

FLD 984167791

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Dept. of Environmental Reg.
West Palm Beach

**RCRA OPERATING PERMIT APPLICATION
SAFETY-KLEEN CORP.
LOT 46B QUANTUM INDUSTRIAL PARK
BOYNTON BEACH, FLORIDA**

FLD 984167791

April 23, 1991

Prepared for:

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PART I
GENERAL FACILITY INFORMATION





Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form #	17-730.900(2)
Form Title	Ap. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Application for a Hazardous Waste Facility Permit and Instructions

DER Form	17-730.900(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

General Instructions for Completing the Application for a Hazardous Waste Facility Permit

Who Must File

The application for a hazardous waste facility permit must be completed by all persons who own or operate, or who intend to construct or close a hazardous waste treatment, storage, or disposal facility as identified in Chapter 17-730, Florida Administrative Code (FAC), unless exempted in accordance with Section 17-730.270, FAC. This form, as referenced in Chapter 17-730, Part IV, Hazardous Waste Permitting, must be used when filing for any type of hazardous waste facility permit. All applicants are encouraged to arrange for a pre-application conference with the Department before completing the hazardous waste permit application form.

How To File

Four (4) copies of the complete permit application package with all attachments should be sent to the DER District office that serves the area where the hazardous waste management facility is located. Each page of the application should be numbered and dated. DER offices are located in Pensacola, Jacksonville, Orlando, Tampa, West Palm Beach, and Ft. Myers.

Within 60 days of receipt of the application, the Department will review and comment on its completeness. If it is not complete, the applicant will be sent a Notice of Deficiency (NOD) within the prescribed time and asked to send additional information or to correct apparent errors or omissions. The applicant shall send six (6) certified copies with the additional information by the time specified in the NOD. Each page of the additional information will be numbered and dated, so that it can be put into the application in the proper place.

Types of Permits

Temporary Operation Permit (TOP)

17-730.230 TOP's

An application for a TOP must be filed as directed in Section 17-730.230 FAC.

An application fee of \$500 must accompany each application for a TOP.

When applying for a TOP, the applicant must complete:

- Part I - Entire part
- Part II - Section A through J - as appropriate for the specific operation
- Part II - Section K, L and P
- Part II - Section M and O as appropriate
- Certification

2. 17-730.231 TOP's

An application for a TOP must be filed as directed in Section 17-730.231 FAC.

An application fee of \$500 must accompany each application for a TOP.

When applying for a TOP, the applicant must complete:

- Part I - Entire Part
- Certification

Construction Permit

An application for a construction permit must be filed in accordance with Section 17-730.250, FAC. An application fee of \$5000 must accompany each application for a construction permit for a new hazardous waste facility. An application fee of \$5000 must accompany each application for a construction permit which is required to modify an existing hazardous waste facility.

When applying for a Construction Permit, the applicant must complete:

- Part I - Entire part
- Part II - Section A through J - as appropriate for the specific operation
- Part II - Section K, L and P
- Part II - Section M and O as appropriate
- Certification

OER Form #	17-730.900(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
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Operation Permit (OP)

An application for an OP must be filed in accordance with Section 17-730.240, FAC. An application fee of \$2000 must accompany each application for an operation permit. An operation Permit may be renewed by filing an application in accordance with Section 17-730.300, FAC.

When applying for an OP, the applicant must complete:

- Part I - Entire part
- Part II - Section A through J - as appropriate for the specific operation
- Part II - Section K and P
- Part II - Section M and O as appropriate
- Certification

Closure Permit

An application for a closure/post-closure permit must be filed as directed in Section 17-730.260, FAC. An application fee of \$5000 must accompany each application for a closure permit.

When applying for a closure permit including Post-Closure, the applicant must complete:

- Part I - Entire part
- Part II - Section A through J closure as appropriate
- Part II - Section K and P
- Part II - Section M and O as appropriate
- Certification

Research Development and Demonstration Permit (RD&D)

An application for an RD&D permit must be filed as directed in Section 17-730.330, FAC. An application fee of \$3000 must accompany each application and renewal.

When applying for an RD&D permit, the applicant must complete:

- Part I - Entire part
- Part II - Section A through J - as appropriate for specific operation
- Part II - Section K and L
- Part II - Section M and O as appropriate
- Part II - Section N
- Certification

Renewal of Permits

The owner or operator shall apply for a renewal of the permit prior to 135 days of the expiration of any hazardous waste operating permit or any closure permit which includes post-closure requirements. If a facility has operated under the existing permit without any facility or regulatory changes, then the owner or operator must submit (1) a letter stating that there are no changes to the facility; (2) the Certification Section of the application; and (3) Permit Renewal Fee. (\$2000 for operating permit and \$5000 for closure permit.)

However, if there have been any changes to the facility plan, its operation, or regulatory changes that affect its operation, then the owner or operator must submit a new application for a permit. Applicants are encouraged to arrange for a pre-application conference to discuss the extent of the changes to the renewal application.

Completion of Application Form

The application must be typed or printed, and all questions in the applicable parts must be answered. Each page of the application should be numbered and dated. Any questions which are not applicable should be marked "N/A." All necessary attachments must be typed, printed, or sketched on 8½" x 11" paper (except for the attached maps and scale drawings) and clearly presented with the appropriate part of the application.

DER Form #	17-730.900(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Specific Instructions for Completing the Application for a Hazardous Waste Facility Permit

The hazardous waste facility permit application form consists of two parts:

Part I - General Facility Information

This part contains general information on the facility, site, land use, operation, facility security, and financial responsibility. The information requested in this part is applicable to all types of hazardous waste management facilities and is intended to be equivalent to the §270.13 requirements. This part is to be submitted within thirty (30) days of the date an existing facility becomes subject to permit requirements. This information should be as complete as possible. The facility must comply with 40 CFR Part 265 standards.

Part II - Specific Facility Information

Part II consists of several sections containing information relating to specific operational units at the facility which are used for treatment, storage, or disposal of hazardous waste. Part II is equivalent to the §270.14 requirements which are designed to bring the facility into compliance with 40 CFR Part 264 standards before a final determination on issuance of a permit is made. These §264 standards have been adopted by reference in Chapter 17-730, FAC.

Part II shall be submitted within one year of the filing of Part I, and must include a copy of the most recent revision of the Part I.

Complete the following sections as applicable:

- A. General
- B. Containers
- C. Tanks
- D. Surface Impoundments
- E. Waste Piles
- F. Land Treatment
- G. Landfills
- H. Incinerators
- I. Miscellaneous Units
- J. Reserved
- K. Closure
- L. Compliance Schedule
- M. Ground Water Protection

Section M contains the additional ground water protection requirements applicable to hazardous waste disposal facilities. Unless exempted in accordance with 40 CFR 264.90(b) or Section 17-730.180(7), FAC, this section must be completed when applying for a permit for hazardous waste tanks (unless exempted), surface impoundment, waste pile (unless exempted), land treatment unit, landfill, miscellaneous units, or a facility that is subject to post-closure requirements [see section K(2)]. In addition, any facility which discharges to ground water must also comply with Chapter 17-3 and 17-4, FAC.

N. Research Development and Demonstration (RD&D)

O. Exposure Information

P. Information Regarding Potential Releases from Solid Waste Management Units (SWMU)

Certification

This part contains the facility operator's, facility owner's, land owner's, and engineer's certification of the application and all attachments as required in 17-730.220(4). Submit a new certification with each new submittal.

Confidential Information 17-730.310 FAC

Any information submitted to the Department relating to secret processes, or methods of manufacture or production, may be claimed by the applicant to be of a confidential nature. Claims of confidentiality must be submitted in accordance with 17-730.310, FAC.

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Form Title	Ap. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Line-By-Line Instructions for Completing the Application for a Hazardous Waste Facility Permit

Part I - General Facility Information

A. General Information

1. Enter an "X" in the appropriate block for each type of facility and operational unit for which a permit application is being filed.
2. Enter an "X" in the appropriate block for the type of permit application.
3. Enter an "X" in the appropriate block for application submitted.
4. Enter the date operation began or the proposed date of operation.
5. Enter the full legal name of the facility.
6. Enter the facility's identification number assigned when notification was originally filed with EPA or DER.
7. Enter the location or street address of the facility. If the facility lacks a street name or route number, give the most accurate alternative geographic information.
8. Enter the complete mailing address of the facility.
9. Enter the name, title, mailing address and telephone number of an employee who is thoroughly familiar with the operation of the facility and who can be contacted in regard to the application.
10. Enter the full legal name of the operator if different from number 8.
11. Enter the full mailing address of the operator if different from number 8.
12. If the facility owner or operator are not the same person, enter the name of the owner.
13. If applicable, enter the mailing address of the facility owner.
14. Enter an "X" in the appropriate block to indicate the facility's legal status.
15. If applicable, enter the name of the county and state.
16. If applicable, enter the state of incorporation.
17. If applicable, provide name and mailing address of all owners.
18. Enter an "X" in the appropriate block, and provide other appropriate information relating to site ownership.
19. Provide the name of the engineer who will certify the application along with his registration number and address. If the engineer is associated with a firm, provide the firm's name.
20. Enter an "X" in the appropriate block indicating whether the facility is on Indian land.
21. Provide the name, agency, permit number, date issued, and expiration date of all existing federal, state, and local environmental permits currently held by the facility. If issuance of an environmental permit is pending, indicate the agency and type of permit for which application has been made. If necessary, list additional permit information on a separate sheet of paper.

B. Site Information

1. Enter the county name and the nearest community to the facility. Provide the latitude and longitude to the approximate geographic center of the facility. This information should be taken from the most recent USGS topographic map available.
2. Enter the area in acres of the facility site. A facility site includes all contiguous land and structures, other appurtenances and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility site may consist of several treatment, storage, or disposal operational units.
3. Attach a scale drawing and photographs of the facility showing the location of all past, present, and future treatment, storage, and disposal areas.
4. Attach a topographic map of the area extending one mile beyond the property boundaries of the facility site. The map should be at a 1 inch to 2000 feet scale and show the following:
 - a. Map scale and date
 - b. 100-year floodplain area
 - c. Orientation of the map
 - d. Surface water bodies within ¼ mile of the facility property boundary (e.g., intermittent streams and springs)
 - e. Surrounding land uses
 - f. Legal boundaries of the facility
 - g. Injection wells used by the facility within one mile of the facility property boundaries
 - h. Drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary
 - i. Intake and discharge structures within one mile (e.g., NPDES outfalls, cooling water intake)
5. Enter an "X" in the appropriate block.

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C. Land Use Information

1. Enter the present zoning of the site.
2. In those cases where a zoning change is needed, identify the zoning required.
3. Enter the present land use of the site - agricultural, commercial, residential, industrial, recreational, etc.

D. Operating Information

1. Enter an "X" in the appropriate block. List in descending order of significance, the 4-digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services produced or provided.
SIC codes numbers are descriptions which may be found in the "Standard Industrial Classification Manual" prepared by the federal Office of Management and Budget, or in the "Directory of Florida Industries" published by the Florida Chamber of Commerce.
2. Attach a clear and concise description of the facility operation including a general description of the facility, the nature of the business, and the activities that generate, treat, store or dispose of hazardous waste at your facility. If hazardous waste is received from off-site, identify the types of industries generating or supplying the waste. Describe the various steps and items of equipment employed from receipt of waste to ultimate disposition of the waste. Show calculations which illustrate the capacity of the site and estimated life of the operation.
3. Enter the following information in the table provided:
For each process that is involved in treating, storing, or disposing of the hazardous waste, list applicable process codes, design capacities, and units of measure for the regulated unit to which the process applies, the code of the hazardous waste(s) involved in the process (from 40 CFR Part 261), and the expected annual quantity and unit of measure for each hazardous waste code. Applicable process codes and units of measure are as follows:

Process	Process Code	Appropriate Units of Measure for Process Design Capacity
Storage:		
Container (barrel, drum, etc.)	S01	Gallons (G) or Liters (L)
Tank	S02	Gallons (G) or Liters (L)
Waste Pile	S03	Cubic Yards (Y) or Cubic Meters (C)
Surface Impoundment	S04	Gallons (G) or Liters (L)
Disposal		
Injection Well	D79	Gallons (G) or Liters (L)
Landfill	D80	Acre-Feet (A) (the volume that would cover one acre to a depth of one foot) or Hectare-Meter (F)
Land Application	D81	Acres (B) or Hectares (Q)
Ocean Disposal	D82	Gallons Per Day (U) or Liters Per Day (V)
Surface Impoundment	D83	Gallons (G) or Liters (L)
Treatment:		
Tank	T01	Gallons Per Day (U) or Liters Per Day (V)
Surface Impoundment	T02	Gallons Per Day (U) or Liters Per Day (V)
Incinerator	T03	Tons Per Hour (D) or Metric Tons Per Hour (W); Gallons Per Hour (E) or Liters Per Hour (H) Other (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators.) Describe the processes in the space provided.

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Part II - Specific Facility Information

Requirements for Section A - O correspond to the final hazardous waste facility operation standards promulgated in 40 CFR Parts 264. These standards referenced in the application have been adopted as state rules in Chapter 17-730, FAC, (Section 17-730.180. Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities). The required information to be submitted by each applicant is intended to establish compliance with these adopted standards and must be attached for the application to be considered complete.

Certification

The certification section must be signed by the appropriate parties in order to certify all the information included in the application. For purposes of the application, the appropriate parties for the operator, facility owner, and landowner certification include the following individuals or their authorized representatives.

- (1) For a corporation: by a principal executive officer of at least the level of vice president;
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
- (3) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

When certified by an authorized representative, a letter of authorization must be included.

The application must also be certified by a professional engineer registered in Florida and must include his registration number and seal.

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Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Application for a Hazardous Waste Facility Permit

Part I - General

To Be Completed By All Applicants

Please Type or Print

H050-195905

A. General Information

1. Type of Facility:

Disposal ☐ Landfill ☐ Land Treatment ☐ Surface Impoundment ☐ Miscellaneous Units ☐
 Storage ☒ Containers ☒ Tanks ☒ Piles ☐ Surface Impoundment ☐ Miscellaneous Units ☐
 Treatment ☐ Tanks ☐ Piles ☐ Incineration ☐ Surface Impoundment ☐ Miscellaneous Units ☐

2. Type of Application: ☐ TOP ☐ Construction ☒ Operation ☐ Closure ☐ RD&D

3. Application Submittal: ☒ New ☐ Revised

4. Date current operation began (or is expected to begin):

5. Facility Name: Safety-Kleen (3097-01)

6. EPA/DER I.D. No.: FLD 984167791

7. Facility location or street address: Lot 46B, Quantum Industrial Park, Boynton Beach, FL

8. Facility mailing address: 777 Big Timber Road Elgin IL 60123
Street or P.O. Box City State Zip

9. Contact person: Joseph Hartline Telephone: (404) 434-6956

Title: Regional Environmental Engineer

Mailing address: Safety-Kleen Corp., 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

10. Operator's name: Safety-Kleen Corp. Scott Fore Telephone: (312) 697-8460

11. Operator's address: 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip
 Safety-Kleen Corp.

12. Facility owner's name:

13. Facility owner's address: 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

14. Legal structure: ☒ Corporation ☐ Non-Profit Corporation ☐ Partnership ☐ Individual

☐ Local Government ☐ State Government ☐ Federal Government ☐ Other

15. If an individual, partnership, or business is performed under an assumed name, specify county and state where name is registered.

County: N/A State: N/A

16. If a corporation, indicate state of incorporation Wisconsin

17. If an individual or partnership, list owners:

Name: _____
Address: _____
Street or P.O. Box _____ City _____ State _____ Zip _____
Name: _____
Address: _____
Street or P.O. Box _____ City _____ State _____ Zip _____
Name: _____
Address: _____
Street or P.O. Box _____ City _____ State _____ Zip _____
Name: _____
Address: _____
Street or P.O. Box _____ City _____ State _____ Zip _____

18. Site ownership status: ☒ Owned ☐ To be purchased ☐ To be leased _____ years

☐ Presently leased: Expiration date _____ If leased, give:

Land owner's name Safety-Kleen Corp.
Land owner's address 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box _____ City _____ State _____ Zip _____

19. Engineer: Frederick Blickle Registration No.: 39409
Address: 9501 Princess Palm Ave., Suite 100 Tampa, FL 33619
Street or P.O. Box _____ City _____ State _____ Zip _____

Associated with: Envrionmental Resources Management-South, Inc.

20. Facility located on Indian land: ☐ Yes ☒ No

21. Existing or pending environmental permits: (Attach a separate sheet if necessary) See Attachment I.A.21

Name of Permit	Agency	Permit Number	Date Issued	Expiration Date
Part B Construction	FDER & USEPA	HC50-151 555	5-11-89	5-11-94
Permit				

B. Site Information

1. Facility location: County: Leon Nearest community: Boynton Beach

Latitude: 26° 32' 22" N Longitude: 80° 04' 55" W

2. Area of facility site (acres): 2.3

3. Attach a scale drawing and photographs of the facility showing the location of all past, present, and future treatment, storage and disposal areas. Also show the hazardous wastes traffic pattern including estimated volume and control.

See Attachment I.B.3

4. Attach topographic map which shows all the features indicated in the instruction sheet for this part.

See Attachment I.B.4

5. Is the site located in a 100-year flood plain? ☐ Yes ☒ No

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Application for a Hazardous Waste Facility Permit

Part I - General

To Be Completed By All Applicants

Please Type or Print

A. General Information

1. Type of Facility:

Disposal ☐ Landfill ☐ Land Treatment ☐ Surface Impoundment ☐ Miscellaneous Units ☐
 Storage ☒ Containers ☒ Tanks ☒ Piles ☐ Surface Impoundment ☐ Miscellaneous Units ☐
 Treatment ☐ Tanks ☐ Piles ☐ Incineration ☐ Surface Impoundment ☐ Miscellaneous Units ☐

2. Type of Application: ☐ TOP ☐ Construction ☒ Operation ☐ Closure ☐ RD&D

3. Application Submittal: ☒ New ☐ Revised

Date current operation began (or is expected to begin): _____

4. Facility Name: Safety-Kleen (3097-01)

6. EPA/DER I.D. No.: FLD 984167791

7. Facility location or street address: Lot 46B, Quantum Industrial Park, Boynton Beach, FL

8. Facility mailing address: 777 Big Timber Road Elgin IL 60123
Street or P.O. Box City State Zip

9. Contact person: Joseph Hartline Telephone: (404) 434-6956

Title: Regional Environmental Engineer

Mailing address: Safety-Kleen Corp., 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

10. Operator's name: Safety-Kleen Corp. Scott Fore Telephone: (312) 697-8460

11. Operator's address: 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

Safety-Kleen Corp.

12. Facility owner's name: _____

13. Facility owner's address: 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

14. Legal structure: ☒ Corporation ☐ Non-Profit Corporation ☐ Partnership ☐ Individual
☐ Local Government ☐ State Government ☐ Federal Government ☐ Other _____

If an individual, partnership, or business is performed under an assumed name, specify county and state where name is registered.

County: N/A State: N/A

16. If a corporation, indicate state of incorporation Wisconsin

If an individual or partnership, list owners:

Name: _____

Address: _____
Street or P.O. Box City State Zip

Name: _____

Address: _____
Street or P.O. Box City State Zip

Name: _____

Address: _____
Street or P.O. Box City State Zip

Name: _____

Address: _____
Street or P.O. Box City State Zip

Site ownership status: ☒ Owned ☐ To be purchased ☐ To be leased _____ years

☐ Presently leased: Expiration date _____ If leased, give:

Land owner's name: Safety-Kleen Corp.

Land owner's address: 777 Big Timber Road Elgin, IL 60123
Street or P.O. Box City State Zip

Engineer: Frederick Blickle Registration No.: 39409

Address: 9501 Princess Palm Ave., Suite 100 Tampa, FL 33619
Street or P.O. Box City State Zip

Associated with: Environmental Resources Management-South, Inc.

Facility located on Indian land: ☐ Yes ☒ No

Existing or pending environmental permits: (Attach a separate sheet if necessary) See Attachment I.A.21

Name of Permit	Agency	Permit Number	Date Issued	Expiration Date
Part B Construction	FDER & USEPA	HC50-151	5-11-89	5-11-94
Permit				

3. Site Information

1. Facility location: County: Palm Beach Nearest community: Boynton Beach

Latitude: 26° 32' 22" N Longitude: 80° 04' 55" W

2. Area of facility site (acres): 2.3

3. Attach a scale drawing and photographs of the facility showing the location of all past, present, and future treatment, storage and disposal areas. Also show the hazardous wastes traffic pattern including estimated volume and control.
See Attachment I.B.3

4. Attach topographic map which shows all the features indicated in the instruction sheet for this part.
See Attachment I.B.4

5. Is the site located in a 100-year flood plain? ☐ Yes ☒ No

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Part II

A. General

- 1a. Attach a topographic map showing a distance of 1000 feet around the hazardous waste management area at a scale of 1 inch to 200 feet. Contours must be shown on the map with intervals sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility (e.g., contour intervals of 5 feet if relief is greater than 20 feet or an interval of 2 feet if relief is less than 20 feet). The map should clearly show the following: See Attachment II.A.1(a)
- (1) Map scale and date
 - (2) 100-year floodplain area
 - (3) Orientation of the map
 - (4) Access control (fences, gates)
 - (5) Injection and withdrawal wells both on-site and off-site
 - (6) Building and other structures (recreational areas, access and internal roads, storm, sanitary and process sewerage systems, fire control facilities, etc.)
 - (7) Contours sufficient to show surface water flow
 - (8) Loading and unloading areas
 - (9) Drainage or flood control barriers
 - (10) Hazardous waste units including clean up areas
 - (11) Runoff control system
- b. A wind rose should be included with the maps, or as a separate item, indicating the local prevailing wind speed and direction, legend, and date. See Attachment II.A.1(b)
- c. Traffic information. See Attachment II.A.1(c)
Topographic maps may be obtained at the following address:
- Branch of Distribution
U.S.G.S.
1200 South Eads
Arlington, Virginia 22202
Phone No. (703) 557-2751
- Information on latitudes and longitudes may be obtained from the U.S.G.S. National Cartographic Information Center at (703) 860-6336.
2. Financial responsibility information. See Attachment II.A.2
- a. Attach the most recent closure cost estimates for the facility (§264.142) and a copy of the financial mechanism used to establish financial assurance for closure of the facility [§264.143 and §270.14(b)(15)]. Use DER form numbers 17-730.900(4) (a, b, c, d, e, f, g, h, i, or j) only. Retyped documents are not acceptable. Send the originally signed documents to: Hazardous Waste Financial Responsibility Coordinator, Department of Environmental Regulation, Division of Waste Management, 2600 Blair Stone Road, Tallahassee, Florida, 32399-2400.
 - b. If applicable, attach the most recent post-closure care cost estimate for the facility (§264.144) and a copy of the financial mechanism used to establish financial assurance for post-closure care of the facility [§264.145, §264.146 and §270.14(b)(16)]. Use DER form numbers 17-730.900(4) (a, b, c, d, e, f, g, h, i, or j) only. Retyped documents are not acceptable. Send the originally signed documents to the address in a. above.
 - c. Attach a copy of the documents used to demonstrate liability coverage (§264.147). Use DER form numbers 17-730.900(4) (b, d, k, l, m or n) only. Retyped documents are not acceptable. Send the originally signed documents to the address in a. above. If forms 17-730.900(2) (k, l, m or n) are used, also send a signed duplicate original of the insurance policy with the originally signed documents to the address in a. above [§264.147(a)(1)(i) and (§270.14(b)(17))].
3. Attach a flood map. Information on flood areas may be obtained from a flood map produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency. If a FIA flood map is not available for an area, an equivalent mapping technique may be used to determine whether the facility is within the 100-year floodplain, and if so, what the 100-year flood elevation would be. Information requested in this section may be obtained from the U.S. Geological Survey, the Soil Conservation Service, the Water Management Districts, or the Regional Planning Councils. See Attachment II.A.3
- If the site is located in the 100-year floodplain, identify the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood. Additionally, provide the following information:
- a. Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood.
 - b. Structural or other engineering studies showing the design of operational units (i.e., tanks, incinerators) and flood protection devices (i.e., floodwalls, dikes) at the facility and how these will prevent washout.

