	Moisture Content[h] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e,f] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	11	0.74	2.0	6.62E-05	30	18000	0.0020	0.0006	0.0000020	0.0000006
PM 10	11	0.35	2.0	3.13E-05	30	18000	0.0009	0.0003	0.000009	0.0000028
PM 2.5	11	0.053	2.0	4.74E-06	30	18000	0.00014	0.00004	0.0000014	0.0000004

OS3

Process: Loading of Waste Material into Mix Pit [h] RCRA Hazardous Waste

Pollutant [i]	Moisture Content[j] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	10	0.74	2.0	7.56E-05	60	70000	0.0045	0.0026	0.0000045	0.000003
PM 10	10	0.35	2.0	3.58E-05	60	70000	0.0021	0.0013	0.00002	0.00001
PM 2.5	10	0.053	2.0	5.41E-06	60	70000	0.0003	0.0002	0.000003	0.0000018950
Arsenic	10	0.74	2.0	7.56E-05	0.030	35.0	0.0000023	0.0000013	0.000000023	0.0000000132
Barium	10	0.74	2.0	7.56E-05	0.600	700.0	0.0000454	0.0000265	0.000000454	0.0000002646
Beryllium	10	0.74	2.0	7.56E-05	0.060	70.0	0.0000045	0.0000026	0.000000045	0.0000000265
Cadmium	10	0.74	2.0	7.56E-05	0.030	35.0	0.0000023	0.0000013	0.000000023	0.0000000132
Chromium	10	0.74	2.0	7.56E-05	0.006	7.0	0.0000005	0.0000003	0.000000005	0.0000000026
Nickel	10	0.74	2.0	7.56E-05	0.300	350.0	0.0000227	0.0000132	0.000000227	0.0000001323
Selenium	10	0.74	2.0	7.56E-05	0.600	700.0	0.0000454	0.0000265	0.000000454	0.0000002646
Silver	10	0.74	2.0	7.56E-05	0.600	700.0	0.0000454	0.0000265	0.000000454	0.0000002646
Lead	10	0.74	2.0	7.56E-05	0.60	700.0	0.00005	0.000026	0.00000005	0.0000000265

Particulate Matter and Lead Emissions (Baghouse Control)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 2

OS4

Process: Loading of Waste Material into Mix Pit [a] Non-Hazardous Waste

Pollutant	Moisture Content[j] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	10	0.74	2.0	7.56E-05	40	36000	0.0030	0.0014	0.0000030	0.000001
PM 10	10	0.35	2.0	3.58E-05	40	36000	0.0014	0.0006	0.00001	0.00001
PM 2.5	10	0.053	2.0	5.41E-06	40	36000	0.0002	0.0001	0.000002	0.00000

OS5

Process: Loading of Reagent for Stabilization in Mix Pit [a]

Pollutant	Moisture Content[b] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e,f] (ton/hr)	Maximum Annual Throughput [e,f] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	0.25	0.74	2.0	1.32E-02	9	10500	0.1190	0.0694	0.00012	0.00007
PM 10	0.25	0.35	2.0	6.25E-03	9	10500	0.0563	0.0328	0.0006	0.0003
PM 2.5	0.25	0.053	2.0	9.47E-04	9	10500	0.0085	0.0050	0.0001	0.00005

OS6

Process: Loading of Media for Solidification in Mix Pit [a]

Pollutant	Moisture Content[h] (%)	k[c]	U[d] (mph)	Emission Factor[a] (lb/ton)	Maximum Hourly Throughput [e,f] (ton/hr)	Maximum Annual Throughput [e,f] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	11	0.74	2.0	6.62E-05	30	18000	0.0020	0.0006	0.000002	0.000001
PM 10	11	0.35	2.0	3.13E-05	30	18000	0.0009	0.0003	0.00001	0.000003
PM 2.5	11	0.053	2.0	4.74E-06	30	18000	0.0001	0.0000	0.000001	0.0000004