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C. Land Use Information

1. Present zoning of the site? Planned Industrial Development (PID)
2. If a zoning change is needed, what should new zoning be? _____
3. Present land use of site General Industry

D. Operating Information

1. Is waste generated on site? ☒ Yes ☐ No List the SIC codes (4-digit)
7399 5172 5084 5013
2. Attach a brief description of the facility operation, nature of the business, and activities that generate, treat, store or dispose of hazardous waste. See Attachment I.D.2
3. Using the following table and codes provided, specify, (1) each process used for treating, storing, or disposing of hazardous waste (including design capacities) at the facility, and (2) the hazardous waste (or wastes) listed or designated in 40 CFR Part 261, including the annual quantities, to be treated, stored, or disposed by each process at the facility. (See instructions for list of process codes and units). See Attachment I.D.3

Process Code	Process Design Capacity and Units of Measure	Hazardous Waste Code	Annual Quantity of Hazardous Waste and Units of Measure

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- c. If applicable, and in lieu of paragraphs (1) and (2) above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:
- (1) Timing of such movement relative to flood levels, including the estimated time to move the waste to show that such movement can be completed before floodwaters reach the facility;
 - (2) A description of the location(s) to which the waste will be moved and a demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under 40 CFR Parts 264 and 265;
 - (3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use; and
 - (4) The potential for accidental discharges of the waste during movement.
- If the site is not located in the 100-year floodplain, provide the source of data for such a determination and include a copy of the relevant FIA flood map or the calculations and maps used where a FIA map is not available.
4. Facility security information
- a. Attach a description of the security procedures and equipment required by §264.14 [270.14(b)(4)]. See Attachment II.A.4(a)
 - b. Attach a copy of the contingency plan required by 40 CFR Part 264, Subpart D [270.14(b)(7)]. See Attachment II.A.4(b)
 - c. Attach a description of procedures, structures, or equipment used at the facility to: See Attachment II.A.4(b)
 - (1) Mitigate effects of equipment failure and power outages;
 - (2) Prevent hazards in unloading operations (i.e., ramps, special forklifts);
 - (3) Prevent undue exposure of personnel to hazardous waste (i.e., protective clothing);
 - (4) Prevent contamination of water supplies;
 - (5) Prevent run-off from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (i.e., berms, dikes, trenches); and
 - (6) Prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes [270.14(b)(9)].
 - d. Attach a description of the preparedness and prevention procedures required by 40 CFR Part 264, Subpart C, including design and operation of the facility, required equipment, testing and maintenance of equipment, access to communications or alarm system, required aisle space, and arrangements with local authorities [270.14(b)(6)]. See Attachment II.A.4(d)
 - e. Attach an outline of both the introductory and continuing training programs used to prepare persons to operate or maintain the hazardous waste management facility in a safe manner as required to demonstrate compliance with §264.16 [270.14(b)(12)]. See Attachment II.A.4(e)
5. Attach a copy of the reports of the chemical and physical analyses of the hazardous wastes handled at the facility, including all information which must be known to treat, store, or dispose of the wastes in accordance with §264.13 [270.14(b)(2)]. See Attachment II.A.5
6. Attach a copy of the waste analysis plan required by §264.13(b) [270.14(b)(3)]. Such information should include the following:
- a. Parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters;
 - b. Test methods used;
 - c. Sampling methods used;
 - d. Frequency of analysis to ensure accuracy;
 - e. Waste analyses that generators supply;
 - f. Methods used to meet additional waste analysis requirements; and if applicable,
 - g. For off-site facilities, the procedures used to inspect and ensure that the wastes received match the accompanying manifest.
7. Attach a copy of the procedures used to comply with §264.12 and 40 CFR Part 264, Subpart E (manifest system, record keeping, and reporting). See Attachment II.A.7

B. Containers

The applicant must provide the following information in accordance with 40 CFR 264 Subpart I (§270.15).

1. Attach the requirements of either (a) or (b): See Attachment II.B.1
 - a. Demonstrate compliance with §264.175(c) by attaching:
 - (1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and
 - (2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.
 - b. Describe the containment system to show compliance with §264.175(b) by attaching:

- (1) Basic design parameters, dimensions, and materials of construction.
 - (2) How the design promotes drainage or how containers are kept from contact with lading liquids in the containment system.
 - (3) Capacity of the containment system relative to the number and volume of containers to be stored.
 - (4) Provisions for preventing or managing run-on.
 - (5) How accumulated liquids can be analyzed and removed to prevent overflow.
2. Attach sketches, drawings, or data demonstrating compliance with §264.176 (special requirements for ignitable or reactive wastes) and §264.177 (special requirements for incompatible wastes) where applicable. See Attachment II.B.2
 3. Where incompatible wastes are stored or otherwise managed in containers, attach a description of the procedures used to ensure compliance with §264.177(a) and (b) (special requirements for incompatible waste) and §264.17(b) and (c) (general requirements for ignitable, reactive, or incompatible waste). See Attachment II.B.3
 4. Attach a description of the procedures used to comply with §264.171 (condition of containers), §264.172 (compatibility of waste with containers), and §264.173 (management of containers). See Attachment II.B.4
 5. Attach a copy of the inspection procedures as required in §264.174 (inspections) and §264.15 (general inspection requirements). See Attachment II.B.5
 6. Attach a copy of the closure plan as required by §§264.112 and 264.178. See Attachment II.B.6

C. Tanks Systems

- The applicant must provide the following information in accordance with 40 CFR 264 Subpart J (§270.16).
1. A written assessment that is reviewed and certified by an independent, qualified, registered professional engineer to the structural integrity and suitability for handling hazardous waste of each tank system, as required under §§264.191 and 264.192. See Attachment II.C.1
 2. Dimensions and capacity of each tank. See Attachment II.C.2
 3. Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents). See Attachment II.C.1 & II.C.2
 4. A diagram of piping, instrumentation, and process flow for each tank system. See Attachment II.C.1 & II.C.2
 5. A description of materials and equipment used to provide external corrosion protection, as required under §264.192(a)(3)(ii). See Attachment II.C.1
 6. For new tank systems, a detailed description of how the tank system(s) will be installed in compliance with §264.192(b), (c), (d), and (e). N/A
 7. Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the requirements of §264.193(a), (b), (c), (d), (e), and (f). See Attachment II.C.7
 8. For tank systems for which a variance from the requirements of §264.193 is sought as provided by §264.193(g):
 - a. Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will in conjunction with location aspects, prevent the migration of any hazardous wastes or hazardous constituents into the ground water or surface water during the life of the facility, or
 - b. A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.
 9. Description of controls and practices to prevent spills and overflows, as required under §264.194(b). See Attachment II.C.1
 10. For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of §§264.198 and 264.199.
 11. A schedule and procedure for meeting inspection requirements as required by §§264.15 and 264.195. See Attachment II.C.11
 12. Attach a copy of the closure and post-closure plan as required by §§264.112, 264.118 and 264.197. See Attachment II.C.12 a, b 12(a) & II.C.12(b)
 13. Attach a copy of the plan for the response to leaks or spills and disposition of leaking or unfit-for-use tank systems as required by §264.196. See Attachment II.C.13
- For tank systems that do not presently meet the containment requirements of §264.193, provide a leak test or other approved method according to 264.193(i)(1), (2) and (3).

D. Surface Impoundments

N/A

- The applicant must provide the following information in accordance with 40 CFR 264 Subpart K (§270.17).
1. Attach a list of the hazardous wastes placed or to be placed in each surface impoundment.
 2. Attach detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of §264.221. This submission must address the following items as specified in §264.221:
 - a. The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by §264.221(b), submit detailed plans and engineering and hydrogeologic reports as appropriate, describing

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ing alternate design and operation practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

- b. Prevention of overtopping; and
 - c. Structural integrity of dikes.
3. Attach a description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of § 264.226(a) and (b). This information should include the inspection plan required under § 264.15.
 4. Attach a certification by a qualified engineer which attests to the structural integrity of each dike, as required under § 264.226(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications.
 5. Attach a description of the procedure to be used for removing a surface impoundment from service, as required under § 264.227(b) and (c). This information should be included in the contingency plan submitted under § 264.227.
 6. Attach a description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under § 264.228(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.228(a)(2) and (b) will be complied with. This information should include the closure plan and, where applicable, the post-closure plan required under §§ 264.112, 264.118 and 264.228.
 7. If ignitable or reactive wastes are to be placed in a surface impoundment, attach an explanation of how § 264.229 and 264.17 will be complied with.
 8. If incompatible wastes or incompatible wastes and materials will be placed in a surface impoundment, attach an explanation of how § 264.230 and 264.17 will be complied with.
 9. Attach a copy of the notice that has been placed in the deed or other instrument required by § 264.119.
 10. If applicable, attach a waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.231. This submission must address the following items as specified in § 264.231:
 - a. The volume and the physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - b. The attenuative properties of underlying and surrounding soils or other materials;
 - c. The mobilizing properties of other materials co-disposed with these wastes; and
 - d. The effectiveness of additional treatment, design, or monitoring techniques.
 11. Attach a schedule and procedure for meeting the inspection requirements of § 264.15 and 264.226.
 12. Attach the information described in Part II M - Ground Water Protection.
 13. Attach the information described in Part II O - Exposure Information.
 14. If applicable attach the information required in § 264.4 for treatment in surface impoundment exemption for land disposal restricted wastes.

E. Waste Piles N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart L (§ 270.18).

1. Attach a list of hazardous wastes placed or to be placed in each waste pile.
2. If an exemption is sought to § 264.251 and Subpart F of Part 264, as provided by § 264.250(c) or § 264.90(b)(2), attach an explanation of how the requirements of § 264.250(c) will be complied with or detailed plans and an engineering report describing how the requirement of § 264.90(b)(2) will be met.
3. Attach detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated and maintained to meet the requirements of § 264.251. This submission must address the following items as specified in § 264.251:
 - a. The liner system (except for an existing portion of a pile). If an exemption from the requirement for a liner is sought, as provided by § 264.251(b), the owner or operator must submit detailed plans and engineering and hydrogeologic reports as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;
 - b. Control of run-on;
 - c. Control of run-off;
 - d. Management of collection and holding units associated with run-on and run-off control systems; and

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- e. Control of wind dispersal of particulate matter, where applicable.
4. Attach a description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.254(a) and (b). This information should be included in the inspection plan required under § 264.15.
5. If treatment is carried out on or in the pile, attach details of the process and equipment used, and the nature and quality of the residuals.
6. If ignitable or reactive wastes are to be placed in a waste pile, attach an explanation of how the requirements of §§ 264.256 and 264.17 will be complied with.
7. If incompatible wastes or incompatible wastes and materials will be placed in a waste pile, attach an explanation of how §§ 264.257 and 264.17 will be complied with.
8. Attach a description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under § 264.258(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.310(a) and (b) will be complied with. This information should include the closure plan and, where applicable, the post-closure plan required under §§ 264.112, 264.118 and 264.258.
9. If applicable, attach a copy of the notice that has been placed in the deed or other instrument required by § 264.119.
10. If applicable, a waste management plan for EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027 describing how a waste pile that is not enclosed, as defined in § 264.250(c), is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.259. This submission must address the following items as specified in § 264.259:
 - a. The volume and the physical and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - b. The attenuative properties of underlying and surrounding soils or other materials;
 - c. The mobilizing properties of other materials co-disposed with these wastes; and
 - d. The effectiveness of additional treatment, design, or monitoring techniques.
11. Attach a schedule and procedure for meeting the inspection requirements of § 264.15 and 264.254.
12. Attach the information described in Part II M - Ground Water Protection.

F. Land Treatment N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart M (§ 270.20).

1. Attach a description of plans to conduct treatment demonstration as required under § 264.272. The description must include the following information:
 - a. The wastes for which the demonstration will be made and the potential hazardous constituents in the wastes;
 - b. The data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data); and
 - c. Any specific laboratory or field test that will be conducted, including:
 - (1) The type of test (e.g., column leaching, degradation);
 - (2) Materials and methods including analytical procedures;
 - (3) Expected time for completion;
 - (4) Characteristics of the unit that will be simulated in the demonstration including treatment zone characteristics, climatic conditions, and operating practices.
2. Attach a description of a land treatment program, as required under § 264.271. This information must be submitted with the plans for the treatment demonstration and updated following the treatment demonstration. The land treatment program must address the following items:
 - a. The wastes to be land treated;
 - b. Design measures and operating practices necessary to maximize treatment in accordance with § 264.273(a) including:
 - (1) Waste application method and rate;
 - (2) Measures to control soil pH;
 - (3) Enhancement of microbial or chemical reactions;
 - (4) Control of moisture content.
 - c. Provisions for unsaturated zone monitoring including:
 - (1) Sampling equipment, procedures, and frequency;

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- (2) Procedures for selecting sampling locations;
 - (3) Analytical procedures;
 - (4) Chain of custody control;
 - (5) Procedures for establishing background values;
 - (6) Statistical methods for interpreting results;
 - (7) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in §264.278(a).
- d. A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to §264.13.
 - e. The proposed dimensions of the treatment zone.
3. Attach a description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of §264.273. This submission must address the following items:
 - a. Control of run-on;
 - b. Collection and control of run-off;
 - c. Minimization of run-off or hazardous constituents from the treatment zone;
 - d. Management of collection and hold facilities associated with run-on and run-off control systems;
 - e. Periodic inspection of the unit. This information should include a copy of the inspection procedures required under §264.15; and
 - f. Control of wind dispersal of particulate matter, if applicable.
 4. If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, attach a description of how the demonstration required under §264.276(a) will be conducted including:
 - a. Characteristics of the food-chain crop for which the demonstration will be made;
 - b. Characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;
 - c. Procedures for crop growth, sample collection, sample analysis, and data evaluation; and
 - d. Characteristics of the comparison crop including the location and conditions under which it was or will be grown.
 5. If food-chain crops are to be grown, and cadmium is present in the land-treated waste, attach a description of how the requirements of §264.276(b) will be complied with.
 6. A description of the vegetative cover to be applied to closed portions of the facility and a plan for maintaining such cover during the post-closure care period, as required under §§264.280(a)(8) and §264.280(c)(2). This information should include the closure plan and where applicable, the post-closure care plan required under §§264.112, 264.118 and 264.280.
 7. If ignitable or reactive wastes will be placed in or on the treatment zone, attach an explanation of how the requirements of §§264.281 and 264.17 will be complied with.
 8. If incompatible wastes or incompatible wastes and materials will be placed in or on the same treatment zone, attach an explanation of how §§264.282 and 264.17 will be complied with.
 9. If applicable, a waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of §264.283. This submission must address the following items as specified in §264.283.
 - a. The volume and the physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - b. The attenuative properties of underlying and surrounding soils or other materials;
 - c. The mobilizing properties of other materials co-disposed with these wastes; and
 - d. The effectiveness of additional treatment, design, or monitoring techniques.
 10. Attach an unsaturated zone monitoring program as required by §264.278.
 11. Attach a statement of how the recordkeeping requirement will be met to satisfy §264.279.
 12. Attach the information described in Part II M - Ground Water Protection.

Landfills

N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart N (§270.21).

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1. Attach a list of the hazardous wastes placed or to be placed in each landfill or landfill cell.
2. Attach detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated, and maintained to comply with the requirements of §264.301. This submission must address the following items as specified in §264.301:
 - a. The liner system and leachate collection and removal system (except for an existing portion of a landfill). If an exemption from the requirements for a liner and a leachate collection and removal system is sought as provided by §264.301(b), submit detailed plans and engineering and hydrogeologic reports as appropriate describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the ground water or surface water at any future time;
 - b. Control of run-on;
 - c. Control of run-off;
 - d. Management of collection and holding facilities associated with run-on and run-off control systems; and
 - e. Control of wind dispersal of particulate matter, where applicable.
3. If an exemption from Subpart F of Part 264 is sought, as provided by §264.90(b), the owner or operator must submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the landfill, the design of a double-liner system that incorporates a leak detection system between the liners, and a leachate collection and removal system above the liners.
4. Attach a description of how each landfill, including the liner and cover systems, will be inspected in order to meet requirements of §264.303(a) and (b). This information should be included in the inspection plan required under §264.15.
5. Attach detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with §264.310(a), and a description of how each landfill will be maintained and monitored after closure in accordance with §264.310(b). This information should include the closure and post-closure plans required under §§264.112, 264.118 and 264.310.
6. If ignitable or reactive wastes will be landfilled, attach an explanation of how the requirements of §§264.312 and 264.17 will be complied with.
7. If incompatible wastes, or incompatible wastes and materials will be landfilled, attach an explanation of how §§264.313 and 264.17 will be complied with.
8. If bulk or non-containerized liquid waste or waste containing free liquids is to be landfilled, attach an explanation of how the requirements of §264.314(a) will be complied with.
9. If containers of hazardous waste are to be landfilled, attach an explanation of how the requirements of §§264.315 or 264.316, as applicable, will be complied with.
10. Attach a copy of the notice that has been placed in the deed or other instrument required by §264.119.
11. If applicable, attach a waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of §264.317. This submission must address the following items as specified in §264.317:
 - a. The volume and the physical and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
 - b. The attenuative properties of underlying and surrounding soils or other materials;
 - c. The mobilizing properties of other materials co-disposed with these wastes; and
 - d. The effectiveness of additional treatment, design, or monitoring techniques.
12. Attach a statement of how the surveying and recordkeeping requirement will meet §264.309.
13. Attach the information described in Part II M - Ground Water Protection.
14. Attach the information described in Part II O - Exposure Information.
15. Attach a schedule and procedure for meeting inspection requirements of §§264.15 and 264.303.
16. If applicable, attach a copy of the approved extension under §268.5 or the approved petition under 268.6.

H. Incinerators N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart O (§270.19).

1. The applicant must fulfill the requirements of either Section a, b, or c:
 - a. When seeking an exemption under §264.340(b) or (c) (ignitable, corrosive or reactive wastes only), attach documentation showing:
 - (1) That the waste is listed as a hazardous waste in Part 261, Subpart D, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

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- (2) That the waste is listed as a hazardous waste in Part 261, Subpart D, solely because it is reactive (Hazard Code R) for characteristics other than those listed in §261.23(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or
 - (3) That the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Part 261, Subpart C; or
 - (4) That the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in §261.23(a)(1), (2), (3), (6), (7), or (8), and that it will not be burned when other hazardous wastes are present in the combustion zone.
- b. Submit the results of a trial burn conducted in accordance with and including all the determinations required by the following:
- (1) The trial burn must be conducted in accordance with a trial burn plan prepared by the applicant and approved by the Department. Results of the trial burn plan will then become a condition of the permit. The trial burn plan will include the following information:
 - (a) An analysis of each waste, or mixture of wastes, to be burned which includes:
 - (i) Heat value of the waste in the form and composition in which it will be burned;
 - (ii) Viscosity (if applicable), or description of physical form of the waste;
 - (iii) An identification of any hazardous organic constituents listed in 40 CFR Part 261, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 40 CFR Part 261, Appendix VIII, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference) or their equivalent; and
 - (iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference) or their equivalent.
 - (b) A detailed engineering description of the incinerator for which the permit is sought, including:
 - (i) Manufacturer's name and model number of incinerator (if available);
 - (ii) Type of incinerator;
 - (iii) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber;
 - (iv) Description of the auxiliary fuel system (type/feed);
 - (v) Capacity of prime mover;
 - (vi) Description of automatic waste feed cut-off system(s);
 - (vii) Stack gas monitoring and pollution control equipment;
 - (viii) Nozzle and burner design;
 - (ix) Construction materials; and
 - (x) Location and description of temperature, pressure, and flow indicating and control devices.
 - (c) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.
 - (d) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Department's decision under Paragraph (4) of this section.
 - (e) A detailed test protocol, including for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.
 - (f) A description of, and planned operating conditions for, any emission control equipment which will be used.
 - (g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.
 - (h) Such other information as the Department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in Paragraph (4) of this section.
 - (2) The Department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.
 - (3) Based on the waste analysis data in the trial burn plan, the Department will specify as Trial Principal Organic Hazardous Constituents (Trial POHC's, those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These Trial POHC's will be specified by the Department based on its estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in 40 CFR Part 261, Subpart D, the Hazardous Waste Organic Constituent of constituents identified in Appendix VII of that part as the basis for listing.

- (4) The Department shall approve a trial burn plan if it finds that:
- (a) The trial burn is likely to determine whether the incinerator performance standard required by §264.343 can be met.
 - (b) The trial burn itself will not present an imminent hazard to human health or the environment.
 - (c) The trial burn will help the Department to determine operating requirements to be specified under §264.345.
 - (d) The information sought in paragraphs b.(4)(a) and (b) of this section cannot reasonably be developed through other means.
- (5) During each approved trial burn (or as soon after the burn as is practicable) the applicant must make the following determinations:
- (a) A quantitative analysis of the trial POHC's in the waste feed to the incinerator;
 - (b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the Trial POHC's, oxygen (O₂) and hydrogen chloride (HCl);
 - (c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues for the purpose of estimating the fate of Trial POHC's;
 - (d) A computation of destruction and removal efficiency (DRE) in accordance with the DRE formula specified in §264.343(a).
 - (e) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 lbs per hour), a computation of HCl removal efficiency in accordance with §264.343(b);
 - (f) A computation of particulate emissions in accordance with §264.343(c);
 - (g) An identification of sources of fugitive emissions and their means of control;
 - (h) A measurement of average, maximum, and minimum temperatures, and combustion gas velocity;
 - (i) A continuous measurement of carbon monoxide (CO) in the exhaust gas; and
 - (j) Such other information as the Department may specify as necessary to ensure that the trial burn will determine compliance with the performance standard in §264.343 and to establish the operating conditions required by §264.345 as necessary to meet that performance standard.
- (6) The applicant shall submit to the Department a certification that the trial burn has been carried out in accordance with the approved Trial Burn Plan, and the results of all the determinations required in Paragraph b.(5) of this section. The submission shall be made within 90 days of the completion of the trial burn or later if approved by the Department.
- (7) All data collected during any trial burn must be submitted to the Department following the completion of the trial burn.
- (8) All submissions required by this paragraph shall be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report.
- c. In lieu of a trial burn, the applicant may submit the following information:
- (1) An analysis of each waste or mixture of wastes to be burned including:
 - (a) Heat value of the waste in the form and composition in which it will be burned;
 - (b) Viscosity (if applicable) or description of physical form of the waste;
 - (c) An identification of any hazardous organic constituents listed in Part 261, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Part 261, Appendix VIII, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference) or their equivalent;
 - (d) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference) or their equivalent; and
 - (e) A quantification of those hazardous constituents in the waste which may be designated as POHC's based on data submitted from other trial or operational burns which demonstrate compliance with the performance standard in §264.343.
 - (2) A detailed engineering description of the incinerator, including:
 - (a) Manufacturer's name and model number of incinerator;
 - (b) Type of incinerator;
 - (c) Linear dimension of incinerator unit including cross sectional area of combustion chamber;
 - (d) Description of auxiliary fuel system (type/feed);
 - (e) Capacity of prime mover;

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- (f) Description of automatic waste feed cutoff system(s);
 - (g) Stack gas monitoring and pollution control monitoring system;
 - (h) Nozzle and burner design;
 - (i) Construction materials; and
 - (j) Location and description of temperature, pressure, and flow indicating devices and control devices.
- (3) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in this part. This analysis should specify the POHC's which the applicant has identified in the waste for which a permit is sought, and any differences from the POHC's in the waste for which burn data are provided.
- (4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.
- (5) A description of the results submitted from any previously conducted trial burn(s), including:
- (a) Sampling and analysis techniques used to calculate performance standards in §264.343;
 - (b) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement); and
 - (c) The certification and results required by Paragraph b.(5)(b).
- (6) The expected incinerator operation information to demonstrate compliance with §§264.343 and 264.345, including:
- (a) Expected carbon monoxide (CO) level in the stack exhaust gas;
 - (b) Waste feed rate;
 - (c) Combustion zone temperature;
 - (d) Indication of combustion gas velocity;
 - (e) Expected stack gas volume, flow rate, and temperature;
 - (f) Computed residence time for waste in the combustion zone;
 - (g) Expected hydrochloric acid removal efficiency;
 - (h) Expected fugitive emissions and their control procedures; and
 - (i) Proposed waste feed cut-off limits based on the identified significant operating parameters.
- (7) Such supplemental information as the Department finds necessary to achieve the purposes of this paragraph.
- (8) Waste analysis data, including that submitted in Paragraph b.(1)(a) of this section, sufficient to allow the Department to specify as permit Principal Organic Hazardous Constituents (Permit POHC's) those constituents for which destruction and removal efficiencies will be required.
- (9) The Department shall approve a permit application without a trial burn if it finds that:
- (a) The wastes are sufficiently similar; and
 - (b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under §264.345) operating conditions that will ensure that the performance standards in §264.343 will be met by the incinerator.
2. Attach a copy of the inspection schedule which demonstrates compliance with §264.15 (General Inspection Requirements). Unless exempted in accordance with §263.340, include a demonstration of compliance with §264.347 (Monitoring and Inspections).
3. Attach a copy of the closure plan and post-closure plan as required in §§264.112, 264.118 and 264.351.

I. Miscellaneous Units

N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart X (§270.23)

1. Attach a detailed description of the unit being used or proposed for use, including the following:
 - a. Physical characteristics, materials of construction, and dimensions of the unit;
 - b. Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated (§264.73), maintained (§264.33), monitored, inspected (§264.15), and closed (§264.112) to comply with the requirements of §§264.601 and 264.602; and
 - c. For disposal units, a detailed description of the plans to comply with the post-closure requirements of §§264.603 and 264.118.

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2. Attach detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards §264.601.
3. Attach information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures.
4. Attach for any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.
5. If ignitable, reactive, or incompatible wastes are to be placed in the miscellaneous unit, attach an explanation of how the requirements of §264.17 will be complied with.
6. Submittal of 17-730.900(2) Part II - K - Closure
7. Submittal of 17-730.900(2) Part II - M - Ground Water Protection. (If applicable)
8. Submittal of 17-730.900(2) Part II - O - Exposure Information.

1. Reserved N/A

K. Closure

The applicant must provide the following information in accordance with 40 CFR 264 Subpart G (§270.14(b)(13)).

1. Attach the following information to meet the closure performance standard of 40 CFR 264.111, which requires controlling, minimizing, or eliminating to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground water, surface waters or to the atmosphere (this plan must include all of the information required under Part II Sections A through I of this application) (§270.14(b)(13)): See Attachment II.K.1
 - a. A description of how each hazardous waste management unit at the facility will be closed in accordance with 40 CFR 264.111;
 - b. A description of how final closure of the facility will be conducted in accordance with 40 CFR 264.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility;
 - c. An estimate of the maximum inventory of wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes and identification of the type(s) of the offsite hazardous waste management units to be used, if applicable;
 - d. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard;
 - e. A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; and
 - f. A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure.
 - g. For facilities that use trust funds to establish financial assurance under §264.143 or §264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.
2. Attach, if required, a post-closure plan in accordance with §264.118 which must contain the following information for each hazardous waste management unit at the facility subject to the requirements of Part 264 (this plan must include all information required by Part II Sections A through I of this application) (§270.14(b)(13)): See Attachment II.K.2
 - a. The activities which will be carried on after closure for each disposal unit and the frequency of these activities;
 - b. A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, J, K, L, M, and N of Part 264 during the post-closure care period;
 - c. A description of the planned maintenance activities and frequencies at which they will be performed to ensure the integrity of the cap and final cover or other containment systems in accordance with the requirements of Subparts J, K, L, M and N of Part 264 and to ensure the function of the monitoring equipment in accordance with the requirements of Subparts F, J, K, L, M and N of Part 264; and
 - d. The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

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3. If closure or post-closure plans have been approved by the Department as part of a TOP, Construction, or Operation Permit Application, attach a copy of a closure and post-closure plan as required by §264.112 and §264.118. Also, either:
 - a. Attach a certification stating that no changes have been made to the plans which have been provided to the Department; or
 - b. Provide an amended plan showing all the changes which have been made, or are proposed to be made, to the plans which have been provided to the Department.

L. Compliance Schedule N/A

1. The applicant may, at his option, propose a compliance schedule for achieving compliance with any standards that have not been met at this time. The Department will take this proposal into consideration when developing a compliance schedule.

M. Ground Water Protection N/A

The applicant must provide the following information in accordance with 40 CFR 264 Subpart F (§270.14(C)).

The following additional information regarding protection of ground water is required from owners or operators of hazardous waste surface impoundments, piles, land treatment units, miscellaneous units, and landfills except as otherwise provided in §264.90(b) or Section 17-730.180(7), FAC:

1. A summary of the ground water monitoring data obtained during the interim status period under §§265.90 through 265.94, where applicable.
2. Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground water flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area including ground water contour maps).
3. On the topographic map required under Part II-A-1, a delineation of the waste management area, the property boundary, the proposed "Point of Compliance" as defined under §264.95, the proposed location of ground water monitoring wells as required under §264.97, and to the extent possible, the information required in (2) above.
4. A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application is submitted that:
 - a. Delineates the vertical and horizontal extent of the plume of the topographic map required under Part II-A-1; and
 - b. Identifies the concentration of each hazardous constituents in Appendix IX of Part 264 throughout the plume or identifies the maximum concentrations of each hazardous constituent in Appendix IX of Part 264 in the plume.
5. Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of §264.97.
6. If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of §264.98. This submission must address the following items as specified under §264.98:
 - a. A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;
 - b. A proposed ground water monitoring system;
 - c. Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and
 - d. A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data.
7. If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of §264.99. The owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of §264.100 and Chapter 17-730.180(4) except as provided in §264.98(h)(5). To demonstrate compliance with §264.99, the owner or operator must address the following items:
 - a. A description of the wastes previously handled at the facility;
 - b. A characterization of the contaminated ground water, including concentrations of hazardous constituents;
 - c. A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with §264.97 and 264.99;
 - d. Proposed concentration limits for each hazardous constituent, based on the criteria set forth in §264.94(a), including a justification for establishing any alternate concentration limits;

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- e. Detailed plans and an engineering report describing the proposed ground water monitoring system, in accordance with the requirements of §264.97; and
 - f. A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data.
8. If hazardous constituents have been measured in the ground water which exceed the concentration limits established under §264.94 Table 1, or if ground water monitoring conducted at the time of permit application under §§265.90-265.94 at the waste boundard indicates the presence of hazardous constituents from the facility in ground water over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of §§264.100 and 264.101 and Chapter 17-730.180(4). However, an owner or operator is not required to submit information to establish a corrective action program if the owner or operator demonstrates to the Department that alternate concentration limits will protect human health and the environment after considering the criteria listed in §264.94(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of §264.99 and (6) above. To demonstrate compliance with §§264.100 and 264.101 and Chapter 17-730.180(4), the owner or operator must address, at a minimum, the following items:
- a. A characterization of the contaminated ground water, including concentrations of hazardous constituents;
 - b. The concentration limit for each hazardous constituent found in the ground water as set forth in §264.94;
 - c. Detailed plans and an engineering report describing the corrective action to be taken;
 - d. A description of how the ground water monitoring program will assess the adequacy of the corrective action; and
 - e. A description of the wastes previously handled at the facility.
9. Chapters 17-3 and 17-4, FAC, requirements.
- In accordance with Section 17-730.180(4)(c) hazardous waste facilities which may impact the ground water must also comply with the ground water provisions of Chapters 17-3 and 17-4. The Department's Supplemental Ground Water Monitoring Form (DER Form 17-1.216(3)), must be completed as part of the Hazardous Waste Permit Application unless the Department makes the determination that the facility's existing Hazardous Waste Ground Water Monitoring Program is in substantial compliance with Section 17-4.245(6).
10. Additional ground water monitoring requirements.
- a. All ground water samples must be taken without using filters. Filtered samples may be taken for comparison purposes only.
 - b. A well construction summary report (see page 23) must be completed and submitted for each piezometer, ground water monitoring and recovery well installed as part of initial site assessment and any ground water monitoring program(s) under 40 CFR Parts 264 and 265.
11. A quality assurance plan must be submitted that meets the requirements of DER form QA-001/85 (latest revision).

Well Construction Summary Report

Facility: _____

EPA identification number

Well identification

Date(s) of installation _____

Well driller's complete name _____

Well driller's license number _____

Latitude Longitude

Elevation surface: _____, Elevation TOC: _____

Surveyor's name: _____ Surveyor's license # _____

Turbidity: _____ Date of reading

Static water level (msl) _____

Casing:

Material	Outside Diameter	Inside Diameter	Depth	
			From (ft)	To (ft)

Screen:

Material	Outside Diameter	Inside Diameter	Depth		Slot Size
			From (ft)	To (ft)	

Annulus:

Material including Additives for sealant	Size of Material	Depth		Installation Method
		From (ft)	To (ft)	

Drilling Method	Bit/auger Diameter	From (ft)	To (ft)	Drilling fluids

Well Construction Diagram

Surface (msl) _____

Scale: 1 unit = _____

DER Form	17-730.900(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Instructions for Well Construction Summary

- A. **Elevation:** The land surface elevation at the well location and the elevation of the top of casing (TOC) must be reported relative to mean sea level (MSL).
- B. **Turbidity:** Measurements must be made immediately after well development is completed.
- C. **Casing:** List the material of each casing used (PVC, stainless steel, etc.) in order of emplacement in each well, the inside and outside diameter of each casing, and the top and bottom depth of each casing (or series of casings where identical casings are used) relative to ground surface.
- D. **Screen:** List the material of the monitoring screen, inside and outside diameter of the screen, the top and bottom depth of the screen (relative to ground surface) and the manufactured slot (or perforation) size of the screen.
- E. **Annulus:** List the material(s) used to seal the annular space of the well along with any additives, the size of the material (filter pack), the depth interval (relative to ground surface), and the method used to install the material (tremie pipe, pouring, etc.).
- F. **Drilling method:** List drilling method(s) used to install the well (mud-rotary, etc.), the diameters of the bit or auger used, the drilling interval (relative to ground surface) for each method or bit/auger diameter used, and the type of drilling fluids used.
- G. **Well construction diagram:** The diagram should show the final construction details of the well including surface elevation, hole diameter, casing length, casing material, screen length, screen material, annulus sealant, and total depth of the well. Height (relative to ground surface) of stickup and presence of security should be indicated.
- H. **Latitude, Longitude:** These must be reported to the nearest one-hundreth (.01) of a second.

OER Form	17-730.330(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
OER Application No.	(Filed in by OER)

N. Research, Development and Demonstration N/A

- The applicant should submit a letter to the Department summarizing the proposed research prior to submitting the formal application so that the Department may, in accordance with 17-730.330(2), determine if any of the requirements of the application can be waived. This letter should contain:
 - The purpose of the research;
 - An explanation of why the research is innovative and experimental; and
 - A summary of the research objectives.
- As part of the formal application, the applicant should submit the following information:
 - The purpose of this project.
 - An explanation as to why the proposed activity is experimental and innovative.
 - A general description of the proposed activity.
 - The estimated time of operation for the experimental activities.
 - Any information on the expected performance of the unit.
 - A description of performance data that may have been previously generated from the operation of the unit.
- Monitoring and inspection requirements should be established at a level consistent with the proposed activity in order to assure protection of human health and the environment.
- Reporting and record keeping should be proposed in a manner which will sufficiently provide the Department with data about the operating efficiency of the RD&D activity. Time frames for the submission of data should be proposed and should be at a frequency adequate to allow proper department oversight of the experimental activity.
- Personnel qualifications should be given and be consistent with the proposed experimental activity. The personnel responsible for conducting and managing the experimental testing should be technically competent to assure that any situations which arise as a result of the experimental activity will be properly handled.
- A closure plan should be prepared in accordance with the appropriate sections of Part II of this application.

O. Exposure Information (§270.10(j)) N/A

The applicant must provide the following information, if the facility has a surface impoundment, miscellaneous units, or a landfill:

- Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit.
- The potential pathways of human exposure to hazardous wastes or constituents resulting from the release described under Paragraph One (1).
- The potential magnitude and nature of the human exposure resulting from such releases.

P. Information Regarding Potential Releases from Solid Waste Management Units

Facility name: Safety-Kleen Corp.

EPA I.D. number: FLD 984167791

Location: City Boynton Beach State Florida

- Are there any of the following solid waste management units (existing or closed) at your facility?

Note - Do not include hazardous wastes units currently shown in your Part B application

	Yes	No		Yes	No		Yes	No
Landfill	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Storage Tank (Above Ground)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wastewater Treatment Units	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface Impoundment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Storage Tank (Underground)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Transfer Stations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Land Farm	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Container Storage Area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Waste Recycling Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Waste Pile	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Injection Wells	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Land Treatment Facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Incinerator	<input type="checkbox"/>	<input checked="" type="checkbox"/>						

DER Form	17-730.900(2)
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2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, and location at facility. Provide a site plan if available.

Not Applicable

Note: Hazardous waste are those identified in 40 CFR Part 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information:

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

Facility just completed construction and hazardous Wastes have been stored onsite

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or ground water.

Not Applicable

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

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 is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Scott E. Fore
Signature

Scott E. Fore, Vice President
Environment, Health & Safety
Name and Title (Typed)

BOYNTON BEACH, FLORIDA

DER Form #	17-730.900(2)
Form Title	App. for a Hazardous Waste Facility Permit
Effective Date	June 1, 1990
DER Application No.	(Filed in by DER)

Application for a Hazardous Waste Facility Permit Certification

To be completed by all applicants

1. Operator

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 gathered and evaluated 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. Further, I agree to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department of Environmental Regulation. It is understood that the permit is only transferable in accordance with Section 17-730, FAC, and, if granted a permit, the Department of Environmental Regulation will be notified prior to the sale or legal transfer of the permitted facility.

Scott E. Fore

Signature of the Operator or Authorized Representative*

*Attach a letter of authorization

Scott E. Fore, Vice President
Environment, Health & Safety

Date: 4/5/91 Name and Title (Please Type or Print) Telephone No. (708) 697-8460

2. Facility Owner

This is to certify that I understand this application is submitted for the purpose of obtaining a permit to construct, operate, or close a hazardous waste management facility on the property as described. As owner of the facility, I understand fully that the facility operator and I are jointly responsible for compliance with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department of Environmental Regulation.

Scott E. Fore

Signature of the Facility Owner or Authorized Representative*

*Attach a letter of authorization

Scott E. Fore, Vice President
Environment, Health & Safety

Date: 4/5/91 Name and Title (Please Type or Print) Telephone No. (708) 697-8460

3. Land Owner

This is to certify that I, as land owner, understand that this application is submitted for the purpose of obtaining a permit to construct, operate, or close a hazardous waste management facility on the property as described. For hazardous waste disposal facilities, I further understand that I am responsible for providing the notice in the deed to the property required by 40 CFR §264.119 and §265.119, as adopted by reference in Chapter 17-730, FAC.

Scott E. Fore

Signature of the Facility Owner or Authorized Representative*

*Attach a letter of authorization

Scott E. Fore, Vice President
Environment, Health and Safety

Date: 4/5/91 Name and Title (Please Type or Print) Telephone No. (____) _____

4. Professional Engineer Registered In Florida (Where Required by Chapter 471, F.S. or not exempted by Rule 17-730.220(5), F.A.C.)

This is to certify that the engineering features of this hazardous waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly constructed, maintained and operated, or closed, will comply with all applicable statutes of the State of Florida and rules of the Department of Environmental Regulation.

Frederick W. B. Bickle, III

Signature

Florida Registration No.: 39409

(Please Affix Seal)

Frederick Bickle, III

Name (Please Type)

Mailing address: 9501 Princess Plam Ave, Ste 100

Tampa, FL 33619
City State Zip

Date: 4/22/91 Telephone No. (____) _____

RCRA Operating Permit Application


Revision 0 - 4/23/91

Page 29 of 29 Safety-Kleen Boynton, Florida

91-212

ATTACHMENT I.A.21
PERMIT INFORMATION



For EPA Regional Use Only	 United States Environmental Protection Agency Washington, DC 20460 <h1 style="margin: 0;">Hazardous Waste Permit Application Part A</h1> <p style="margin: 0;">(Read the Instructions before starting)</p>	For State Use Only
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> Date Received Month Day Year <div style="border: 1px solid black; height: 20px; width: 100%;"></div> </div> <div style="width: 80%;"></div> </div>		
I. ID Number(s)		
A. EPA ID Number		B. Secondary ID Number (if applicable)
F L D 9 8 4 1 6 7 7 9 1		
II. Name of Facility		
S A F E T Y - K L E E N C O R P . (3 - 0 9 7 - 0 1)		
III. Facility Location (Physical address not P.O. Box or Route Number)		
A. Street		
Q U A N T U M I N D . P A R K - L O T 4 6 8		
Street (continued)		
City or Town		State ZIP Code
B O Y N T O N B E A C H		F L 3 3 4 3 S -
County Code (if known)	County Name	
	L E O N	
B. Land Type	C. Geographic Location	D. Facility Existence Date
(enter code)	LATITUDE (degrees, minutes, & seconds) LONGITUDE (degrees, minutes, & seconds)	Month Day Year
P	2 6 3 2 2 2 N 0 8 0 0 4 5 5 W	0 1 0 1 1 9 8 9
IV. Facility Mailing Address		
Street or P.O. Box		
7 7 7 B I G T I M B E R R O A D		
City or Town		State ZIP Code
E L G I N		I L 6 0 1 2 3 -
V. Facility Contact (Person to be contacted regarding waste activities at facility)		
Name (last)		(first)
H A R T L I N E		J O S E P H
Job Title		Phone Number (area code and number)
R E G . E N V . E N G R .		7 0 8 - 6 9 7 - 8 4 6 0
VI. Facility Contact Address (See instructions)		
A. Contact Address Location Mailing		B. Street or P.O. Box
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center;">X</div> </div>		7 7 7 B I G T I M B E R R O A D
City or Town		State ZIP Code
E L G I N		I L 6 0 1 2 3 -

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

FLD984167791

VII. Operator Information (see instructions)

Name of Operator

SAFETY - KLEEN CORP.

Street or P.O. Box

777 BIG TIMBER ROAD

City or Town

ELGIN

State

ZIP Code

IL

60123-

Phone Number (area code and number)

708-697-8460

B. Operator Type

C. Change of Operator

Indicator

Date Changed

Month

Day

Year

P

Yes

No

X

VIII. Facility Owner (see instructions)

A. Name of Facility's Legal Owner

SAFETY - KLEEN CORP

Street or P.O. Box

777 BIG TIMBER ROAD

City or Town

ELGIN

State

ZIP Code

IL

60123-

Phone Number (area code and number)

708-697-8460

B. Owner Type

C. Change of Owner

Indicator

Date Changed

Month

Day

Year

P

Yes

No

IX. SIC Codes (4-digit, in order of significance)

Primary

Secondary

7389

(description)

BUSINESS SERVICES, N.E.C.

5172

(description)

PETROLEUM PRODUCT WHOLESALERS

Secondary

Secondary

5084

(description)

INDUSTRIAL MACHINERY & EQUIPMENT

5013

(description)

AUTOMOTIVE PARTS & SUPPLIES

X. Other Environmental Permits (see instructions)

A. Permit Type
(enter code)

B. Permit Number

C. Description

19 84 1 6 7 7 9 1

XI. Nature of Business (provide a brief description)

THIS FACILITY INCLUDES A LOCAL SALES/SERVICE OFFICE AND ACCUMULATION/DISTRIBUTION WAREHOUSE AND TANKS FOR SPENT SOLVENTS AND ANTIFREEZE (WHICH ARE RECLAIMED BY SAFETY-KLEEN AT A DIFFERENT LOCATION) AND PRODUCTS (WHICH INCLUDE SMALL PARTS CLEANING EQUIPMENT, SOLVENTS, ANTIFREEZE, HAND CLEANER, FLOOR SOAP AND OTHER ALLIED PRODUCTS). SAFETY-KLEEN COLLECTS THE SPENT SOLVENT AND ANTIFREEZE FROM ITS CUSTOMERS ON A PERIODIC BASIS AND ACCUMULATES IT, EITHER IN A STORAGE TANK OR IN A CONTAINER STORAGE AREA. THE MAJORITY OF SAFETY-KLEEN'S CUSTOMERS ARE CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS. ONCE A SUFFICIENT QUANTITY OF SPENT MATERIAL IS COLLECTED, A TANKER TRUCK OR BOX TRAILER TRUCK IS DISPATCHED FROM A SAFETY-KLEEN RECLAMATION FACILITY TO COLLECT THE WASTE AND BRING IT TO THE RECLAMATION FACILITY FOR ITS MANAGEMENT.

XII. Process - Codes and Design Capacities

- A. **PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Where lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in item XIII.
- B. **PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.
1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process unit.
 2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.
- C. **PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	UNIT OF MEASURE	UNIT OF MEASURE CODE
D79	DISPOSAL: INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY	GALLONS	G
D80	LANDFILL	ACRE-Feet OR HECTARE-METER	GALLONS PER HOUR	E
D81	LAND APPLICATION	ACRES OR HECTARES	GALLONS PER DAY	U
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY	LITERS	L
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS	LITERS PER HOUR	H
	STORAGE:		LITERS PER DAY	V
S01	CONTAINER (barrel, drum, etc.)	GALLONS OR LITERS	SHORT TONS PER HOUR	D
S02	TANK	GALLONS OR LITERS	METRIC TONS PER HOUR	W
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS	SHORT TONS PER DAY	N
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS	METRIC TONS PER DAY	S
	TREATMENT:		POUNDS PER HOUR	J
T01	TANK	GALLONS PER DAY OR LITERS PER DAY	KILOGRAMS PER HOUR	R
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY	CUBIC YARDS	Y
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS PER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR	CUBIC METERS	C
	OTHER TREATMENT	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY	ACRES	B
	(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundment or incinerators. Describe the processes in the space provided in item XIII.)		ACRE-Feet	A
			HECTARES	Q
			HECTARE-METER	F
			BTU's PER HOUR	K

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

FLD984167791

XII. Process - Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line Number	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)		
X 1	S 0 2	600	G	0 0 2	
X 2	T 0 3	20	E	0 0 1	
1	S 0 1	6,912	G	0 0 1	
2	S 0 2	15,000	G	0 0 1	
3					
4					
5					
6					
7					
8					
9					
1 0					
1 1					
1 2					

NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in Item XIII.

XIII. Additional Treatment Processes (follow instructions from Item XI)

Line Number (enter numbers in sequence with Item XII)	A. PROCESS CODE	B. TREATMENT PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)		
	T 0 4				
	T 0 4				
	T 0 4				
	T 0 4				

- 6 of 7 - (PAGE 1 OF 2)

F L D 9 8 4 1 6 7 7 9 1

XIV. Description of Hazardous Wastes

- A. **EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. **ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. **UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A, on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A, on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that processes that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
 - Enter "000" in the extreme right box of item XIV-D(1).
 - Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).
2. **PROCESS DESCRIPTION** : If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESS									
							(1) PROCESS CODES (enter)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
X 1	K	0	5	4	900	P	T	0	3	D	8	0				
X 2	D	0	0	2	400	P	T	0	3	D	8	0				
X 3	D	0	0	1	100	P	T	0	3	D	8	0				
X 4	D	0	0	2												Included With Above

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

FLD984167791

XIV. Description of Hazardous Wastes (continued)

D. PROCESSES

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F	0	0	2	350	T	S	0	1								
2	F	0	0	3	360	T	S	0	1								
3	F	0	0	5													INCLUDED WITH ABOVE
4	F	0	0	2	31	T	S	0	1								
5	F	0	0	4													INCLUDED WITH ABOVE
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
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30																	
31																	
32																	
33																	

[illegible]

REC'D FEB 25 1991

MAY 19



Florida Department of Environmental Regulation

Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406 • 407-964-9668

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Scott Benyon, Deputy Assistant Secretary

MAY 16 1989

Palm Beach County
HW - Safety-Kleen/
Boynton Beach

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Scott E. Fore, Vice President
Safety-Kleen Corporation
777 Big Timber Road
Elgin, IL 60120

Dear Mr. Fore:

Enclosed is Permit Number HC 50-151555 to construct a hazardous waste storage facility issued pursuant to Section 403.722, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable.

Sincerely,

J. Scott Benyon
Deputy Assistant Secretary

JSB:rk:rh/38

cc: Palm Beach County Health Department
Satish Kastury, DER/Tallahassee
James Scarbrough/EPA Region IV, Atlanta

PERMITTEE:
Mr. Scott E. Fore, Vice President
Safety-Kleen Corporation

I.D. NUMBER: FLD984167791
PERMIT/CERTIFICATION NUMBER: HC 50-151555
DATE OF ISSUE: May 11 1989
EXPIRATION DATE: May 11 1994

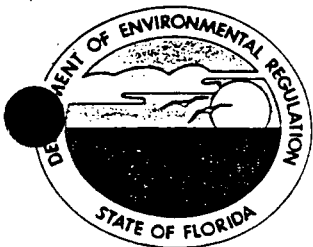
CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on MAY 16 1989 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(10), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

in a a Smith MAY 16 1989
Clerk Date



Florida Department of Environmental Regulation

Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406 • 407-964-9668

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

Scott Benyon, Deputy Assistant Secretary

PERMITTEE:
Safety-Kleen Corporation
777 Big Timber Road
Elgin, IL 60120
Attn: Scott E. Fore,
Vice President

I.D. NUMBER: FLD984167791
PERMIT/CERTIFICATION NUMBER: HC 50-151555
DATE OF ISSUE: MAY 11 1989
EXPIRATION DATE: May 11 1994
COUNTY: Palm Beach County
LATITUDE/LONGITUDE: 26°32'22"N/80°04'55"W
SECTION/TOWNSHIP/RANGE:
PROJECT: Hazardous Waste Storage Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-4, and in conformance with all existing regulations of the Florida Department of Environmental Regulation. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

TO CONSTRUCT: A Hazardous Waste Storage Facility consisting of a container storage area and an above-ground storage tank.