Particulate Matter and Lead Emissions (Baghouse Control)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 2

OS7

Process: Mixing of Reagent/Media and Waste Material [k]

Pollutant [i]	Uncontrolled Emission Factor (lb/ton)[k]	Maximum Hourly Throughput [e] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[l] (lb/hr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	0.572	60	140250	34.3200	40.1115	0.03432		0.04011
PM 10	0.156	60	140250	9.3600	10.9395	0.09360		0.10940
PM 2.5	0.156	60	140250	9.3600	10.9395	0.09360		0.10940
Arsenic	0.572	0.030	70.13	0.0172	0.0201	0.000017	0.040112	0.000020
Barium	0.572	0.600	1402.50	0.3432	0.4011	0.000343	0.802230	0.000401
Beryllium	0.572	0.060	140.25	0.0343	0.0401	0.000034	0.080223	0.000040
Cadmium	0.572	0.030	70.13	0.0172	0.0201	0.000017	0.040112	0.000020
Chromium	0.572	0.006	14.03	0.0034	0.0040	0.000003	0.008022	0.000004
Nickel	0.572	0.300	701.25	0.1716	0.2006	0.000172	0.401115	0.000201
Selenium	0.572	0.600	1402.50	0.3432	0.4011	0.000343	0.802230	0.000401
Silver	0.572	0.600	1402.50	0.3432	0.4011	0.000343	0.802230	0.000401
Lead	0.572	0.600	1403	0.3432	0.4011	0.00034	0.80223	0.00040

OS8

0.9301 0.0009

Process: Loading of Stabilized Waste Material to Trucks[m]

Pollutant	Uncontrolled Emission Factor (lb/ton)[m]	Maximum Hourly Throughput [e] (ton/hr)	Maximum Annual Throughput [e] (ton/yr)	Uncontrolled Hourly Emissions (lb/hr)	Uncontrolled Annual Emissions (ton/yr)	Controlled Hourly Emissions[g] (lb/hr)	Controlled Annual Emissions[g] (ton/yr)
PM	1.118	90	140250	100.6200	78.3998	0.1006	0.0784
PM 10	0.310	90	140250	27.9000	21.7388	0.2790	0.2174
PM 2.5	0.310	90	140250	27.9000	21.7388	0.2790	0.2174

Particulate Matter and Lead Emissions (Baghouse Control)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 2

Total Particulate Emissions

Total	Combined Uncontrolled Maximum Annual Emissions (ton/yr)	Combined Controlled Annual Emissions (ton/yr)	Combined Controlled Annual Emissions (lbs/yr)	Reporting Threshold [(n)] (lbs/yr)
PM	118.78	0.1188		
PM 10	32.81	0.3281		
PM 2.5	32.70	0.3270		
Arsenic	0.02006	0.000020	0.040138	0.01
Barium	0.40114	0.000401	0.802759	NA
Beryllium	0.04011	0.000040	0.080276	0.02
Cadmium	0.02006	0.000020	0.040138	0.01
Chromium	0.00401	0.000004	0.008028	1000
Nickel	0.20057	0.000201	0.401380	0.6
Selenium	0.40114	0.000401	0.802759	925
Silver	0.40114	0.000401	0.802759	NA
Lead	0.40114	0.000401	0.802283	2

Particulate Matter and Lead Emissions (Baghouse Control)
LIN Mix Pit Operations
Safety-Kleen Systems Inc., Linden NJ Facility

Table 2

Basis for Emissions:

(a) Emission factor based on USEPA AP-42 Section 13.2.4 (Rev. 11/06) and the equation below.
(b) Various reagents/media may be utilized for the stabilization and/or solidification of waste materials, in bagged form. For the purposes of this estimate, the moisture content for cement dust was selected as it represents the "worst case scenario" for particulate emissions due to low moisture content.
(c) Assumed average particle size diameter for PM and metals < 30 microns for particle size multipler (k)
(d) Mean wind speed (U) estimated at 2 mph within the building (maximum).
(e) Hourly, Daily, and Annual emissions based on the assumptions listed below.
(f) Maximum hourly throughput based on the maximum amount of treatment reagent assuming rate of 15% by weight per hour for stabilization and 50% by weight per hour for solidification.
(g) Controlled baghouse emissions based on the estimated particulate removal efficiency for the system: PM and metals = 99.9%, PM10 and PM2.5 = 99%.
(h) Various media may be utilized for the solidification of waste materials, in bulk form. For the purposes of this estimate, the moisture content for "Miscellaneous materials" was selected and appeared to be an average of all materials represented in AP-42 Section 13.2.4.
(i) Worst case metal-bearing concentration of RCRA hazardous waste:

	ppm	% by weight		ppm	% by weight
Arsenic	500	0.05%	**Nickel**	5000	0.50%
Barium	10000	1%	**Selenium**	10000	1%
Beryllium	1000	0.10%	**Silver**	10000	1%
Cadmium	500	0.05%	**Lead**	10000	1%
Chromium	100	0.01%			

(j) Moisture content of waste material based on Waste Profile information % water.
(k) Emissions created during the mixing of the waste material and the reagent are based on the emission factors for mixer loading, found in USEPA AP-42 Table 11.12-2 (Rev. 6/06, updated 2/11).
(l) Contolled emissions based on the use of water spray to supress the generation of fugitive dust during the mixing process, and controlled baghouse emissions based on the estimated particulate removal efficiency for the system: PM and Pb = 99.9%, PM10 and PM2.5 = 99%.
(m) Emissions created during the loading of waste are based on the emission factors for truck loading, found in USEPA AP-42 Table 11.12-2 (Rev. 6/06, updated 2/11).
(n) Reporting Threshold as indicated in NJAC 7:27-17.9 (b) Table 3A

Equation for Unloading of Waste Material and Reagents [(a)]:

$$E = k\,(0.0032)\,\frac{(U/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E = emission factor
k = particle size multiplier
U = mean wind speed (mph)
M = material moisture content (%)

Assumptions (e): RCRA Hazardous Waste

Daily Waste Throughput (Max)	200
Hourly Waste Throughput (Max)	60
Reagent/Media rate	15%
Particulate Removal Efficiency (≤PM-10)	99%
Particulate Removal Efficiency (>PM-10)	99.99%

Assumptions: Non Hazardous Waste

Daily Waste Throughput (Max)	60
Hourly Waste Throughput (Max)	40
Reagent rate	50%
Particulate Removal Efficiency (≤PM-10)	99%
Particulate Removal Efficiency (>PM-10)	99.99%

Max Daily Operating Schedule	24	hrs/day
Annual Operating Schedule	365	days/yr
Annual RCRA Hazardous Waste	70,000	tons/yr
Annual Non-Hazardous Waste	36,000	tons/yr
Annual Lead Sludge Waste	5,000	tons/yr
Total Annual Waste Processed	111,000	tons/year
Total Annual Reagent Usage	29,250	tons/year

Attachment E

RADIUS Permit Application

Safety-Kleen Systems, Inc. (40097)

Date: 9/8/2023

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: **Number:** 0

Description of Modifications:

The purpose of the mix pit is processing of contaminated soil waste by the solidification and/or stabilization of inorganic characteristic hazardous (RCRA heavy metals) and/or non-hazardous wastes. Please refer to the attached mix pit process flow diagram (Attachment A). The mix pit consists of a steel-lined concrete in-ground pit of the proper design to contain liquids and detect leaks in the secondary containment system. Please refer to Attachment B for diagrams of the mix pit and associated building.

Treatment/stabilization is conducted in batches. Processing rate of 200 tons per day of hazardous waste or 99 tons per day of non-hazardous waste. Short term process rates could not exceed 60 tons per hour. Estimated annual rates would be ~70,000 tons of hazardous waste and ~36,000 tons of non-hazardous waste. Actual rates will be a combination of hazardous and non-hazardous wastes at lesser annual amounts each.