The container storage area will be equipped with the following features: impervious floors with slopes toward spill containment areas, fire suppression system and controlled access (inside fenced area with locked gate). The capacity of the container storage area will be 6912 gallons (432 16-gallon containers, or the equivalent). The hazardous waste to be stored in the containers is as follows:

Dumpster Sediment	D001, D006, D008
Spent Immersion Cleaner	F002, F004
Dry Cleaning Wastes	F002
Paint Wastes	F003, F005, D001, D006, D007, D008

The capacity of the above-ground storage tank is 15,000 gallons and the waste to be stored in the tank is waste mineral spirits (D001, D008). The tank will be constructed with secondary containment/leak detection system.

IN ACCORDANCE WITH: Application DER Form 17-30.401(2) dated June 28, 1988 and with additional information submitted September 29, 1988, November 1, 1988, November 30, 1988, December 12, 1988 and April 13, 1989 and Public Notice dated March 20, 1989.

LOCATED AT: Safety-Kleen Corporation, Lot 46B, Quantum Industrial Park, Boynton Beach, Florida.

SUBJECT TO: General Conditions 1-16 and Specific Conditions 1-10.

DER Form 17-1.201(5)
Effective November 30, 1982

PERMITTEE:
Mr. Scott E. Fore, Vice President
Safety-Kleen Corporation

I.D. NUMBER: FLD984167791
PERMIT/CERTIFICATION NUMBER: HC 50-151555
DATE OF ISSUE: MAY 11 1989
EXPIRATION DATE: MAY 11 1994

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any records that must be kept under conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - (c) Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules.Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - (a) A description of and cause of noncompliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:
Mr. Scott E. Fore, Vice President
Safety-Kleen Corporation

I.D. NUMBER: FLD984167791
PERMIT/CERTIFICATION NUMBER: HC 50-151555
DATE OF ISSUE: MAY 11 1989
EXPIRATION DATE: MAY 11 1994

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - () Determination of Best Available Control Technology (BACT)
 - () Determination of Prevention of Significant Deterioration (PSD)
 - () Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)
 - () Compliance with New Source Performance Standards
14. The permittee shall comply with the following:
 - (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - (c) Records of monitoring information shall include:
 1. the date, exact place, and time of sampling or measurements;
 2. the person responsible for performing the sampling or measurements;
 3. the dates analyses were performed;
 4. the person responsible for performing the analyses;
 5. the analytical techniques or methods used;
 6. the results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
16. The following conditions also shall apply to a hazardous waste facility permit.
 - (a) The following reports shall be submitted to the Department:
 1. Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the permittee shall attempt to rectify the discrepancy. If not resolved within 15 days after the waste is received, the permittee shall immediately submit a letter report, including a copy of the manifest, to the Department.
 2. Unmanifested waste report. The permittee shall submit an unmanifested waste report to the Department within 15 days of receipt of unmanifested waste.
 3. Annual report. An annual report covering facility activities during the previous calendar year shall be submitted pursuant to Chapter 17-30, F.A.C.
 - (b) Notification of any noncompliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be reported verbally to the Department within 24 hours, and a written report shall be provided within 5 days. The verbal report shall include the name, address, I.D. number, and telephone number of the facility, its owner or operator, the name and quantity of materials involved, the extent of any injuries, an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain:

PERMITTEE:
Mr. Scott E. Fore, Vice President
Safety-Kleen Corporation

I.D. NUMBER: FLD984167791
PERMIT/CERTIFICATION NUMBER: HC 50-151555
DATE OF ISSUE: MAY 11 1989
EXPIRATION DATE: MAY 11 1994

GENERAL CONDITIONS:

1. A description and cause of the noncompliance.
2. If not corrected, the expected time of correction, and the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.
- (c) Reports of compliance or noncompliance with, or any progress reports on, requirements in any compliance schedule shall be submitted no later than 14 days after each schedule date.
- (d) All reports or information required by the Department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

SPECIFIC CONDITIONS:

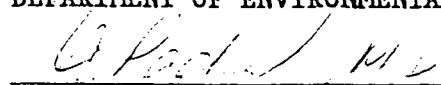
1. This permit authorizes construction only of the facility described in the application. The Department shall be notified and prior approval shall be obtained of any changes or revisions made during construction.
2. The permittee shall retain the engineer of record for the inspection of the construction of the project. Upon completion, the engineer shall inspect for conformity to the permit application and additional information submitted and shall so certify to the Department. Such certification is to be submitted within 30 days after completion.
3. The permittee, in accordance with 40 CFR 264.192(b), shall provide a professional engineer registered in the State of Florida to monitor and/or visually inspect the tank installation in order to identify the presence of any of the following items:
 - a. weld breaks
 - b. punctures
 - c. scrapes in the protective coatings
 - d. cracks
 - e. corrosion
 - f. other structural damage or inadequate construction/installation

All discrepancies must be remedied before the tank system is placed in use.

4. Upon completion of construction of the tank, the permittee shall perform a tightness test using hydrostatic pressure by preloading the tank with water before hazardous waste storage.
5. At a minimum, the permittee shall equip the facility with the equipment specified in the application, as required by 40 CFR 264.32.
6. The completed construction of the container storage shall be in compliance with 40 CFR 264.175 and 40 CFR 264.176.
7. The completed construction of the above-ground tank system shall be in compliance with 40 CFR 264.193 and 40 CFR 264.198.
8. The permittee may not commence storage of hazardous waste at the facility until:
 - a. The permittee has submitted the engineering certification of construction in compliance with the permit application;
 - b. The Department has inspected the newly constructed facility and finds it in compliance with the conditions of the permit, and other applicable state regulations;
 - c. The Department has issued an Operation Permit to the facility.
9. The permittee shall submit an application for an Operation Permit at least 90 days prior to expiration of this permit.
10. The Department may modify the conditions in this permit upon written request of the permittee in accordance with FAC Rule 17-30.290(1).

Issued this 11th day of May 1989

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION


J. Scott Benyon
Deputy Assistant Secretary

ATTACHMENT I.B.3
FACILITY LAYOUT AND PHOTOGRAPHS

ATTACHMENT I.B.3

FACILITY LAYOUT AND PHOTOGRAPHS

The facility layout and traffic patterns are illustrated in Figures I.B.3-1 and I.B.3-2, respectively.

The nonbuilding areas of the facility are paved with asphalt or concrete as noted on the site plan (Figure I.B.3-1). The stormwater retention area and other minor areas are vegetated with grass. The majority of the vehicular traffic (step side and one-ton box trucks) and loading/unloading operations occur at and near the return and fill area A and it is paved with asphalt and concrete (Figure I.B.3-2). Approximately once per week a tractor trailer brings fresh drummed solvents and removes used drummed solvents for transfer to the recycle facility. This truck backs up to the eastern side of the concrete dock, located on the southern side of the facility in area B, to load and unload drums. Congress Avenue, which leads to Alpha Avenue, is the major access road to the facility. The access road is designed in accordance with engineering criteria appropriate for sustaining the traffic volume and loading for the industrial activities in this area. The vans that daily travel the routes between the service center and its customers use the two-lane road within the industrial park. The trucks dispatched from the recycle center to deliver and pick up fresh and used solvents perform these activities at the aboveground tank area C approximately once per week. Traffic from this facility is not expected to have a major effect on local traffic conditions. Figure I.B.3-3 presents anticipated 1987 average daily traffic counts for the entire region.

Photographs which depict the hazardous waste management units, security features, and general layout of the facility are provided in this attachment.

Figure I.B.3-1
Site Layout Map
Safety-Kleen Corp. Facility
Boynton Beach, Florida

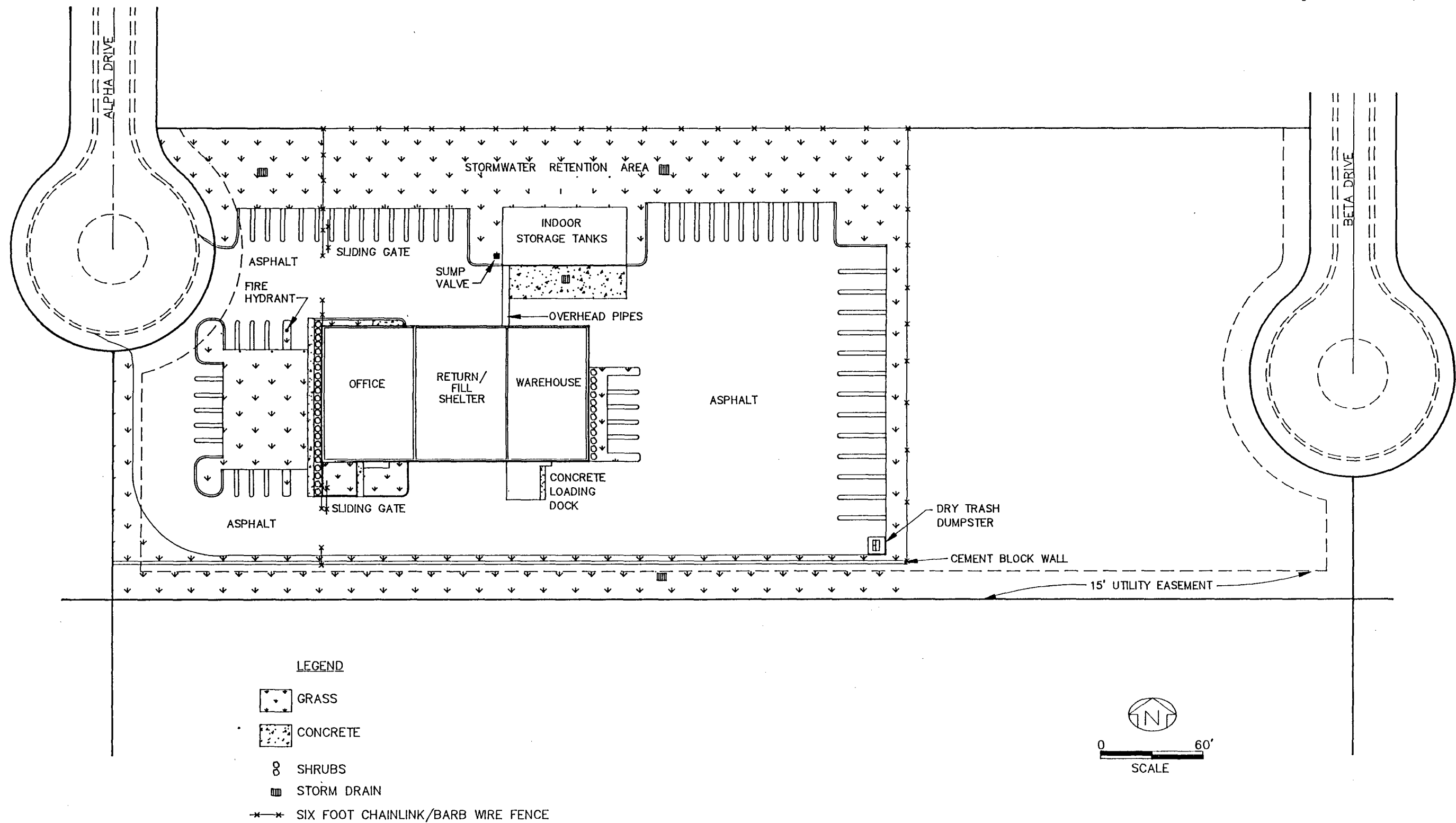
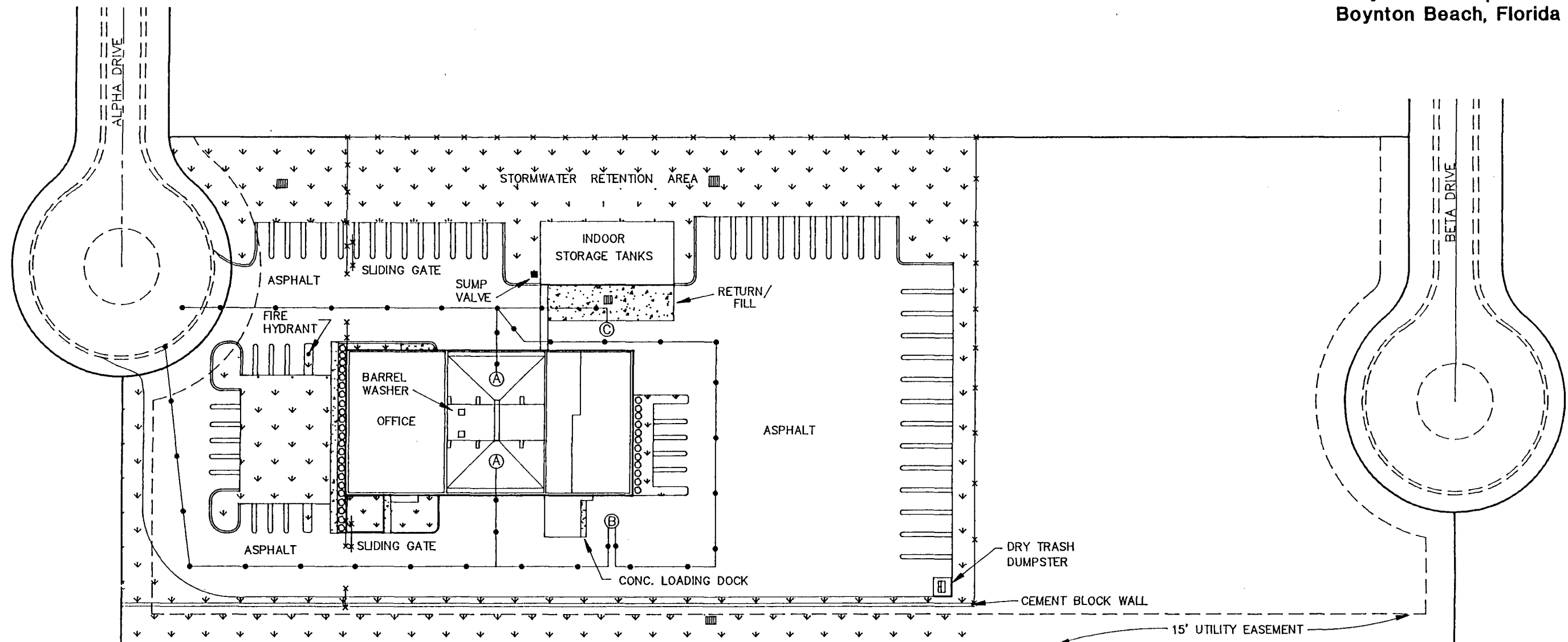
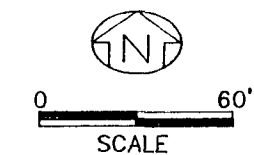


Figure I.B.3-2
Truck Traffic Patterns and Loading/
Unloading Areas of Hazardous Waste
Safety-Kleen Corp. Facility
Boynton Beach, Florida



LEGEND

- | | |
|---------------------------------------|---|
| GRASS | (A) MINERAL SPIRIT DRUM DUMP/BARREL WASH/REFILL |
| CONCRETE | (B) LOADING AND UNLOADING OF DRUMS CONTAINING SOLVENT FROM TRUCKS AND LOCAL AREA VANS |
| SHRUBS | (C) LOADING AND UNLOADING OF MINERAL SPIRITS FROM TANKER TRUCKS |
| STORM DRAIN | —●— ENTRANCE/EXIT ROUTE |
| —*— 6 FOOT CHAINLINK/ BARB WIRE FENCE | |



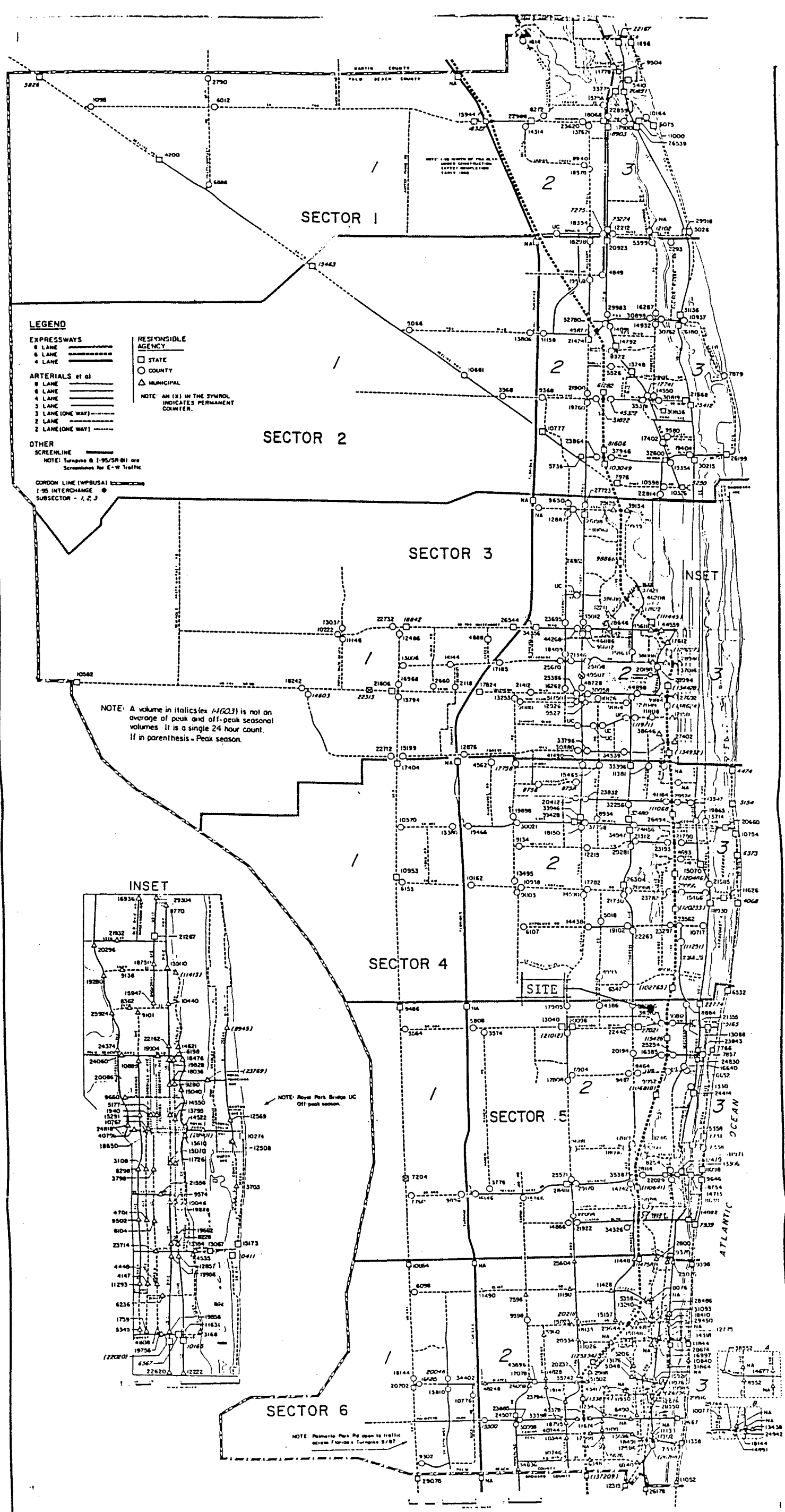


Figure I.B.3-3
 Traffic Volumes
 Safety-Kleen Corp. Facility
 Boynton Beach, Florida



Front entrance to facility (view to the southeast).



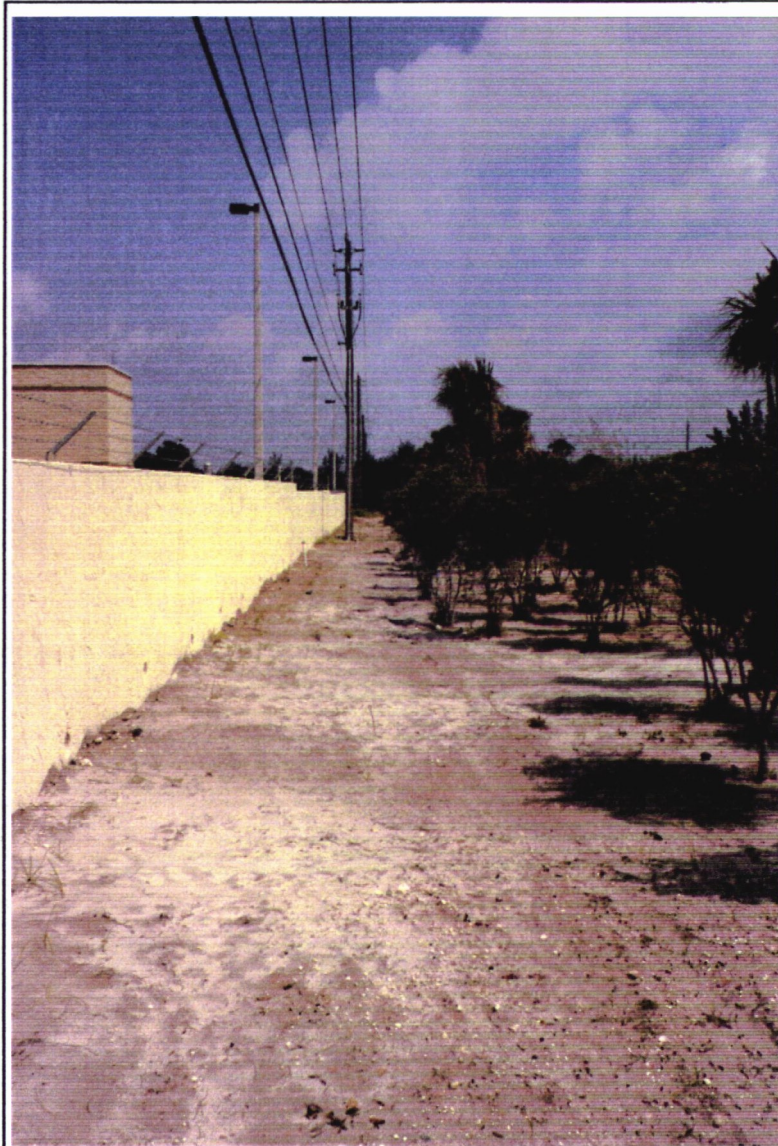
North entrance gate looking towards tank storage building (northern building) and return/fill garage door entrances (view to east).





Stormwater retention area to the north of tank storage building
(view to west).



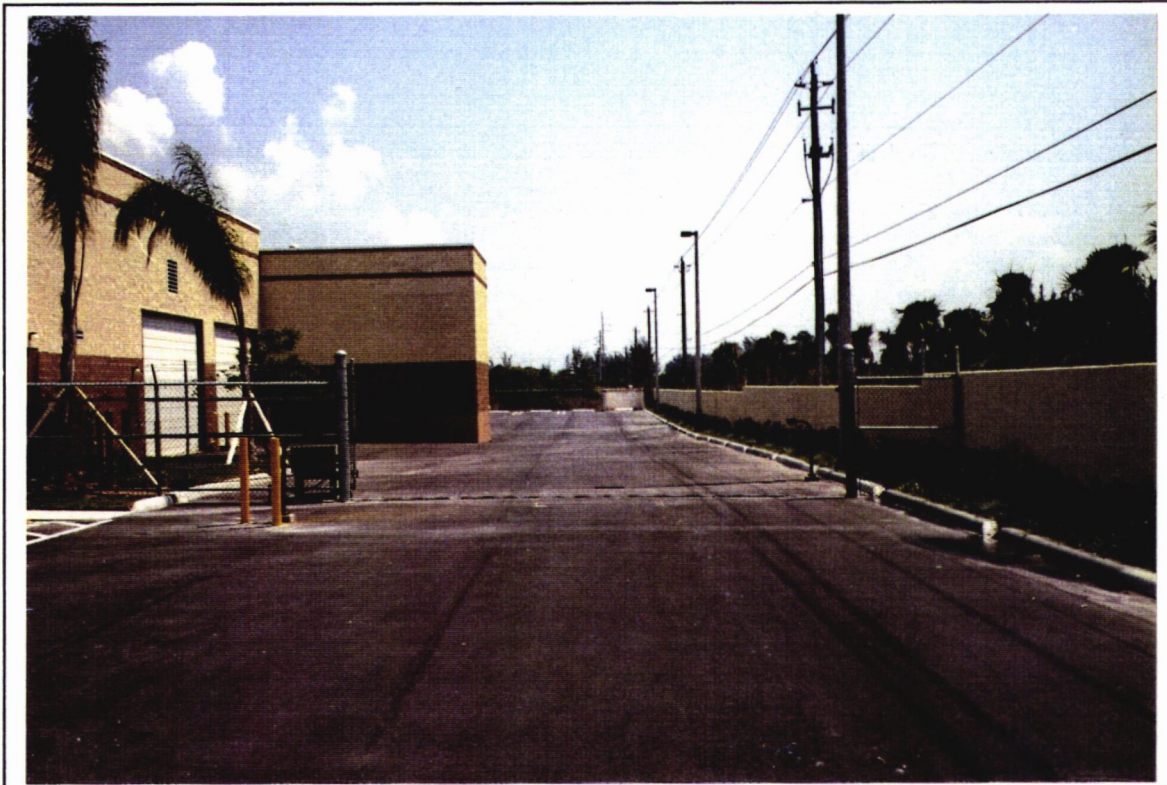


Stormwater detention area south of the property (view to east).