This single source, Equipment E2000 operations are conducted within an enclosed building designed to control potential air emissions from the process through a dust collector (baghouse Control Device CD2001) and carbon adsorption bed (Control Device CD2002). Refer to Attachment C for location of the mix pit building from the Site Diagram.

Emission Estimates for particulates, volatile organic compounds and hazardous air pollutants are included as Attachment D.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Safety-Kleen Systems, Inc. **Facility ID (AIMS):** 40097

Street Address: 1200 SYLVAN ST
LINDEN, NJ 07036

Mailing Address: 1200 SYLVAN ST
LINDEN, NJ 07036

State Plane Coordinates:

X-Coordinate:	560,897
Y-Coordinate:	648,593
Units:	New Jersey State Plane 8
Datum:	NAD83
Source Org.:	DEP-GIS
Source Type:	DEP Program Database

County: Union

Location Description:

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	562211

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Clean Harbors Environmental Services
Org. Type: Corporation
Name: Kim Shriner
NJ EIN:
Title: Sr Environmental Compliance Manager
Phone: (908) 487-5240 x
Fax: ( ) - x
Other: ( ) - x
Type:
Email: shriner.kimberly@cleanharbors.com
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036

Contact Type: Compliance Officer

Organization: Safety Kleen Systems Inc
Org. Type:
Name: David Cornell
NJ EIN:
Title: Sr Environmental Compliance Officer
Phone: (934) 777-1175 x
Fax: ( ) - x
Other: ( ) - x
Type:
Email: david.cornell@safety-kleen.com
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036

Contact Type: Environmental Officer

Organization: Safety Kleen Systems Inc
Org. Type:
Name: David Cornell
NJ EIN:
Title: Sr Environmental Compliance Officer
Phone: (934) 777-1175 x
Fax: ( ) - x
Other: ( ) - x
Type:
Email: david.cornell@safety-kleen.com
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Fees/Billing Contact

Organization: Safety-Kleen Systems, Inc.
Org. Type: Corporation
Name: William Greenlaw
NJ EIN: 27956300007
Title: Facility General Manager
Phone: (781) 636-6522 x
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036
Fax: (908) 862-2384 x
Other: ( ) - x
Type:
Email: greenlaw.william@cleanharbors.com

Contact Type: General Contact

Organization: Safety-Kleen Systems, Inc.
Org. Type: Corporation
Name: William Greenlaw
NJ EIN: 27956300007
Title: Facility General Manager
Phone: (781) 636-6522 x
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036
Fax: (908) 862-2384 x
Other: ( ) - x
Type:
Email: greenlaw.william@cleanharbors.com

Contact Type: On-Site Manager

Organization: Safety-Kleen Systems, Inc.
Org. Type: Corporation
Name: William Greenlaw
NJ EIN: 27956300007
Title: Facility General Manager
Phone: (781) 636-6522 x
Mailing Address: 1200 Sylvan Street
Linden, NJ 07036
Fax: (908) 862-2384 x
Other: ( ) - x
Type:
Email: greenlaw.william@cleanharbors.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: **Responsible Official**

Organization: Safety-Kleen Systems, Inc.
Org. Type: Corporation
Name: William Greenlaw
NJ EIN: 27956300007
Title: Facility General Manager
Phone: (781) 636-6522 x
Fax: (908) 862-2384 x
Other: ( ) - x
Type:
Email: greenlaw.william@cleanharbors.com

Mailing Address: 1200 Sylvan Street
Linden, NJ 07036

New Jersey Department of Environmental Protection
Facility Profile (Permitting)

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	No
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	Yes
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	No
8. Have you submitted a netting analysis?	No
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	
12. Have you provided, or are you planning to provide air contaminant modeling?	No