Northeast corner of the property (view to north).

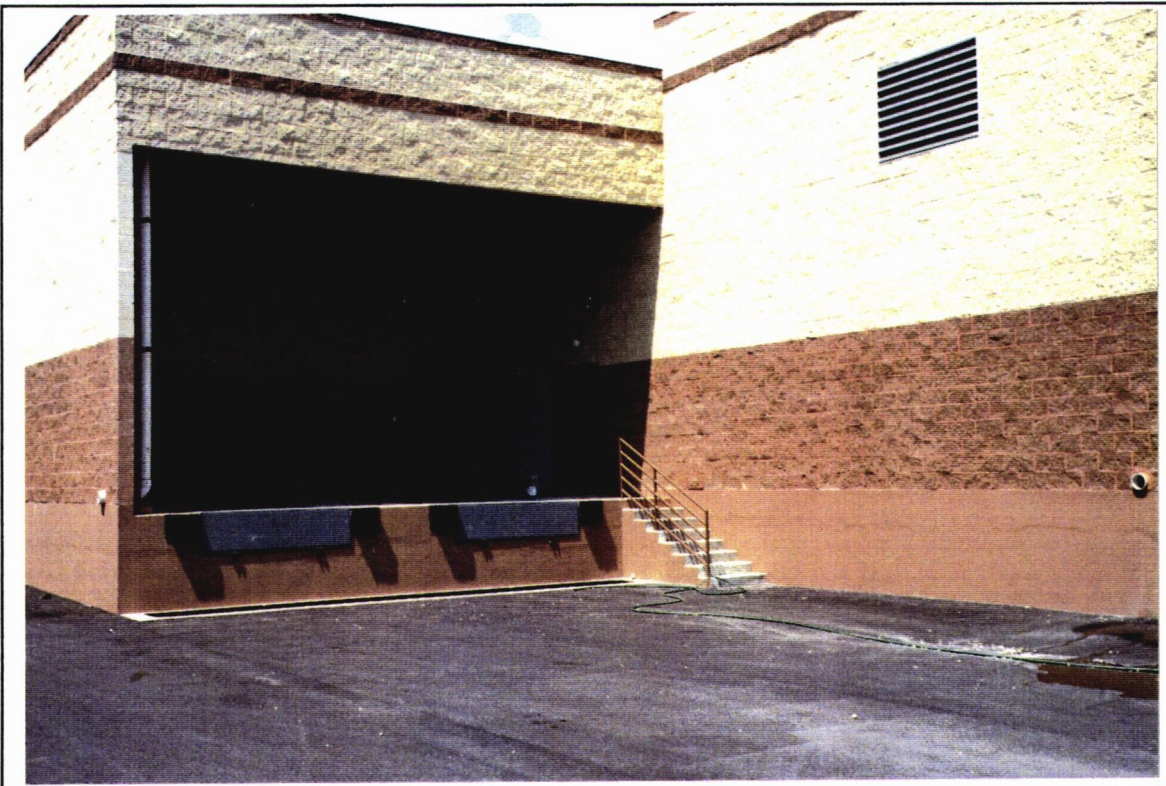


South entrance gate looking towards back of container storage area dock and showing return/fill garage door entrances (view to east).



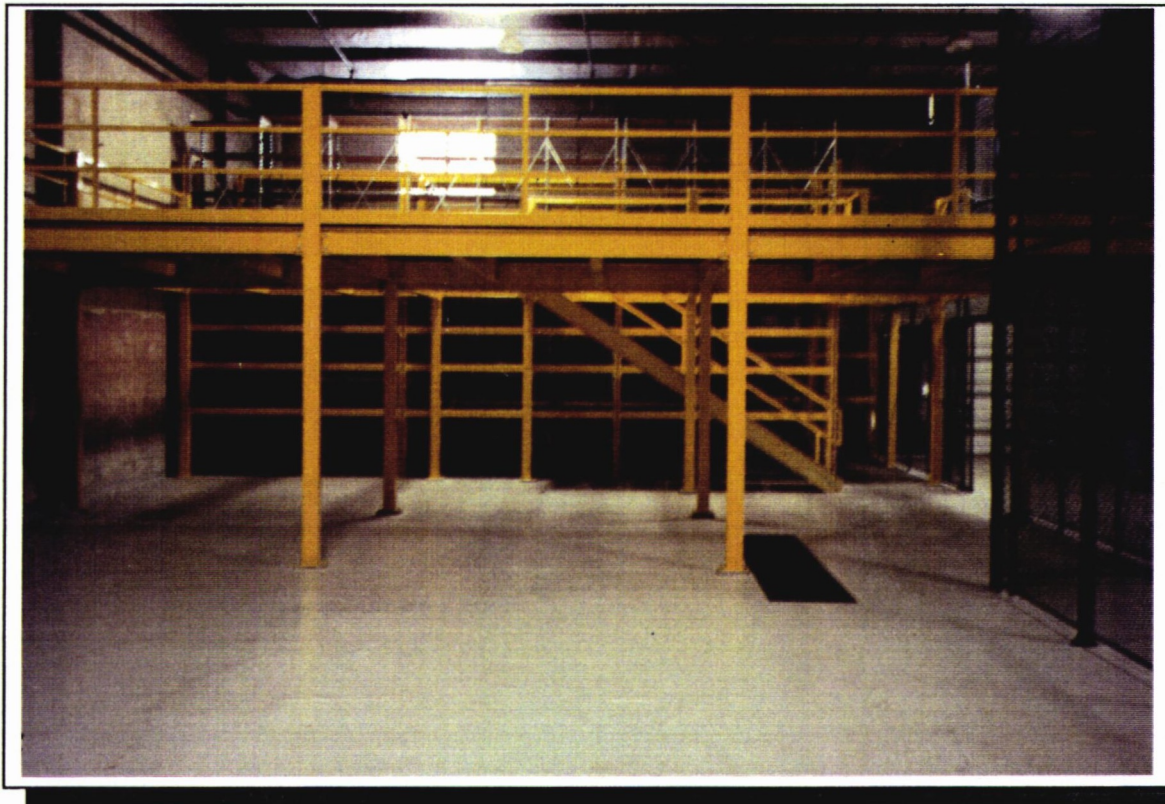


Rear entrance to container storage area (view to west).



Container storage area dock (view to west).



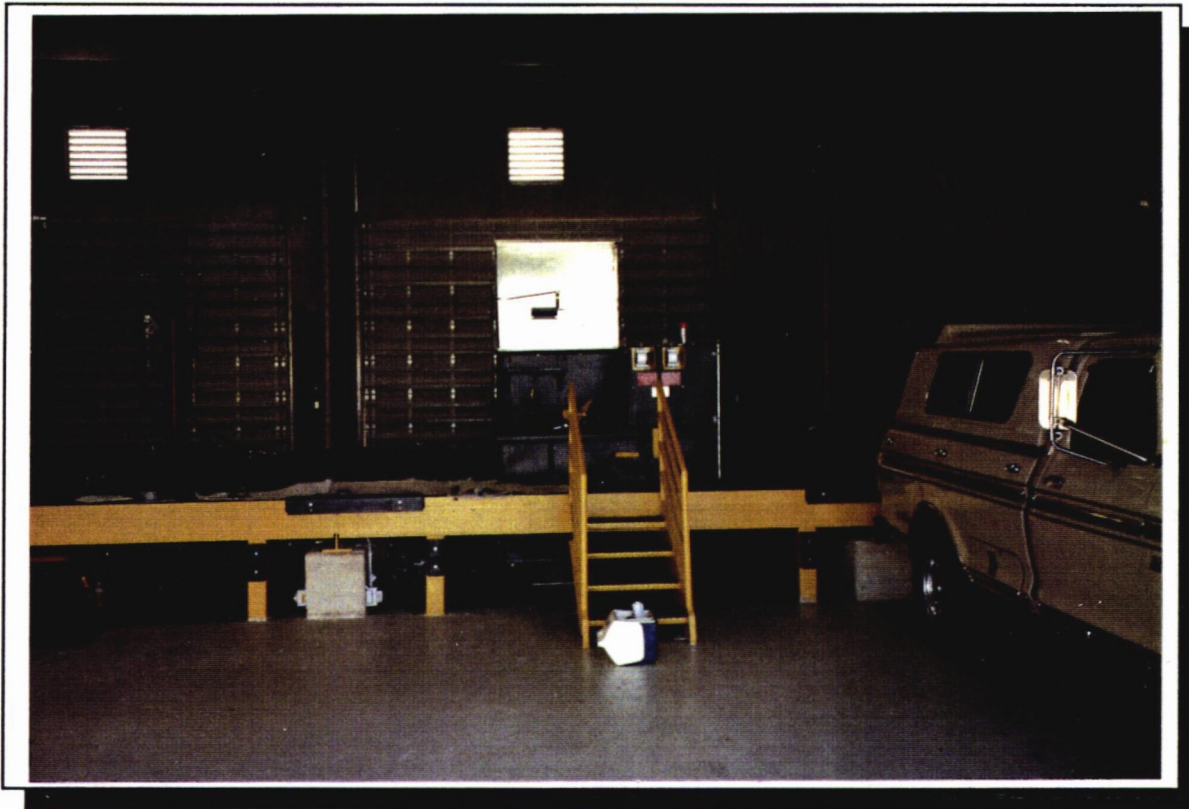


Inside of container storage area (view to south).



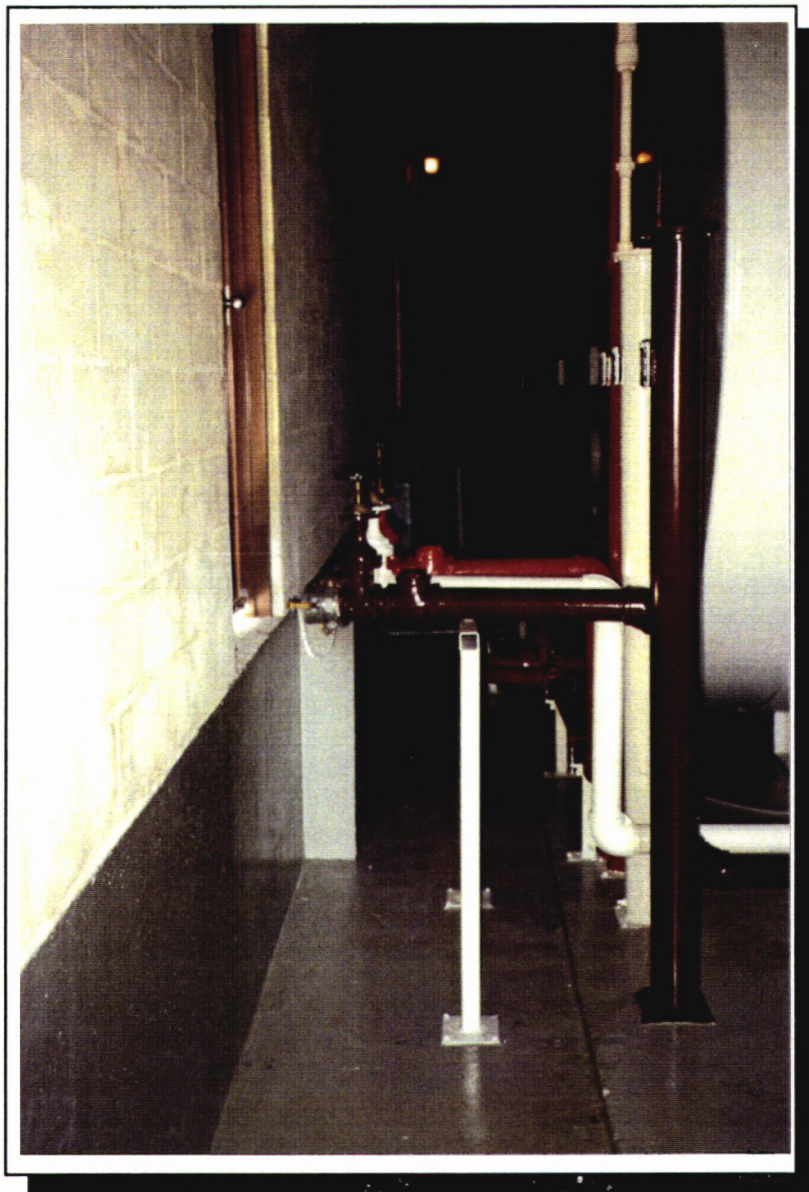
Return/fill shelter and dumpster (view to south).





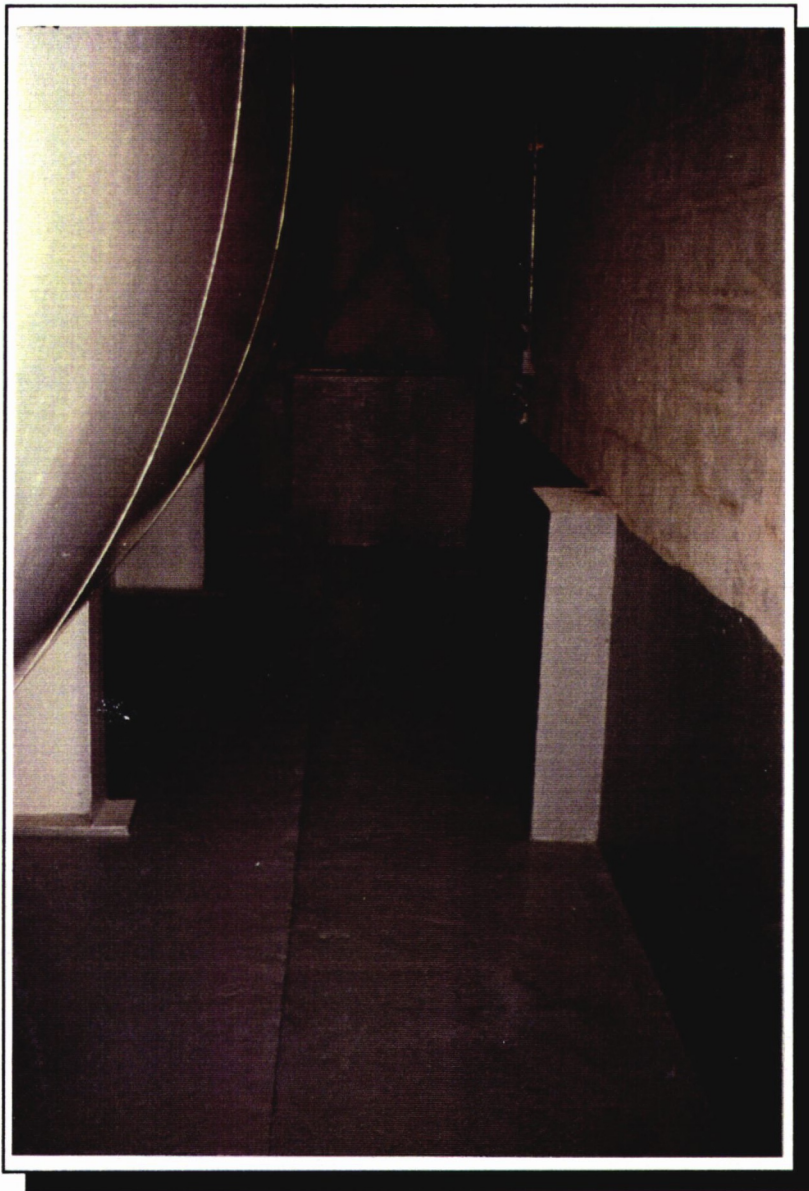
Return/fill shelter containment trench (view to south).





Inside tank storage building, view showing tanker fill connections
(view to west).





Inside tank storage building, view showing collection trench and sump (view to north).



ATTACHMENT I.B.4
TOPOGRAPHY MAP OF THE SITE

ATTACHMENT I.B.4

TOPOGRAPHIC MAP OF THE SITE

A USGS topographic map is supplied in this section to provide information requested (Figure I.B.4-1). However, due to the small size of the site, all of the information requested under I.B.4 of the application form cannot be placed on one map. Therefore, additional maps are referenced that provide information requested.

1. Map scale and dates

Supplied on all maps.

2. 100-year floodplain area

Based on information available (Figure I.B.4-2), the facility lies within an area classified as Zone C. Such areas have been classified as "areas of minimal flooding" and do not require any special planning requirements for response to floods. Currently, the Federal Emergency Management Agency information is the acceptable and best available flood information for flood insurance purposes.

3. Orientation of map

Supplied on all maps.

4. Surface water bodies within a one-quarter mile of the facility property boundary (e.g., intermittent streams and springs)

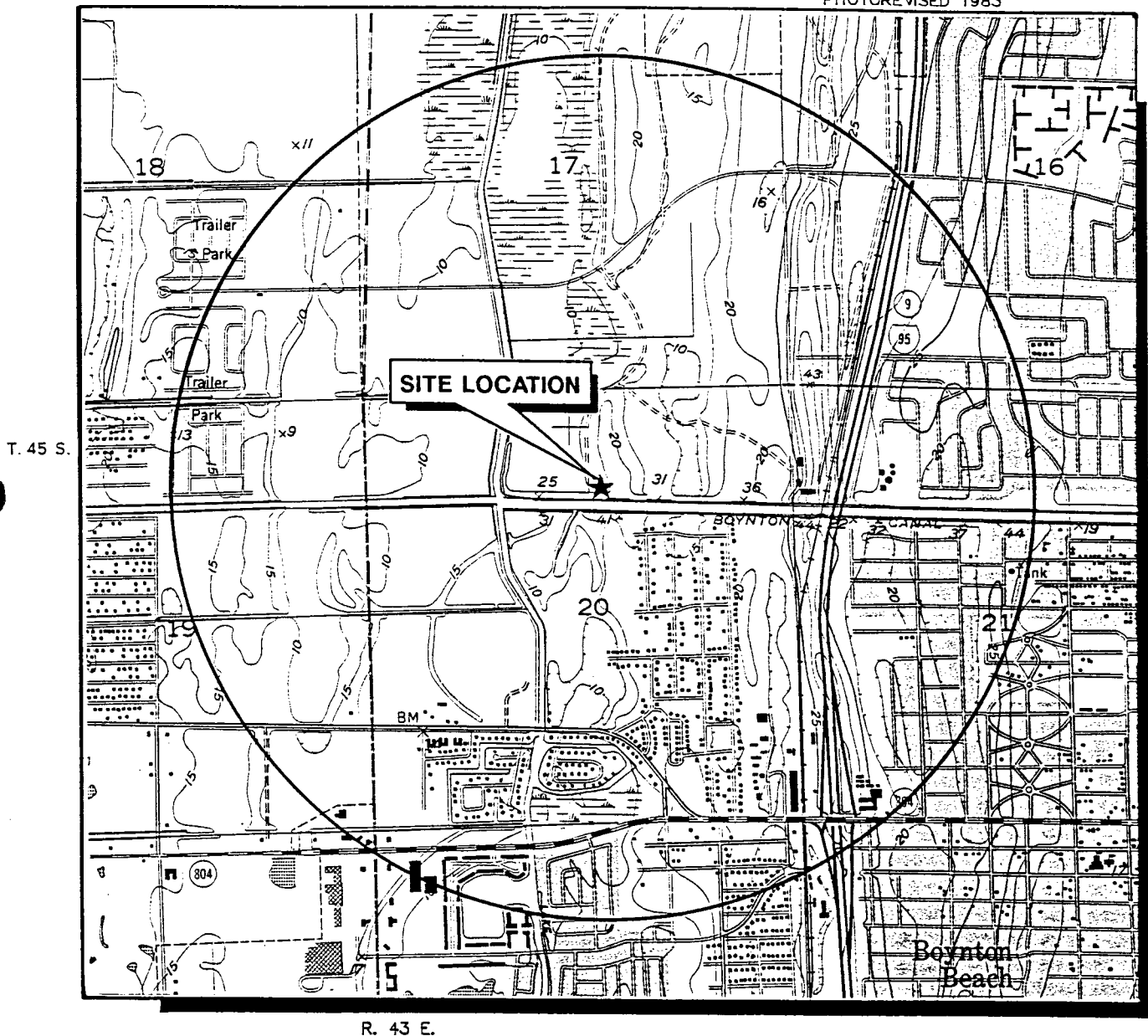
A canal runs adjacent to the southern property boundary. Canals exist to the north and west of the property (Figure I.B.4-2).

5. Surrounding land uses

See Figure I.B.4-3.

Figure I.B.4-1 Topographic Map Safety-Kleen Corp. Facility Boynton Beach, Florida

LAKE WORTH
FLORIDA-PALM BEACH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC-BATHYMETRIC)
PHOTOREVISED 1983



0 2000
FEET

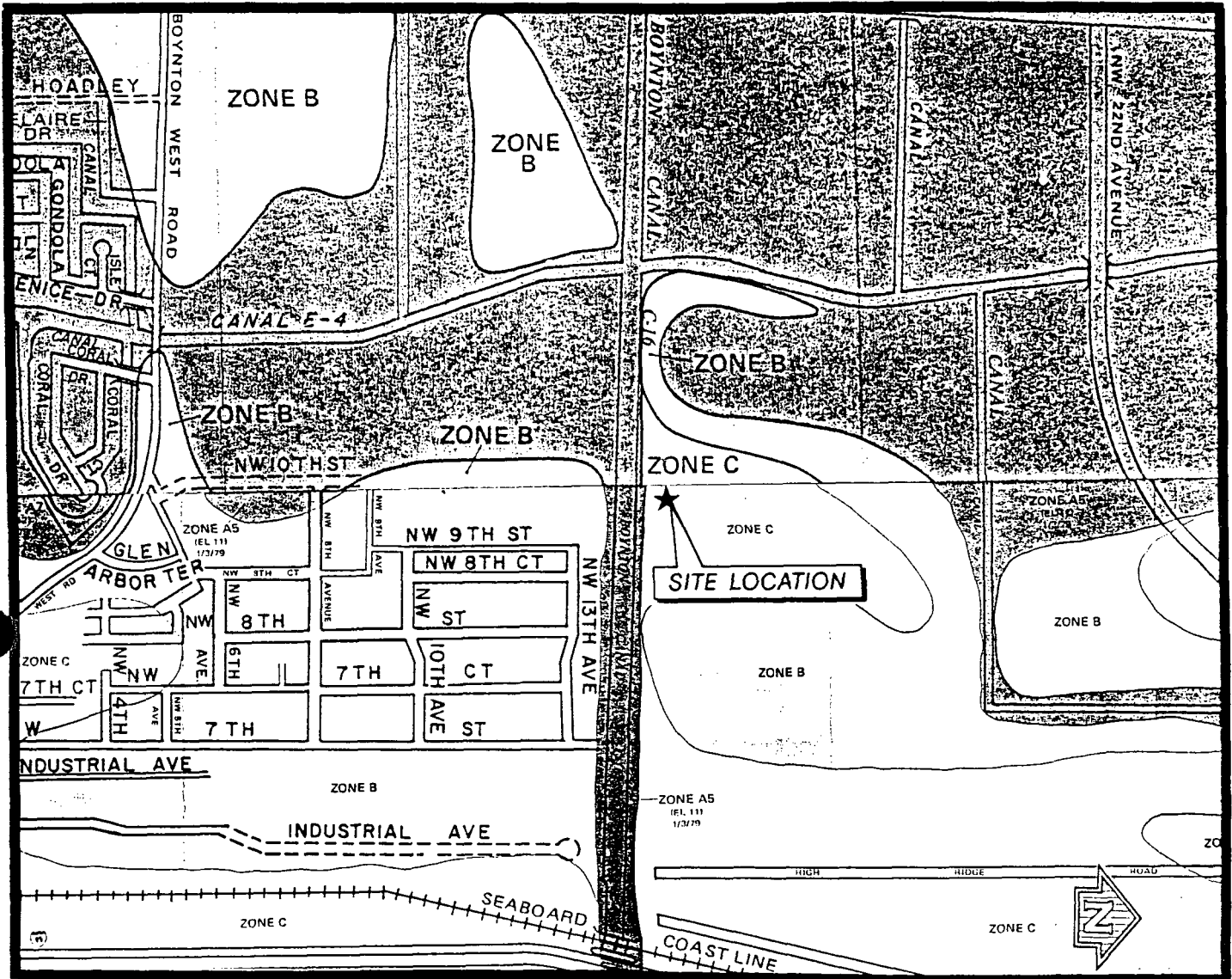


QUADRANGLE LOCATION



The
ERM
Group®

**Figure I.B.4-2
Flood Map
Safety-Kleen Corp. Facility
Boynton Beach, Florida**



500-Year Flood Boundary	—
100-Year Flood Boundary	—
Zone Designations* With Date of Identification e.g., 12/2/74	ZONE B DATE
100-Year Flood Boundary	—
500-Year Flood Boundary	—
Base Flood Elevation Line With Elevation In Feet**	—513—
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7X
Zone D Boundary	—
River Mile	•M1.5