Safety-Kleen Systems, Inc. (40097) Date: 9/8/2023

New Jersey Department of Environmental Protection
Equipment Inventory

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E2000	Mix Pit	Waste Stabilization	Manufacturing and Materials Handling Equipment			No		

000000 E2000 (Manufacturing and Materials Handling Equipment)
Print Date: 9/8/2023

Make:	
Manufacturer:	
Model:	
Type of Manufacturing and Materials Handling Equipment:	Waste Stabilization
Capacity:	2.00E+02
Units:	other units
Description (if other):	tons per day
Have you attached a diagram showing the location and/or the configuration of this equipment?	Yes
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

Safety-Kleen Systems, Inc. (40097)

Date: 9/8/2023

New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT2000	Mix Pit	Mix Pit Exhaust	Round	48	40	200	70.0	50.0	80.0	20,000.0	10,000.0	20,000.0	Up	

Safety-Kleen Systems, Inc. (40097) Date: 9/8/2023

New Jersey Department of Environmental Protection
Control Device Inventory

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD2001	Mix Pit BH	Mix Pit Baghouse	Particulate Filter (Baghouse)				
CD2002	Mix Pit CA	Mix Pit Carbon Bed	Adsorber				

Safety-Kleen Systems, Inc. (40097)

Date: 9/8/2023

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 2000 Mix Pit Mix Pit Waste stabilization/solidification

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours Min.	Annual Oper. Hours Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS1	Mix Pit	Loading of stabilization material into building	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS2	Mix Pit	Loading of solidification media into building	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS3	Mix Pit	Loading of RCRA hazardous waste material into mix pit	Normal - Steady State	E2000	CD2001 (P) CD2002 (S)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS4	Mix Pit	Loading of non-hazardous waste material into mix pit	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS5	Mix Pit	Loading of stabilization/solidification media to waste	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS6	Mix Pit	Loading of stabilization/solidification media to waste	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0
OS7	Mix Pit	Mixing of waste material for stabilization/solidification	Normal - Steady State	E2000	CD2001 (P) CD2002 (S)	PT2000	A26-40-000-000	0.0	8,760.0	A	0.0	20,000.0	50.0	80.0
OS8	Mix Pit	Loading of waste material for off-site disposal	Normal - Steady State	E2000	CD2001 (P)	PT2000	A26-40-000-000	0.0	8,760.0		0.0	20,000.0	50.0	80.0

000000 U2000 OS1 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS1 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Solidification/stabilization media		Solid		No				

000000 U2000 OS1 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

000000 U2000 OS2 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS2 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Solidification media		Solid		No				

000000 U2000 OS2 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

000000 U2000 OS3 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS3 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
RCRA Hazardous Waste		Sludge		Yes	0.05			

000000 U2000 OS3 (Efficiency Table - CD2002) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10			
PM-2.5			
SO2			
TSP			
VOC (Total)	100.00	95.00	95.00

000000 U2000 OS4 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS4 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Non hazardous waste		Sludge		No				

000000 U2000 OS4 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

000000 U2000 OS5 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS5 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Stabilization/solidification media		Solid		No				

000000 U2000 OS5 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

000000 U2000 OS6 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS6 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Stabilization/solidification media		Solid		No				

000000 U2000 OS6 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

000000 U2000 OS7 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS7 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Solidification media		Solid		No	15.00			
Waste material		Sludge		Yes	0.05			

000000 U2000 OS7 (Efficiency Table - CD2002) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10			
PM-2.5			
SO2			
TSP			
VOC (Total)	100.00	95.00	95.00

000000 U2000 OS8 (Gas Flow)
Print Date: 9/8/2023

Volume of Gas Discharged from this source (acfm):	20,000.00

000000 U2000 OS8 (Raw Materials)
Print Date: 9/8/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Non hazardous waste		Solid		No				