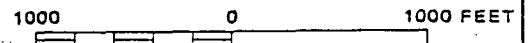
**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

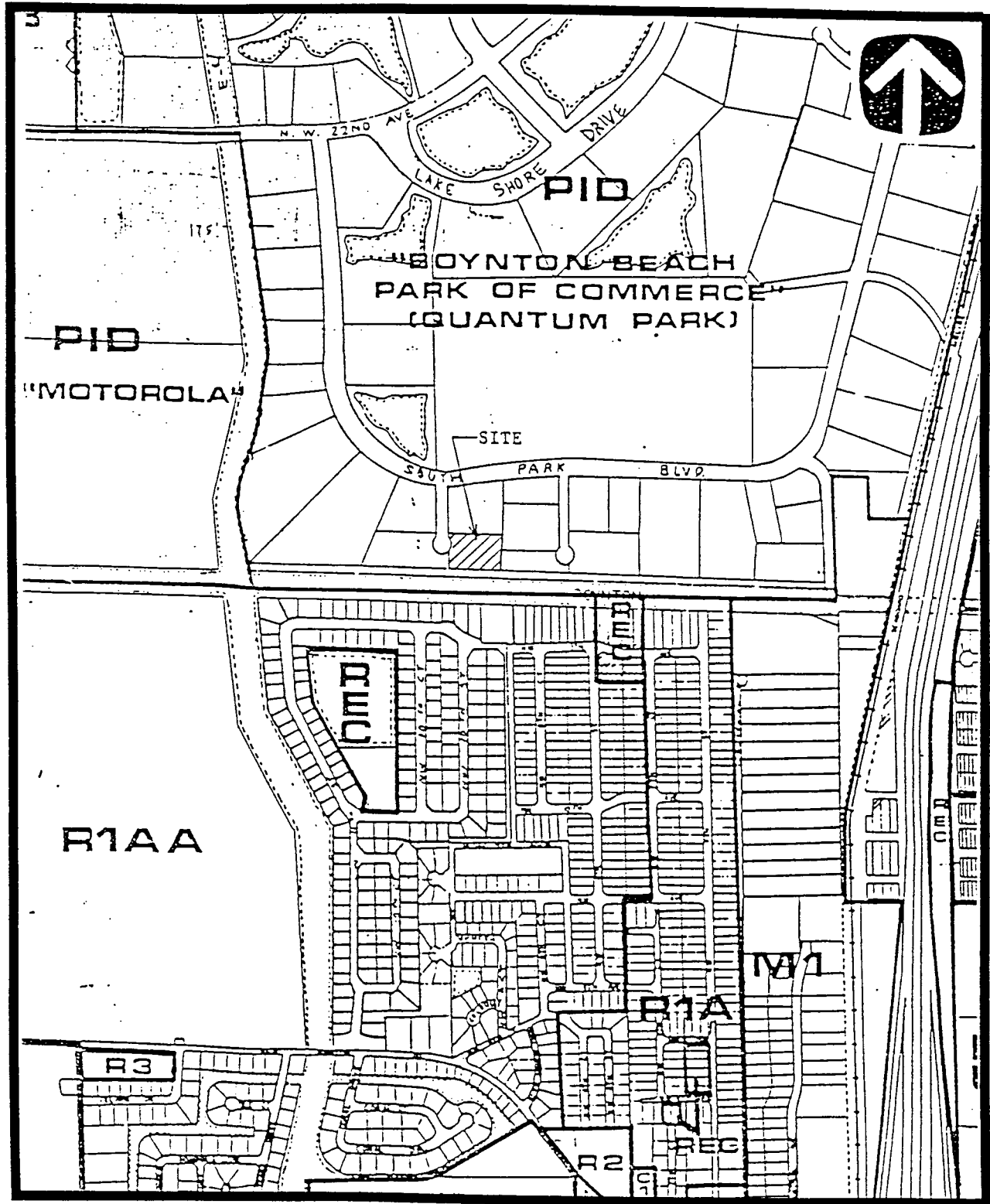
ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)

C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

APPROXIMATE SCALE



**Figure I.B.4-3
Surrounding Land Uses
Safety-Kleen Corp. Facility
Boynton Beach, Florida**



LEGEND

PID PLANNED INDUSTRIAL DEVELOPMENT
 REC RECREATION
 R RESIDENTIAL
 M1 MANUFACTURING



SOURCE: PALM BEACH COUNTY ZONING DEPARTMENT

6. Legal boundaries of the facility

See Figure I.B.4-4.

7. Injection wells

No injection wells are used by the facility.

8. Drinking water wells listed in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary

The area included in the well inventory is indicated in Figure I.B.4-5 by the one-quarter mile radius circle, and the well survey is presented in Table I.B.4-1.

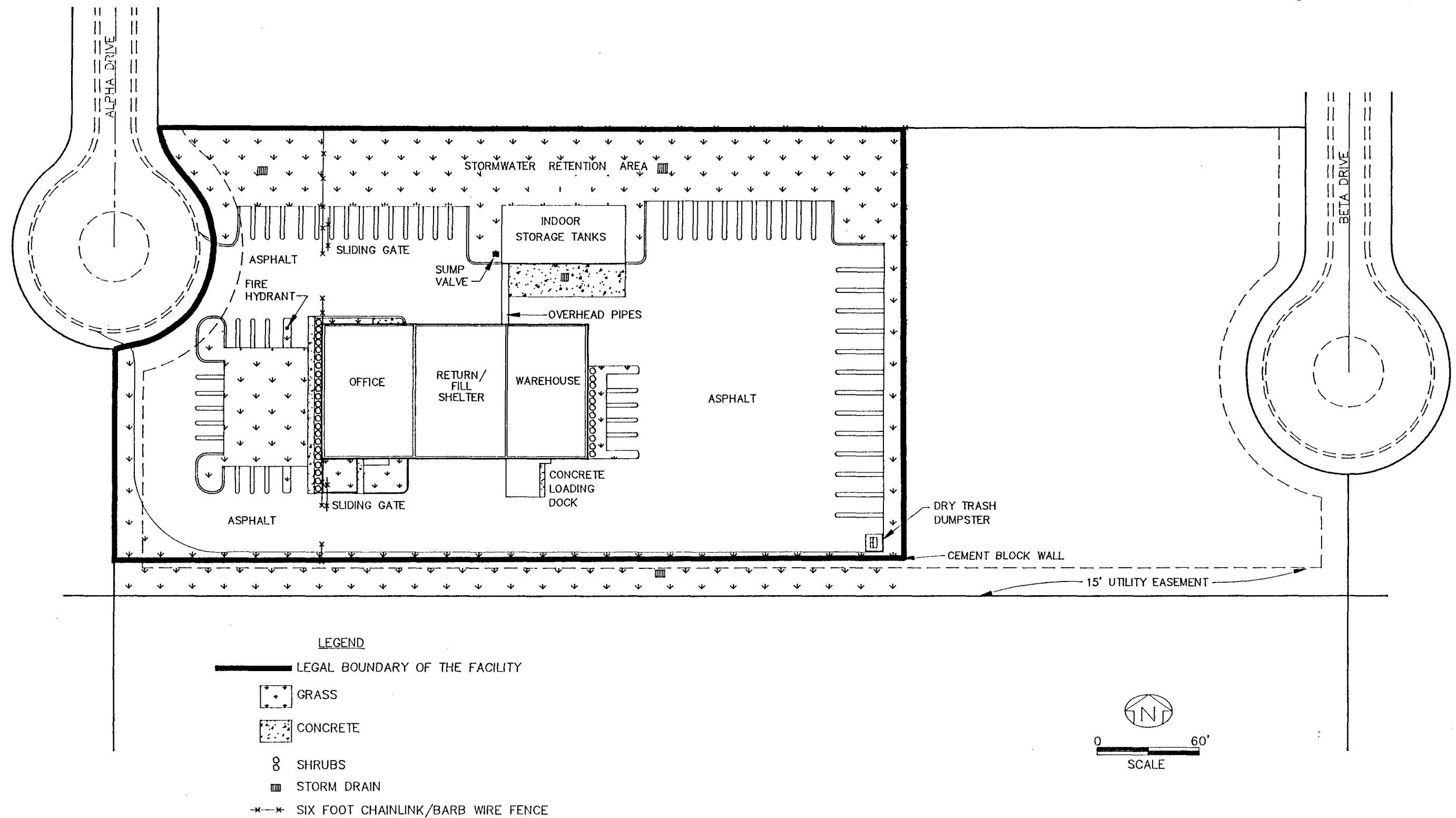
9. Intake and discharge structures within one mile

There are no known intake or discharge structures within one mile.

10. Stormwater run-off controls for the facility are illustrated in Figure I.B.4-6. Stormwater originating from the service center building is channeled through roof gutters and onto the pavement.

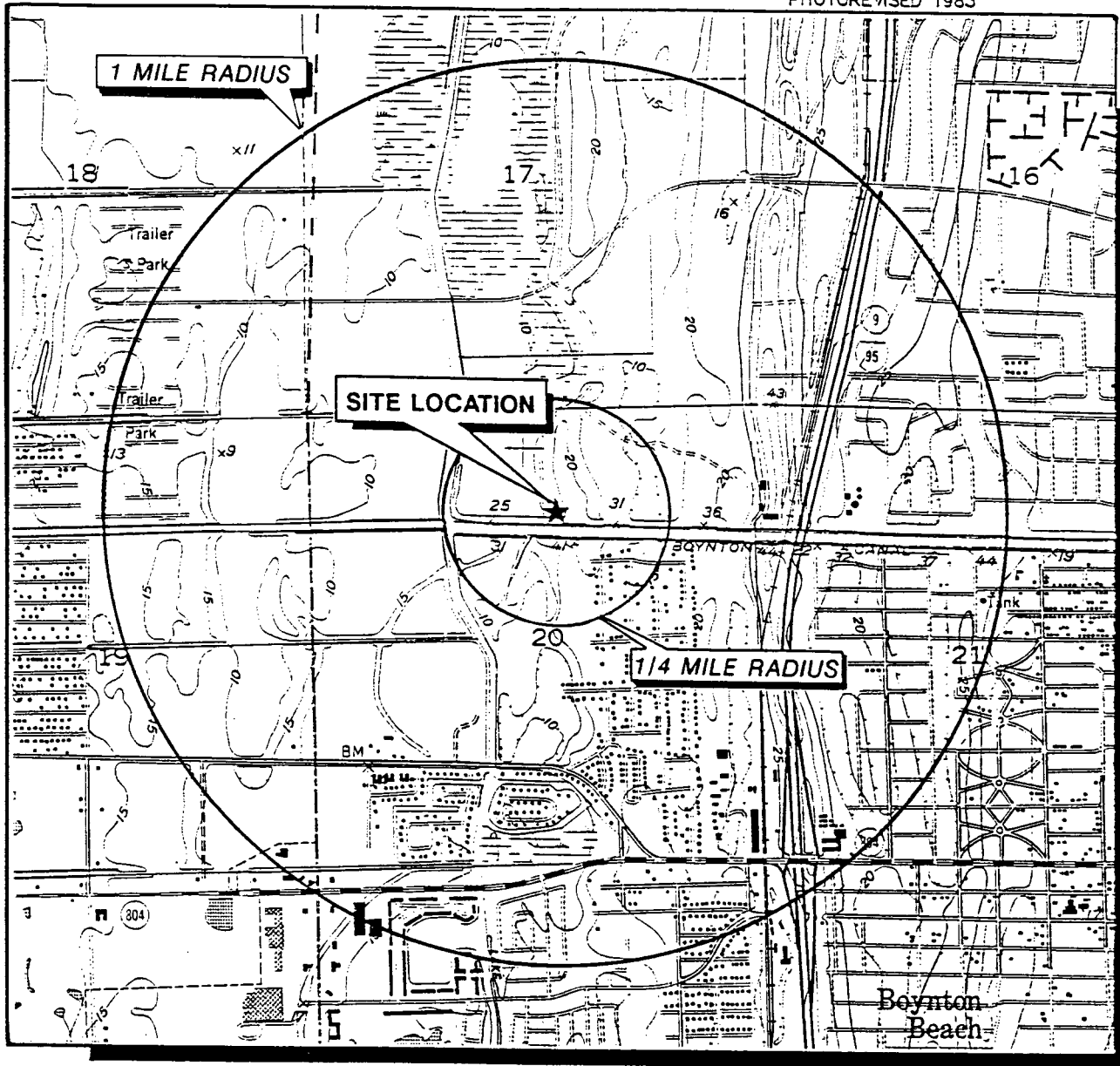
Surface run-off from the southern portion of the property is directed southward under the concrete block wall by gravity and onto the utility easements. Excess surface run-off water not percolating into the subsurface is collected in the southern storm inlet and routed to the north east storm inlet by gravity through an 18-inch corrugated metal pipe (CMP). The northeast storm inlet (#2) is constructed with a 12-inch opening on the bottom followed by three cubic feet of 0.75-inch washed rock.

Figure I.B.4-4
Legal Boundary of the Facility
Safety-Kleen Corp. Facility
Boynton Beach, Florida



**Figure I.B.4-5
Well Inventory
Safety-Kleen Corp. Facility
Boynton Beach, Florida**

LAKE WORTH
FLORIDA-PALM BEACH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC-BATHYMETRIC)
PHOTOREVISED 1983



R. 43 E.

0 2000
FEET



QUADRANGLE LOCATION



The
ERM
Group®

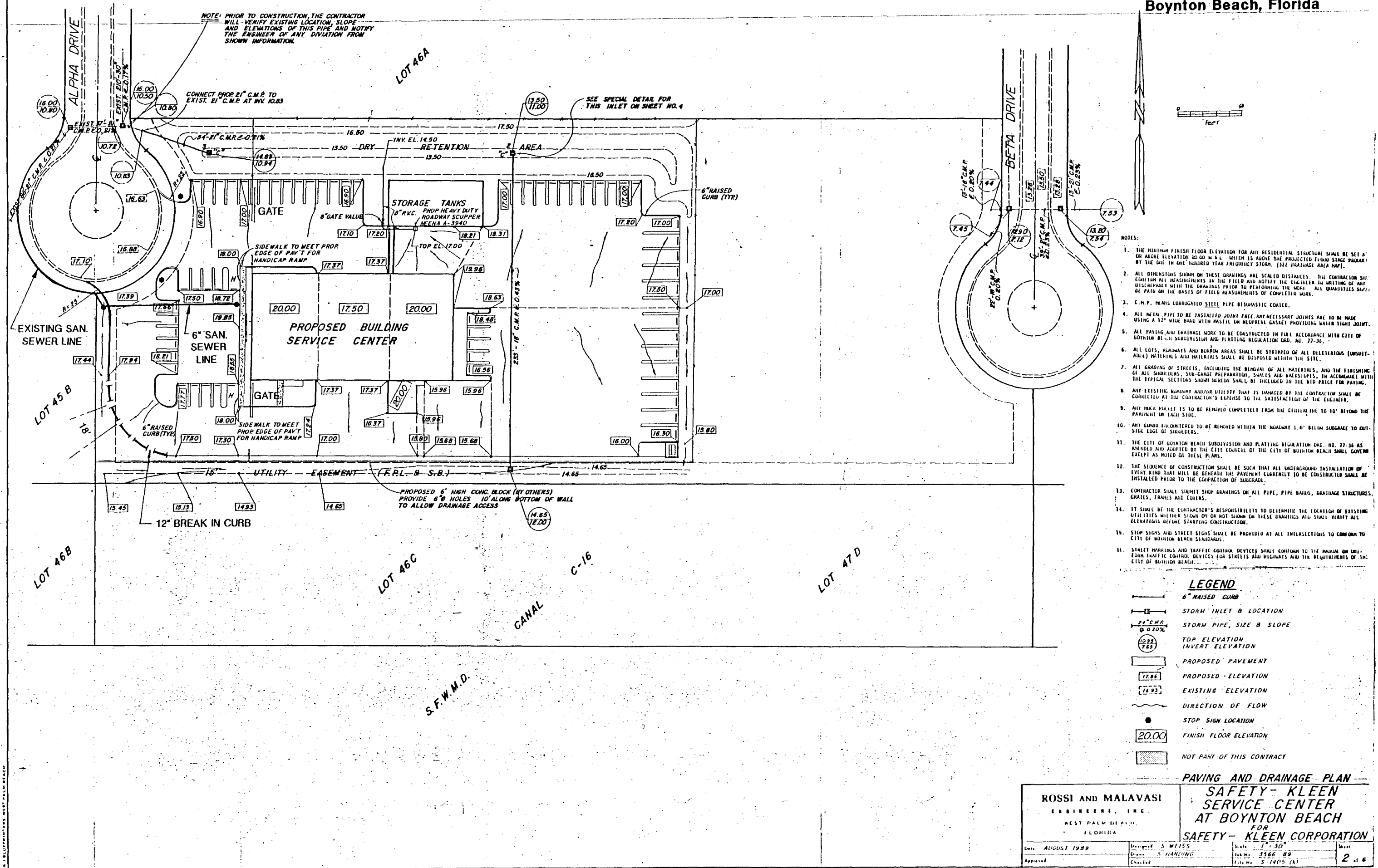
TABLE I.B.4-1

**WELL PERMIT
SAFETY-KLEEN CORP. FACILITY
BOYNTON BEACH, FLORIDA**

Str	Owner Name	Well Type	Well Depth	Well Diameter	Case Depth	Permit No.
000	Allan Murray Nursery Inc.	Agricultural	75	2	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	75	2	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	70	6	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	86	6	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	75	6	NA	50-00103-W
184543	Boynton Nurseries	Agricultural	94	8	NA	50-00145-W
04543	Manalapan, Town of	PWS	206	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	206	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	114	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	57	6	NA	50-00506-W
04543	Manalapan, Town of	PWS	62	6	NA	50-00506-W
04543	Manalapan, Town of	PWS	75	12	NA	50-00506-W
04543	Manalapan, Town of	PWS	75	12	NA	50-00506-W
174543	Motorola, Inc.	Landscape	90	4	NA	50-01194-W
164543	Quantum Property Owners'	Commercial	NA	NA	NA	50-01685-W
000	N.C.I. Corporation	Golf Course	NA	NA	NA	50-01830-W

Information provided by South Florida Water Management District

Figure I.B.4-6
Facility Run-off Control System
Safety-Kleen Corp. Facility
Boynton Beach, Florida



Surface run-off from the northern portion of the property is directed toward the dry retention area by gravity. Excess stormwater collected in this area overflows into the northwest storm inlet and subsequently to an existing stormwater structure.

Stormwater run-off from the western portion of the property flows west through 12-inch openings in the 6-inch high curb and subsequently percolates into the subsurface (grass area) or flows into the utility easement. Similarly, run-off predominantly flowing eastward percolates into the subsurface (grass area) or flows into the utility easement or stormwater retention area.

ATTACHMENT I.D.2
DESCRIPTION OF FACILITY OPERATION



ATTACHMENT I.D.2
DESCRIPTION OF FACILITY OPERATION

DESCRIPTION OF THE BUSINESS

Safety-Kleen Corp. of Elgin, Illinois is an international, service-oriented company whose customers are primarily engaged in automotive repair and industrial maintenance. Since 1968, Safety-Kleen has been offering a leasing service for hydrocarbon and chlorinated solvents and small parts washing equipment. A unique feature of this business concept is that the solvent is produced through recycling the used solvent that is leased to the customers. Approximately two-thirds of the clean solvent leased has been previously used by the customers.

The Safety-Kleen parts washing equipment, together with the solvents, are leased to customers; the leasing charge includes regularly scheduled solvent changes and machine maintenance. The business is conducted from local service centers (sales branches) located in 45 states domestically that warehouse the products and equipment required to service the customers in their sales areas. On a regular basis, service representatives furnish clean solvent to the customers, pick up the used solvent, and ensure that the leased equipment is in good working order. In 1979, Safety-Kleen expanded their scope of operations to make their solvent leasing service available to owners of parts cleaning equipment, regardless of manufacturer, using Safety-Kleen's types of solvents.

Basically, Safety-Kleen handles three types of parts washer solvents: a mineral spirits solvent and old and new formulations of immersion cleaner. The old immersion cleaner solvent is labeled under the trade name of "Immersion Cleaner and Carburetor and Cold Parts Cleaner #609." It is a two-phase system consisting of an upper aqueous (water) layer and lower non-aqueous (solvent) layer. The water phase consists of water and Dresinate TX (sodium soap of tall oil). The solvent phase is composed of methylene chloride, orthodichlorobenzene, cresylic acid, and an amines additive. A new immersion

cleaner is being marketed under the name #699 and will eventually replace the old immersion cleaner. It is a non-chlorinated solvent mixture. The solvent is composed of heavy aromatic naphtha, N-methyl-2-pyrrolidon dipropylene glycol methyl ether, monoethanolamine and oleic acid. It contains a maximum of 1 percent total chlorinated solvents.

The solvents are distributed and collected by their service representatives. Drums are transported in specially-equipped, enclosed route trucks. Clean solvents are distributed from and used solvents returned to the service center where they are stored in separate tanks for the clean and used mineral spirits bulk storage. Warehouse space is dedicated for the storage of both clean and used immersion cleaner drums. Safety-Kleen leases parts washing equipment, including partially filled 16- and 30-gallon drums, which double as the solvent reservoir of the parts washer. During servicing, the quantity of used solvent removed from each machine ranges from 5 to 20 gallons. The mineral spirits are collected in 16- and 30-gallon red steel drums. The 609 Immersion Cleaner is housed in 16-gallon gray steel drums. A 16-gallon gray steel drum with a red band is used for 699 Immersion Cleaner.

The mineral spirits are transported in covered 16- and 30-gallon drums between the service center and customers. Upon returning to the service center, the used mineral spirits are transferred from the drums into a wet dumpster (solvent return receptacle) in which coarse solids in the mineral spirits are retained. Used mineral spirits in the wet dumpster flow into a 15,000-gallon aboveground tank for storage. Used mineral spirits solvent is picked up periodically by a bulk tank truck from the recycle facility which at the same time delivers a load of clean mineral spirits. The sludge in the wet dumpster is periodically cleaned out, drummed, and temporarily stored in the drum storage area for later shipment to the recycle facility for reclamation.

Periodically, a company truck is dispatched from one of Safety-Kleen's nationwide solvent recycle facilities to the service center to deliver a load of clean solvent and pick up a load of used solvent. Mineral spirits are transported in bulk tank trucks between the service centers and the recycle facilities. The Immersion Cleaner remain in the covered drums during transfer between the service centers and the recycle facilities. Approximately 97 percent of the solvent handled in the parts washer business is mineral spirits, while the remainder is immersion cleaner.

In 1984, Safety-Kleen began offering a service for the collection of filter cartridges and still bottoms contaminated with dry cleaning solvents (usually perchloroethylene). These wastes are drummed on the customer's premises in 16-gallon black poly drums and are periodically collected by a sales representative. The drummed waste is accumulated in a contained area of the warehouse for shipment to a Safety-Kleen recycle center. Approximately 35 percent of this waste is returned to dry cleaners as usable product.

In 1986, a paint waste reclamation program was initiated to service automobile body repair businesses. Paint gun cleaning machines are leased to customers with a reservoir of lacquer thinner (for cleaning the paint guns). On a periodic basis the reservoir is replaced and the spent solvent taken back to the facility for shipment to a reclamation facility. Wastes containing various thinners and paints are collected in 5-gallon pails and 16-gallon drums on the customer's premises. The sales representative collects these containers and stores them in the drum storage area. These wastes are periodically shipped to a reclaimer and the regenerated solvent is distributed to Safety-Kleen customers for use as product.

In 1990, Safety-Kleen began offering a service for the collection of spent antifreeze (ethylene glycol) from automobile service stations. These wastes are deposited into a 150-gallon translucent carboy by the customer, on the customer's premises, and the carboy is pumped into 30-gallon drums by a sales representative. It is then placed in the

container storage warehouse for shipment to a Safety-Kleen recycle center. Approximately 35 percent of this waste is returned to customers as usable product.