000000 U2000 OS8 (Efficiency Table - CD2001) Print Date: 9/8/2023			
Pollutant Category	**Capture Efficiency (%)**	**Removal Efficiency (%)**	**Overall Efficiency (%)**
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.90	99.90
VOC (Total)			

Safety-Kleen Systems, Inc. (40097) Date: 9/13/2023

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: U2000 Mix Pit

Operating Scenario: OS0 Summary

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Arsenic compounds		0.02006000	0.00002000	0.00002000	tons/yr	No
Benzene		0.06300000	0.00315000	0.00315000	tons/yr	No
Beryllium compounds		0.04011000	0.00004000	0.00004000	tons/yr	No
Cadmium compounds		0.02006000	0.00002000	0.00002000	tons/yr	No
Chlorobenzene		31.50000000	1.57500000	1.57500000	tons/yr	No
Cumene		31.50000000	1.57500000	1.57500000	tons/yr	No
Ethylene glycol		31.50000000	1.57500000	1.57500000	tons/yr	No
HAPs (Total)		33.38900000	1.57700000	1.57700000	tons/yr	No
Lead Emissions		0.40110000	0.00040000	0.00040000	tons/yr	No
Methyl alcohol (Methanol)		31.50000000	1.57500000	1.57500000	tons/yr	No
Methyl ethyl ketone (MEK)		31.50000000	1.57500000	1.57500000	tons/yr	No
Methyl isobutyl ketone (MIBK)		31.50000000	1.57500000	1.57500000	tons/yr	No
Methylene chloride (Dichloromethane)		31.50000000	1.57500000	1.57500000	tons/yr	No
Pb					tons/yr	No
Phenol		31.50000000	1.57500000	1.57500000	tons/yr	No
PM-10 (Total)		32.81000000	0.32810000	0.32810000	tons/yr	No
Polychlorinated biphenyls (PCBs)		0.02100000	0.00100000	0.00100000	tons/yr	No
Toluene		31.50000000	1.57500000	1.57500000	tons/yr	No
TSP		118.78000000	0.11880000	0.11880000	tons/yr	No
VOC (Total)		31.50000000	1.57500000	1.57500000	tons/yr	No
Xylene		31.50000000	1.57500000	1.57500000	tons/yr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS1**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
PM-10 (Total)	0.00000000	0.18800000	0.00190000	0.00190000	lb/hr	No
PM-2.5 (Total)	0.00000000	0.02800000	0.00030000	0.00030000	lb/hr	No
TSP	0.00000000	0.39700000	0.00040000	0.00040000	lb/hr	No

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS2**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO					lb/hr	No
HAPs (Total)					lb/hr	No
NOx (Total)					lb/hr	No
Pb					lb/hr	No
PM-10 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
PM-2.5 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
SO2					lb/hr	No
TSP	0.00000000	D	D	0.00000000	lb/hr	No
VOC (Total)					lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS3**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Arsenic Emissions	0.00000000	D	D	0.00000000	lb/hr	No
Beryllium compounds	0.00000000	D	D	0.00000000	lb/hr	No
Cadmium compounds	0.00000000	D	D	0.00000000	lb/hr	No
Chromium compounds	0.00000000	D	D	0.00000000	lb/hr	No
CO					lb/hr	No
HAPs (Total)	0.00000000	D	D	0.00000000	lb/hr	No
Lead compounds	0.00000000	D	D	0.00000000	lb/hr	No
Nickel compounds	0.00000000	D	D	0.00000000	lb/hr	No
NOx (Total)					lb/hr	No
Pb					lb/hr	No
PM-10 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
PM-2.5 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
Selenium compounds	0.00000000	D	D	0.00000000	lb/hr	No
SO2					lb/hr	No
TSP	0.00000000	D	D	0.00000000	lb/hr	No
VOC (Total)					lb/hr	No

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS4**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO					lb/hr	No
HAPs (Total)					lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS4**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
NOx (Total)					lb/hr	No
Pb					lb/hr	No
PM-10 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
PM-2.5 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
SO2					lb/hr	No
TSP	0.00000000	D	D	0.00000000	lb/hr	No
VOC (Total)					lb/hr	No

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS5**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
PM-10 (Total)	0.00000000	0.05630000	0.00060000	0.00060000	lb/hr	No
PM-2.5 (Total)	0.00000000	0.00850000	0.00010000	0.00010000	lb/hr	No
TSP	0.00000000	0.11900000	0.00012000	0.00012000	lb/hr	No

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS6**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO					lb/hr	No
HAPs (Total)					lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS6**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
NOx (Total)					lb/hr	No
Pb					lb/hr	No
PM-10 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
PM-2.5 (Total)	0.00000000	D	D	0.00000000	lb/hr	No
SO2					lb/hr	No
TSP	0.00000000	D	D	0.00000000	lb/hr	No
VOC (Total)					lb/hr	No

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS7**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Arsenic Emissions	0.00000000	0.01720000	0.00001700	0.00001700	lb/hr	No
Benzene	0.00000000	0.10800000	0.00540000	0.00540000	lb/hr	No
Beryllium compounds	0.00000000	0.03430000	0.00003400	0.00003400	lb/hr	No
Cadmium compounds	0.00000000	0.01720000	0.00001700	0.00001700	lb/hr	No
Chlorobenzene	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Chromium compounds	0.00000000	0.00340000	D	0.00000000	lb/hr	No
CO					lb/hr	No
Cumene	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Ethylene glycol	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
HAPs (Total)	0.00000000	0.93010000	0.00090000	0.00090000	lb/hr	No
Lead compounds	0.00000000	0.34320000	0.00034000	0.00034000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U2000 Mix Pit**

Operating Scenario: **OS7**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Methyl alcohol (Methanol)	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Methyl ethyl ketone (MEK)	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Methyl isobutyl ketone (MIBK)	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Methylene chloride (Dichloromethane)	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Nickel compounds	0.00000000	0.17160000	D	0.00000000	lb/hr	No
NOx (Total)					lb/hr	No
Pb					lb/hr	No
Phenol	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
PM-10 (Total)	0.00000000	9.36000000	0.09360000	0.09360000	lb/hr	No
PM-2.5 (Total)	0.00000000	9.36000000	0.09360000	0.09360000	lb/hr	No
Polychlorinated biphenyls (PCBs)	0.00000000	3.52800000	0.17640000	0.17640000	lb/hr	No
Selenium compounds	0.00000000	0.34320000	D	0.00000000	lb/hr	No
SO2					lb/hr	No
Trichloroethylene	0.00000000	0.10800000	D	0.00000000	lb/hr	No
Tetrachloroethylene	0.00000000	0.30000000	D	0.00000000	lb/hr	No
Toluene	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
TSP	0.00000000	34.32000000	0.03432000	0.03432000	lb/hr	No
VOC (Total)	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No
Xylene	0.00000000	54.00000000	2.70000000	2.70000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: U2000 Mix Pit

Operating Scenario: OS8

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
PM-10 (Total)	0.00000000	27.90000000	0.27900000	0.27900000	lb/hr	No
PM-2.5 (Total)	0.00000000	27.90000000	0.27900000	0.27900000	lb/hr	No
TSP	0.00000000	100.62000000	0.10060000	0.10060000	lb/hr	No

ATTACHMENT SW-E

Example Daily Solidification Log

Appendix A

Safety-Kleen Systems, Inc., Linden, NJ

Example Daily Solidification Log

Inbound Container No.	Shipping Document Number	Waste Profile Number	Volume of Waste	Start time	Finish time	Container Number Transferred into	Reagent Amount Added

Comments: _____

_____

_____

Operator name: _____ Date: _____

This log to be completed every day that solidification activities occur.
Submit to the Operations Manager when done. This form must be filed onsite in electronic and/or paper hardcopy in the facility operating records