It should be noted that the vast majority of the antifreeze sample analyses indicated this waste is not hazardous. However, due to the low concentrations at which contaminants render a waste hazardous under the toxicity characteristic leaching procedures (TCLP), the storage tank/container storage area for spent antifreeze will, as a protective measure, be permitted to hold TCLP wastes.

Safety-Kleen's solvent cycle is essentially a closed loop, moving from the service center to the customer, from the customer to the service center, from the service center to the recycle facility and then from the recycle center back to the service center. The small quantities of residue remaining in the storage tanks at the service centers and after distillation of the used solvent at Safety-Kleen's solvent recycling facilities are disposed of in accordance with applicable laws and regulations.

This closed loop supplies Safety-Kleen with most of its solvent requirements; the resultant stabilized cost benefits are passed on to its customers. Ownership of the solvent remains with Safety-Kleen; the service center managers are accountable for the quantities of clean and used solvents handled by their branch operations. The service center is basically a temporary storage and transfer facility. By FDER definition, however, these centers are considered to be the waste generator.



ATTACHMENT I.D.3

WASTE TYPE



ATTACHMENT I.D.3-1

SAFETY-KLEEN CORP. FACILITY
BOYNTON BEACH, FLORIDA

Waste Type	Process Code(s)	Estimated Annual Amounts (Tons)	Waste Codes
Spent Mineral Spirits	S01 S02	993	D001 and Codes Listed in Note Below
Dumpster Sediment	S01	Included Above	D001 and Codes Listed in Note Below
Tank Bottoms	S01	Included Above	D001 and Codes Listed in Note Below
Spent Ethylene Glycol	S01	5,000	Codes Listed in Note Below
Spent Immersion Cleaner (Old Formula)	S01	31	F002, F004, and Codes Listed in Note Below
(New Formula)	S01	Included Above	Codes Listed in Note Below
Dry Cleaning Waste	S01	350	D001 or F002 and Codes Listed in Note Below
Paint Waste	S01	50	D001, F003, F005 and Codes Listed in Note Below

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

PART II A
GENERAL

ATTACHMENT II.A.1(a)

TOPOGRAPHIC MAP

FDER requires submission of a topographic map showing a distance of 1,000 feet around the waste management area and having a scale of one inch equals 200 feet. Contours must be on the map with intervals sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. Because this is a small site, multiple maps were created to display required information in a legible format. Map figure numbers are referenced for the following FDER requirements:

1. Map scale and date

All maps have a scale and dated indicated.

2. 100-year floodplain area

Figure II.A.1(a)-1 shows the complete 100-year floodplain map for the area as delineated in the Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency (panels 4 of 5 and 5 of 5).

3. Orientation of the map

All maps show orientation.

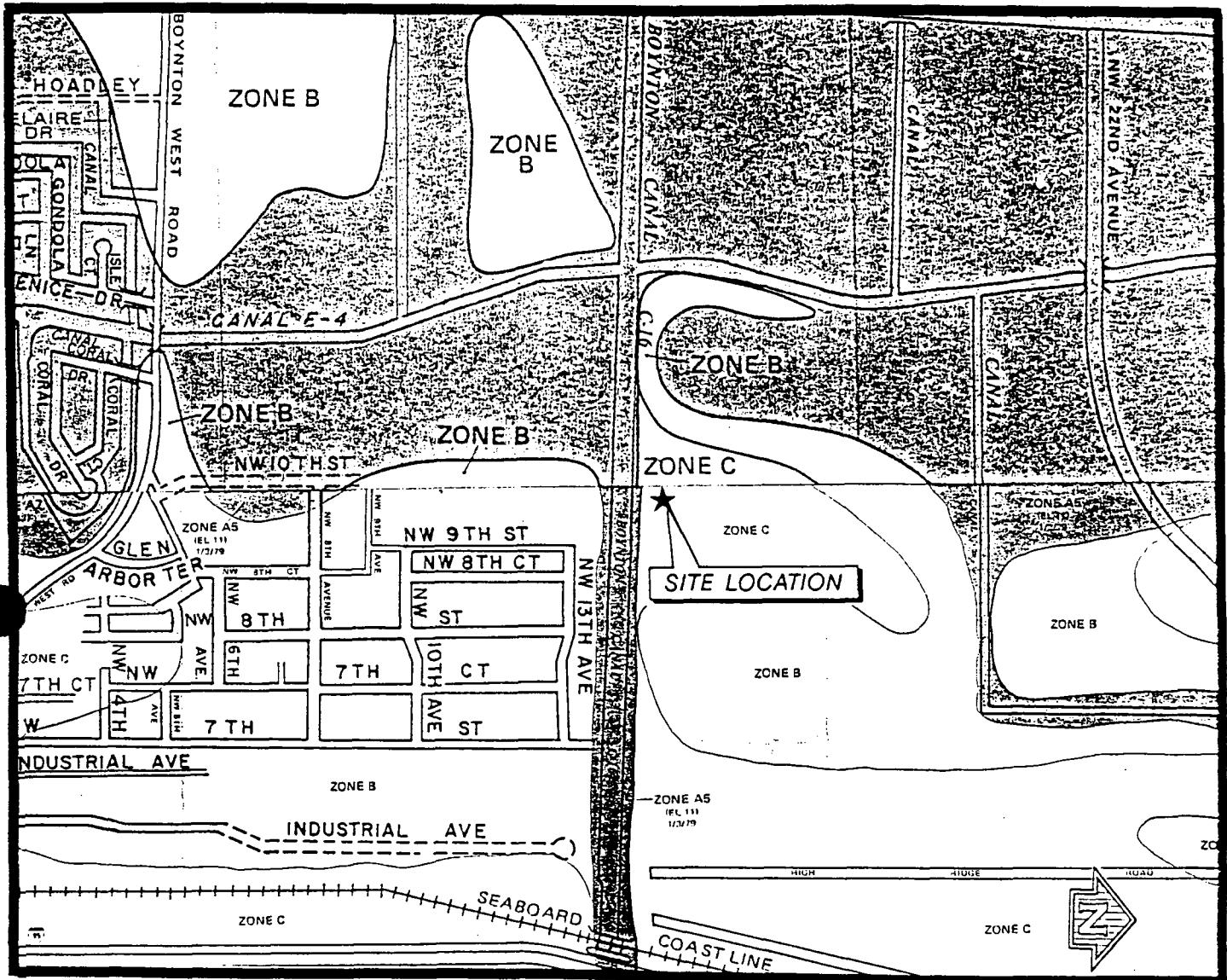
4. Access control (fences, gates, etc.)

Figure II.A.1(a)-2 shows access control features.

5. Injection and withdrawal wells both onsite and offsite

There are no injection or withdrawal wells onsite. The area included in the well inventory is shown by a one-quarter mile area surrounding the site. The area included in the well inventory is shown in Figure II.A.1(a)-3 and the inventory in Table II.A.1(a)-1.

Figure II.A.1(a)-1
Flood Map
Safety-Kleen Corp. Facility
Boynton Beach, Florida



500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations* With
Date of Identification
e.g., 12/2/74

100-Year Flood Boundary

500-Year Flood Boundary

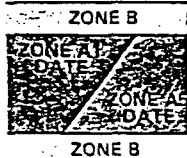
Base Flood Elevation Line
With Elevation In Feet**

Base Flood Elevation in Feet
Where Uniform Within Zone**

Elevation Reference Mark

Zone D Boundary

River Mile



513

(EL 987)

RM7X

M1.5

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE

EXPLANATION

- A Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
- A0 Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
- AH Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
- A1-A30 Areas of 100-year flood; base flood elevations and flood hazard factors determined.
- A99 Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
- B Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)

- C Areas of minimal flooding. (No shading)
- D Areas of undetermined, but possible, flood hazards.
- V Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
- V1-V30 Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

APPROXIMATE SCALE

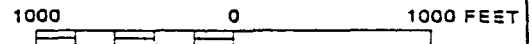


Figure II.A.1(a)-2
Access Control Features
 Safety-Kleen Corp. Facility
 Boynton Beach, Florida

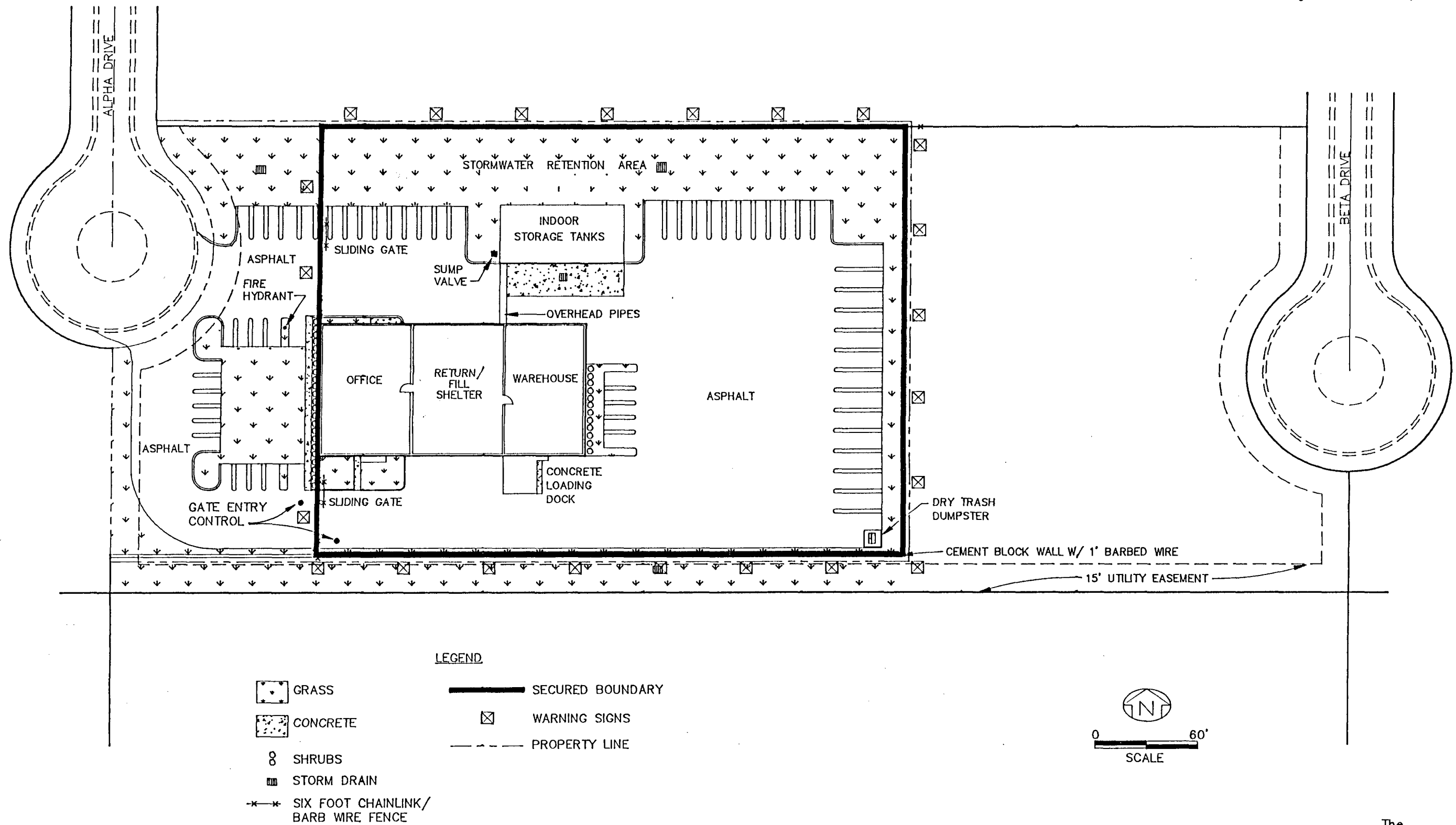
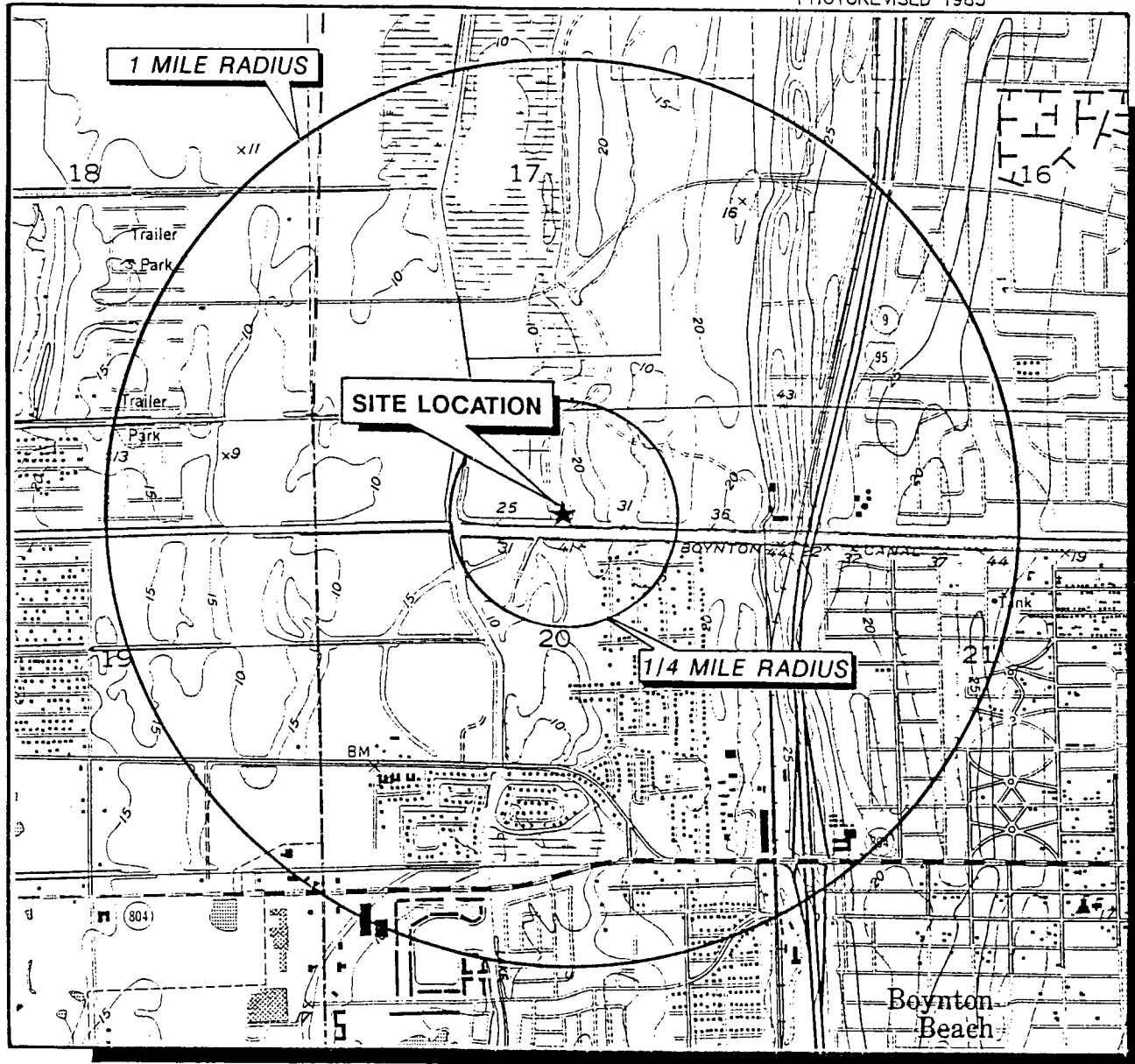


Figure II.A.1(a)-3 Well Inventory Safety-Kleen Corp. Facility Boynton Beach, Florida

LAKE WORTH
FLORIDA-PALM BEACH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC-BATHYMETRIC)
PHOTOREVISED 1983



R. 43 E.

0 2000
FEET



QUADRANGLE LOCATION



The
ERM
Group

TABLE II.A.1(a)-1

**WELL PERMIT
SAFETY-KLEEN CORP. FACILITY
BOYNTON BEACH, FLORIDA**

Str	Owner Name	Well Type	Well Depth	Well Diameter	Case Depth	Permit No.
000	Allan Murray Nursery Inc.	Agricultural	75	2	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	75	2	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	70	6	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	86	6	NA	50-00103-W
000	Allan Murray Nursery Inc.	Agricultural	75	6	NA	50-00103-W
184543	Boynton Nurseries	Agricultural	94	8	NA	50-00145-W
04543	Manalapan, Town of	PWS	206	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	206	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	114	8	NA	50-00506-W
04543	Manalapan, Town of	PWS	57	6	NA	50-00506-W
04543	Manalapan, Town of	PWS	62	6	NA	50-00506-W
04543	Manalapan, Town of	PWS	75	12	NA	50-00506-W
04543	Manalapan, Town of	PWS	75	12	NA	50-00506-W
174543	Motorola, Inc.	Landscape	90	4	NA	50-01194-W
164543	Quantum Property Owners'	Commercial	NA	NA	NA	50-01685-W
000	N.C.I. Corporation	Golf Course	NA	NA	NA	50-01830-W

Information provided by South Florida Water Management District

6. Building and other structures (recreational areas, access and internal roads, storm, sanitary and process sewerage systems, fire control facilities, etc.). Refer to Figures II.A.1(a)-4 and II.A.1(a)-5.

7. Contours sufficient to show surface water flow
Contours for the facility are shown in Figure II.A.1(a)-6.

8. Loading and unloading areas
Figure II.A.1(a)-7 shows loading and unloading areas in relation to the waste management areas.

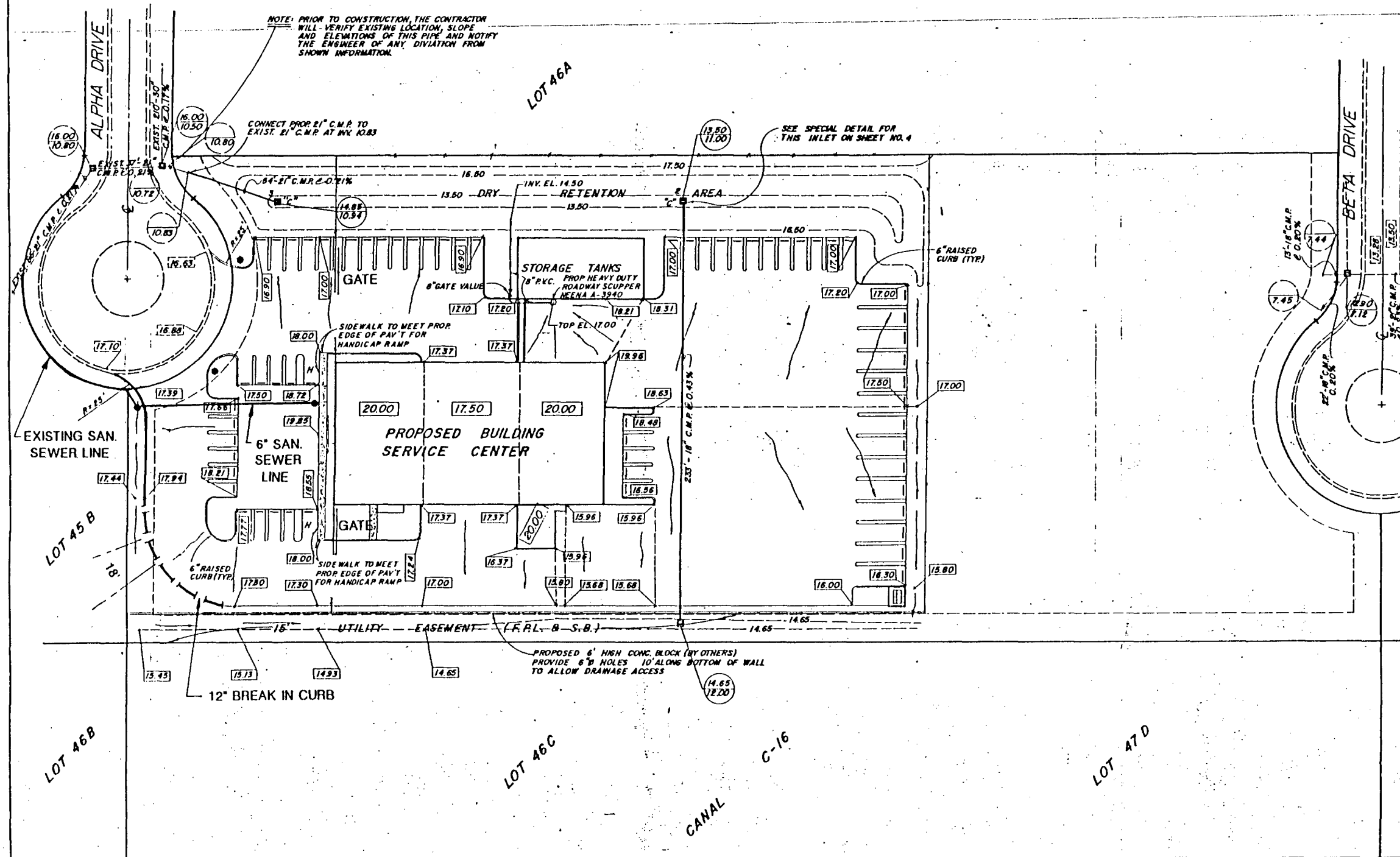
9. Drainage or flood control barriers
The facility has formal drainage controls. The site is not located in the 100-year floodplain, as shown in Figure II.A.1(a)-1. Figure II.A.1(a)-4 shows the drainage controls.

10. Hazardous waste units
Figure II.A.1(a)-2 shows hazardous waste management units.

11. Run-off control system
Stormwater run-off controls for the facility are illustrated in Figure II.A.1(a)-4. Stormwater originating from the service center building is channeled through roof gutters and onto the pavement.

Surface run-off from the southern portion of the property is directed southward under the concrete block wall by gravity and onto the utility easements. Excess surface run-off water not percolating into the subsurface is collected in the southern storm inlet and routed to the north east storm inlet by gravity through an 18-inch corrugated metal pipe (CMP). The northeast storm inlet (#2) is constructed with a

Figure II.A.1(a)-4
Building and Other Structures
Safety-Kleen Corp. Facility
Boynton Beach, Florida

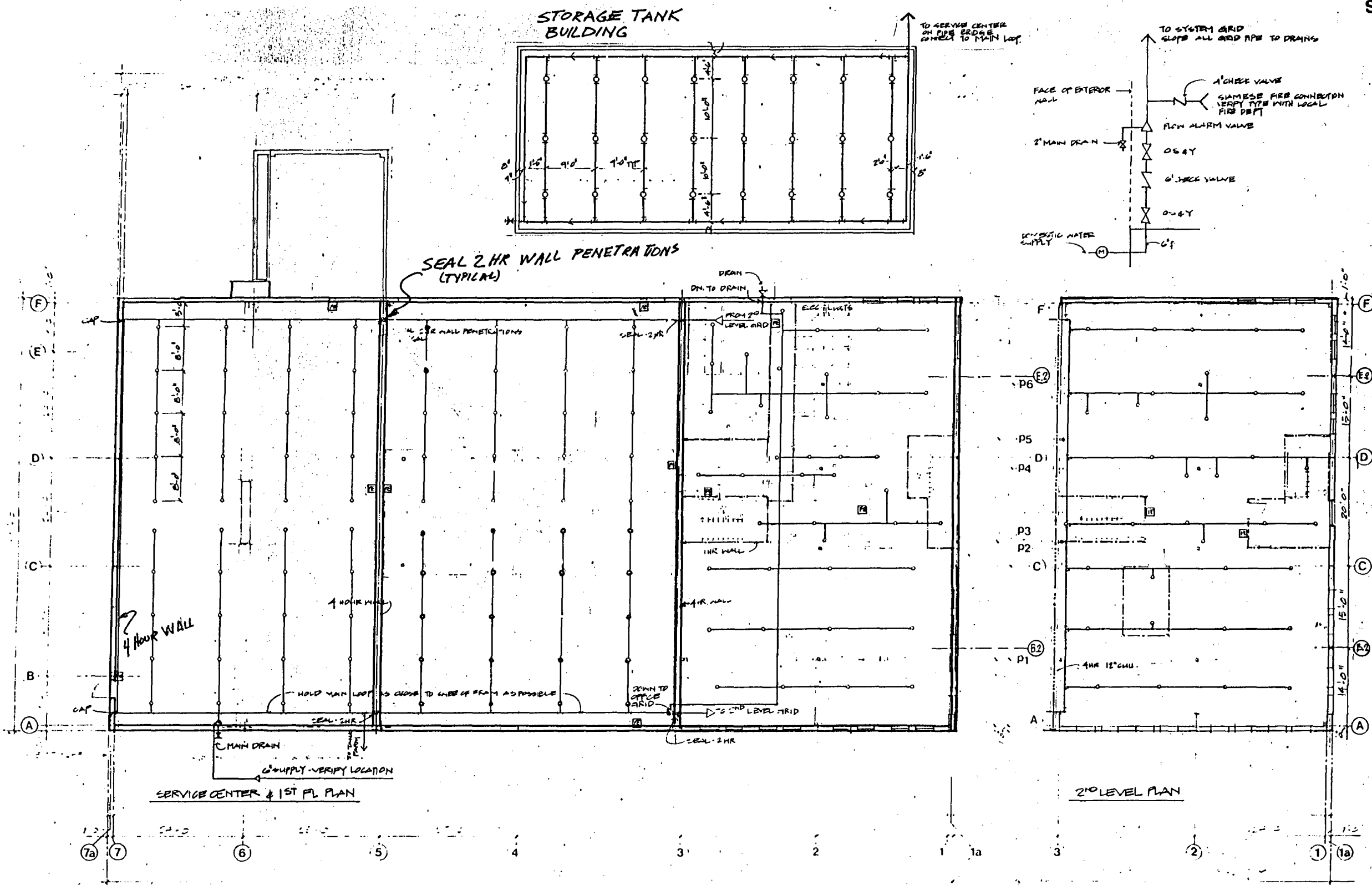


- NOTES:
1. THE MINIMUM FINISH FLOOR ELEVATION FOR ANY RESIDENTIAL STRUCTURE SHALL BE SET 1' OR ABOVE ELEVATION 80.00 M.S.L. WHICH IS ABOVE THE PROJECTED FLOOD STAGE FROM BY THE ONE IN ONE HUNDRED YEAR FREQUENCY STORM. (SEE DRAINAGE AREA MAP).
 2. ALL DIMENSIONS SHOWN ON THESE DRAWINGS ARE SCALED DISTANCES. THE CONTRACTOR SHALL CONFIRM ALL MEASUREMENTS IN THE FIELD AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCY WITH THE DRAWINGS PRIOR TO PERFORMING THE WORK. ALL QUANTITIES SHALL BE PAID ON THE BASIS OF FIELD MEASUREMENTS OF COMPLETED WORK.
 3. C.M.P. MEANS CORRUGATED STEEL PIPE BITUMASTIC COATED.
 4. ALL METAL PIPE TO BE INSTALLED JOINT FREE. ANY NECESSARY JOINTS ARE TO BE W/RE USING A 12" WIDE BAND WITH MASTIC OR NEOPRENE CASSET PROVIDING WATER TIGHT JOINT.
 5. ALL PAVING AND DRAINAGE WORK TO BE CONSTRUCTED IN FULL ACCORDANCE WITH CITY OF BOYNTON BEACH SUBDIVISION AND PLATTING REGULATION ORD. NO. 77-36.
 6. ALL LOTS, ROADWAYS AND BORROW AREAS SHALL BE STRIPPED OF ALL DILIVERIOUS (INCLUDE-ABLE) MATERIALS AND MATERIALS SHALL BE DISPOSED WITHIN THE SITE.
 7. ALL GRADING OF STREETS, INCLUDING THE REMOVAL OF ALL MATERIALS, AND THE FINISHING OF ALL SHOULDER, SUB-GRADE PREPARATION, SHOULDER AND BACKFILLS, IN ACCORDANCE WITH THE TYPICAL SECTIONS SHOWN HEREIN SHALL BE INCLUDED IN THE BID PRICE FOR PAYING.
 8. ANY EXISTING ROADWAY AND/OR UTILITY THAT IS DAMAGED BY THE CONTRACTOR SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.
 9. ANY POCKET IS TO BE REMOVED COMPLETELY FROM THE CENTERLINE TO 10' BEHIND THE SIDE EDGE OF SHOULDER.
 10. ANY GROUND ENCOUNTERED TO BE REMOVED WITHIN THE ROADWAY 1.0' BELOW SUBGRADE TO INSIDE SIDE EDGE OF SHOULDER.
 11. THE CITY OF BOYNTON BEACH SUBDIVISION AND PLATTING REGULATION ORD. NO. 77-36 AS AMENDED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH SHALL GOVERN EXCEPT AS NOTED ON THESE PLANS.
 12. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATION OF EVERY KIND THAT WILL BE BENEATH THE PAVEMENT CURRENTLY TO BE CONSTRUCTED SHALL BE INSTALLED PRIOR TO THE COMPLETION OF SUBGRADE.
 13. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL PIPE, PIPE BANDS, DRAINAGE STRUCTURES, GRATES, FRAMES AND COVERS.
 14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN ON THESE DRAWINGS AND SHALL VERIFY ALL ELEVATIONS BEFORE STARTING CONSTRUCTION.
 15. STOP SIGNS AND STREET SIGNS SHALL BE PROVIDED AT ALL INTERSECTIONS TO CONFORM TO CITY OF BOYNTON BEACH STANDARDS.
 16. STREET MARKINGS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND THE REQUIREMENTS OF THE CITY OF BOYNTON BEACH.

- LEGEND**
- 6" RAISED CURB
 - STORM INLET & LOCATION
 - STORM PIPE, SIZE & SLOPE
 - TOP ELEVATION
 - INVERT ELEVATION
 - PROPOSED PAVEMENT
 - PROPOSED ELEVATION
 - EXISTING ELEVATION
 - DIRECTION OF FLOW
 - STOP SIGN LOCATION
 - FINISH FLOOR ELEVATION
 - NOT PART OF THIS CONTRACT

PAVING AND DRAINAGE PLAN SAFETY-KLEEN SERVICE CENTER AT BOYNTON BEACH FOR SAFETY-KLEEN CORPORATION	
ROSSI AND MALAVASI ENGINEERS, INC. WEST PALM BEACH, FLORIDA	Date: AUGUST 1989 Designed: S. WEISS Drawn: S. HARTING Checked:
Scale: 1" = 30' Job No. 3366-89 Sheet No. 5 (405 (A))	Sheet: 2 of 6

Figure I.A.1(a)-5
Fire Fighting Sprinkler System
Safety-Kleen Corp. Facility
Boynton Beach, Florida



SCHEMATIC FIRE PROTECTION PLAN



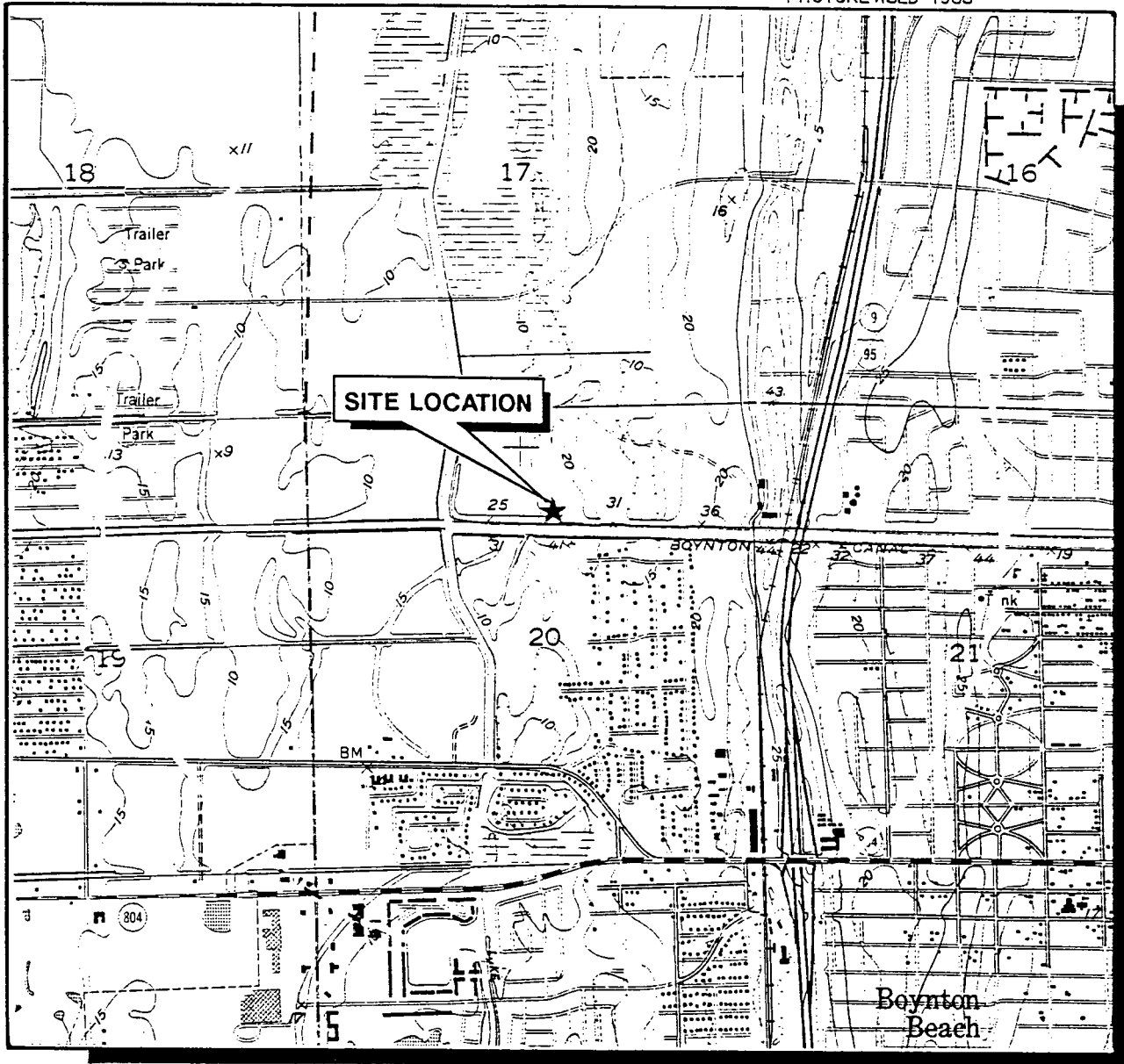
NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH HYDRAULIC CALCULATIONS.
2. THIS SPRINKLER LAYOUT IS SHOWING THE GENERAL LAYOUT OF TYPING AND SPRINKLER HEADS. CONTRACTOR SHALL VERIFY THE TYPE OF OCCUPANCY WITH THE OWNER.

2. PRE-EXTINGUISHING - DR. A.D.C. 5K # 4000
0 SPRINKLER HEAD LOCATION

SOURCE: PAUL LINNEY AND ASSOCIATES, 10/18/89

Figure II.A.1(a)-6 **Surface Water Flow** **Safety-Kleen Corp. Facility** **Boynton Beach, Florida**

LAKE WORTH
 FLORIDA-PALM BEACH CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC-BATHYMETRIC)
 PHOTOREVISED 1983



0 2000
 FEET



QUADRANGLE LOCATION



The
ERM
 Group®

12-inch opening on the bottom followed by three cubic feet of 0.75-inch washed rock.

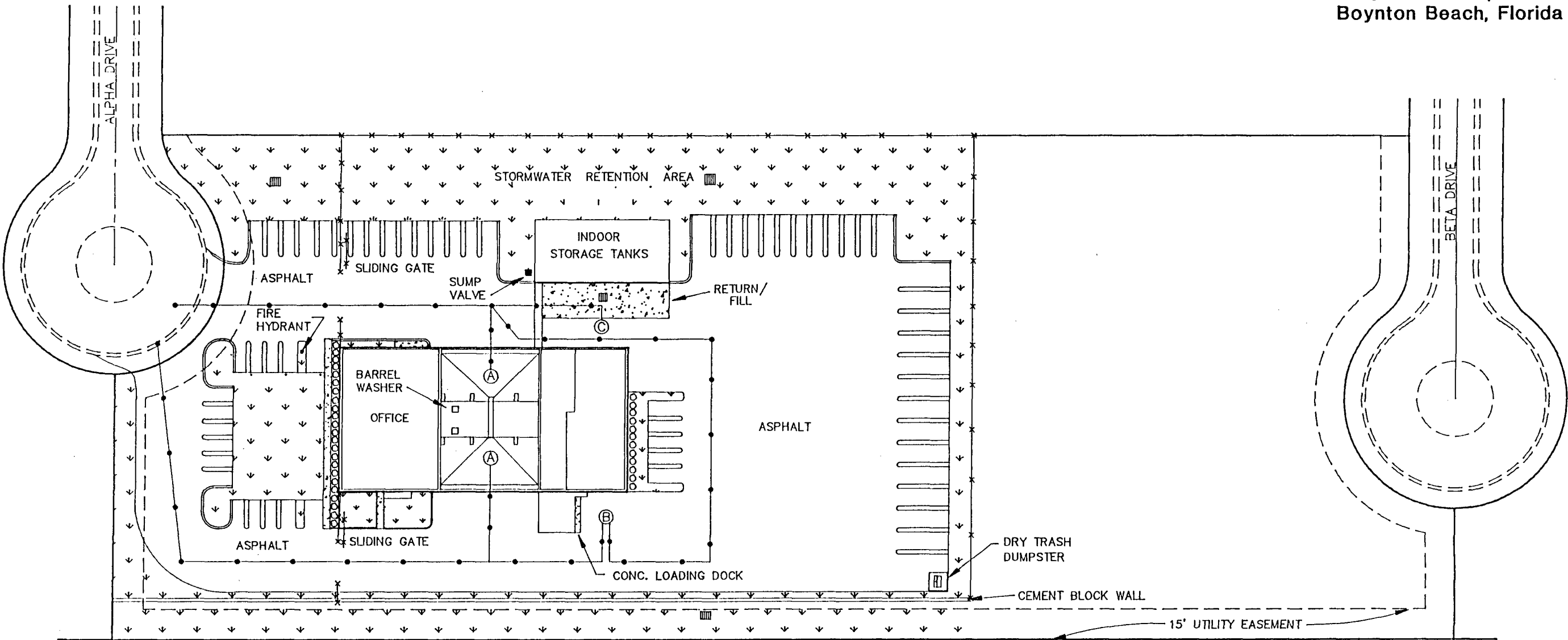
Surface run-off from the northern portion of the property is directed toward the dry retention area by gravity. Excess stormwater collected in this area overflows into the northwest storm inlet and subsequently to an existing stormwater structure.

Stormwater run-off from the western portion of the property flows west through 12-inch openings in the 6-inch high curb and subsequently percolates into the subsurface (grass area) or flows into the utility easement. Similarly, run-off predominantly flowing eastward percolates into the subsurface (grass area) or flows into the utility easement or stormwater retention area.




12. Traffic pattern and loading/unloading areas

Figure II.A.1(a)-7 shows the traffic pattern and loading/unloading areas. Additional details regarding traffic patterns are in Attachment II.A.1(c).

Figure II.A.1(a)-7
 Truck Traffic Patterns and Loading/
 Unloading Areas of Hazardous Waste
 Safety-Kleen Corp. Facility
 Boynton Beach, Florida



LEGEND

- | | |
|---|---|
|  GRASS | Ⓐ MINERAL SPIRIT DRUM DUMP/BARREL WASH/REFILL |
|  CONCRETE | Ⓑ LOADING AND UNLOADING OF DRUMS CONTAINING SOLVENT FROM TRUCKS AND LOCAL AREA VANS |
| ⌘ SHRUBS | Ⓒ LOADING AND UNLOADING OF MINERAL SPIRITS FROM TANKER TRUCKS |
|  STORM DRAIN | —●— ENTRANCE/EXIT ROUTE |
| —x— 6 FOOT CHAINLINK/ BARB WIRE FENCE | |

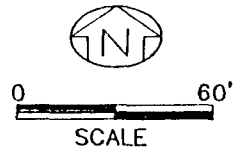
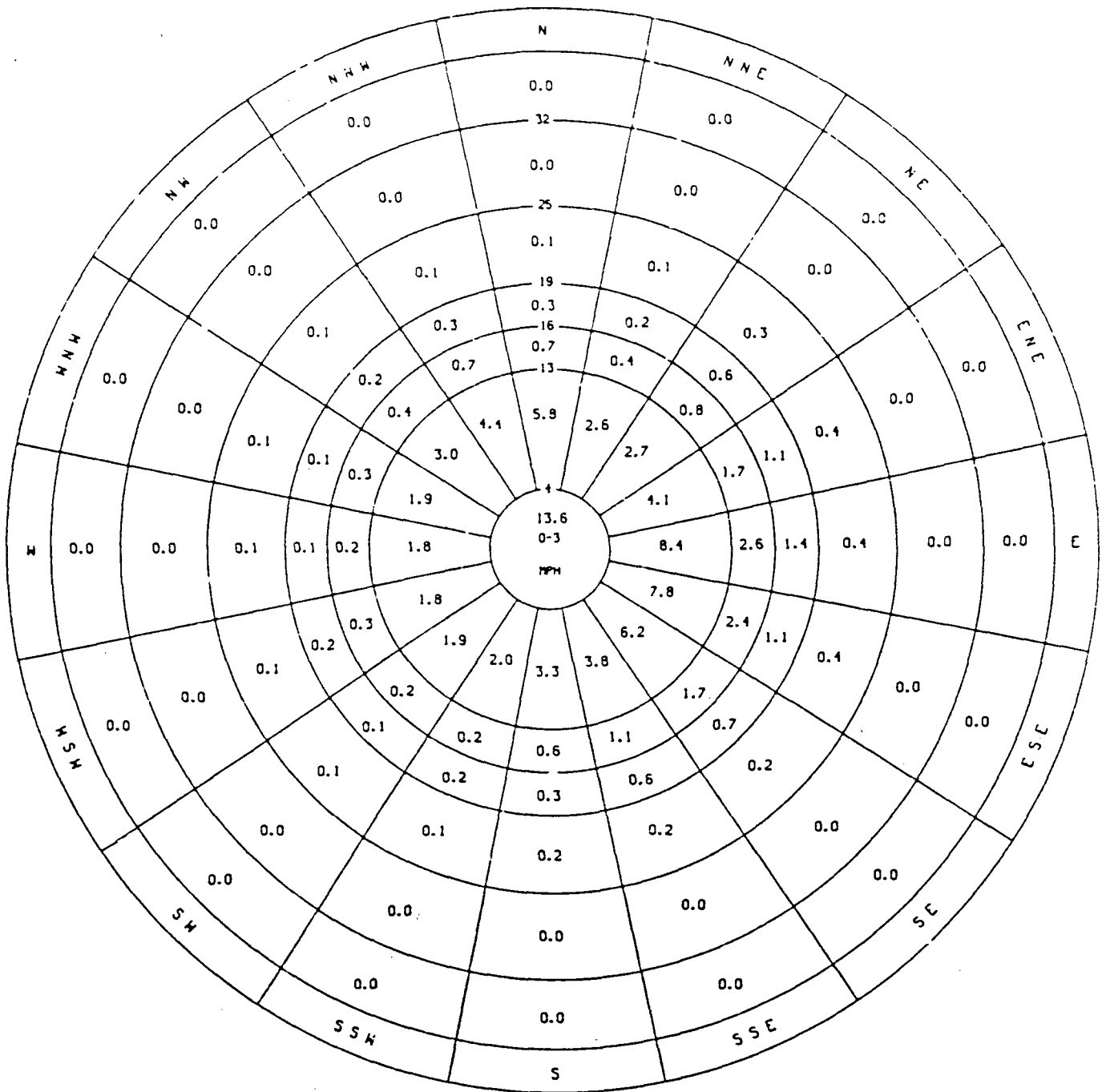


Figure II.A.1(b)-1
Wind Rose
Safety-Kleen Corp. Facility
Boynton Beach, Florida



ATTACHMENT II.A.1(c)
TRAFFIC INFORMATION

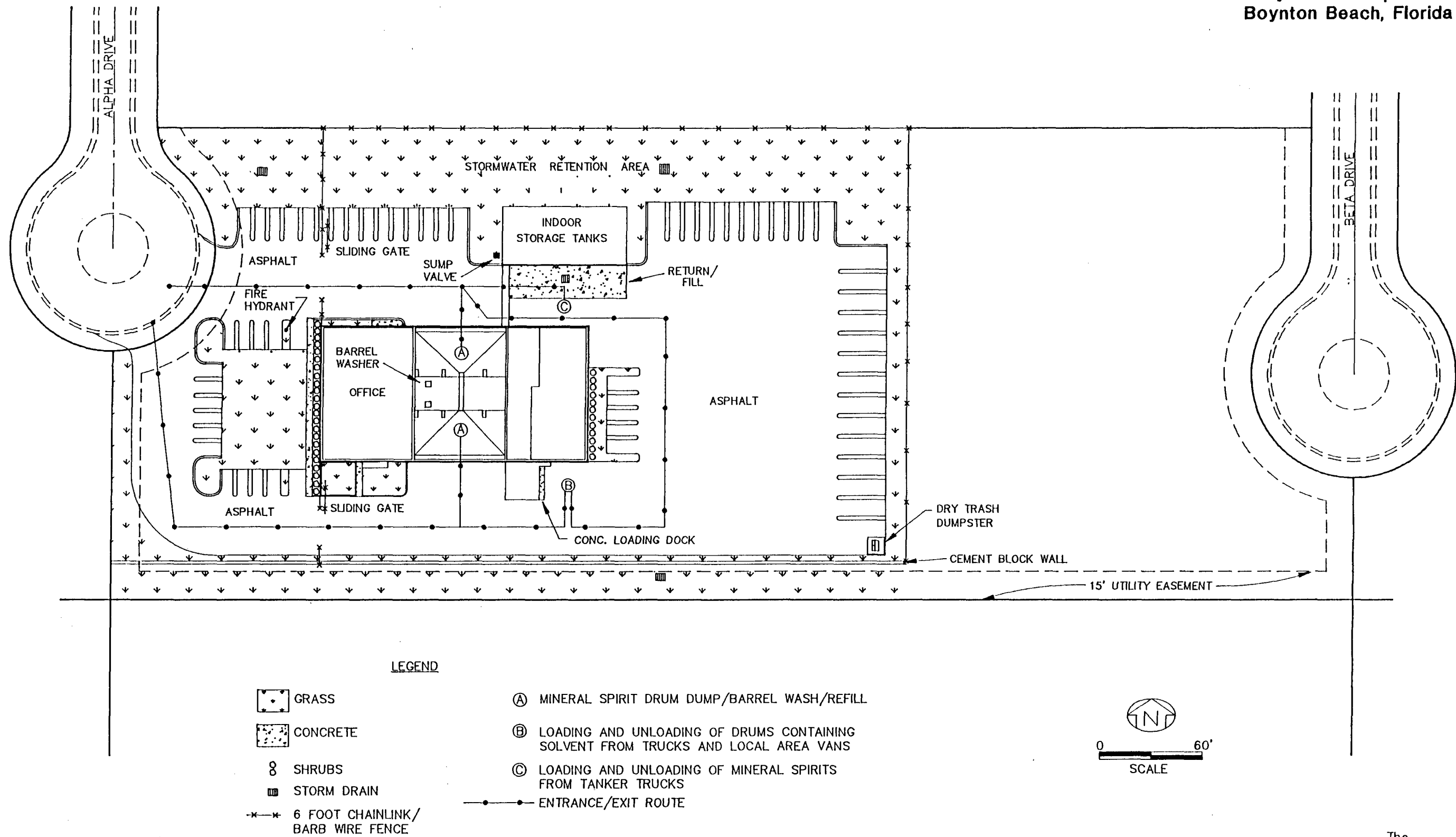
ATTACHMENT II.A.1(c)

TRAFFIC INFORMATION

The facility layout and traffic patterns are illustrated in Figure II.A.1(c).

The nonbuilding areas of the facility are paved with asphalt, concrete, or gravel as noted on the site plan (Figure II.A.1(c)-1). The stormwater retention area is vegetated with grass. The majority of the vehicular traffic (step side and one-ton box trucks) and loading/unloading operations occur at and near the return and fill area A and it is paved with asphalt and concrete (Figure II.A.1(c)-1). Approximately once per week a tractor trailer brings fresh drummed solvents and removes used drummed solvents for transfer to the recycle facility. This truck backs up to the eastern side of the concrete dock, located on the southern side of the facility in area B to load and unload drums. Congress Avenue is the major access road to the facility. The access road is designed in accordance with engineering criteria appropriate for sustaining the traffic volume and loading for the industrial activities in this area. The vans that daily travel the routes between the service center and its customers use the two-lane road within the industrial park. The trucks dispatched from the recycle center to deliver and pick up fresh and used solvents perform these activities at the aboveground tank area C approximately once per week. Traffic from this facility is not expected to have a major effect on local traffic conditions. Figure II.A.1(c)-2 presents anticipated 1987 average daily traffic counts for the entire region.

Figure II.A.1(c)-1
Truck Traffic Patterns and Loading/
Unloading Areas of Hazardous Waste
Safety-Kleen Corp. Facility
Boynton Beach, Florida



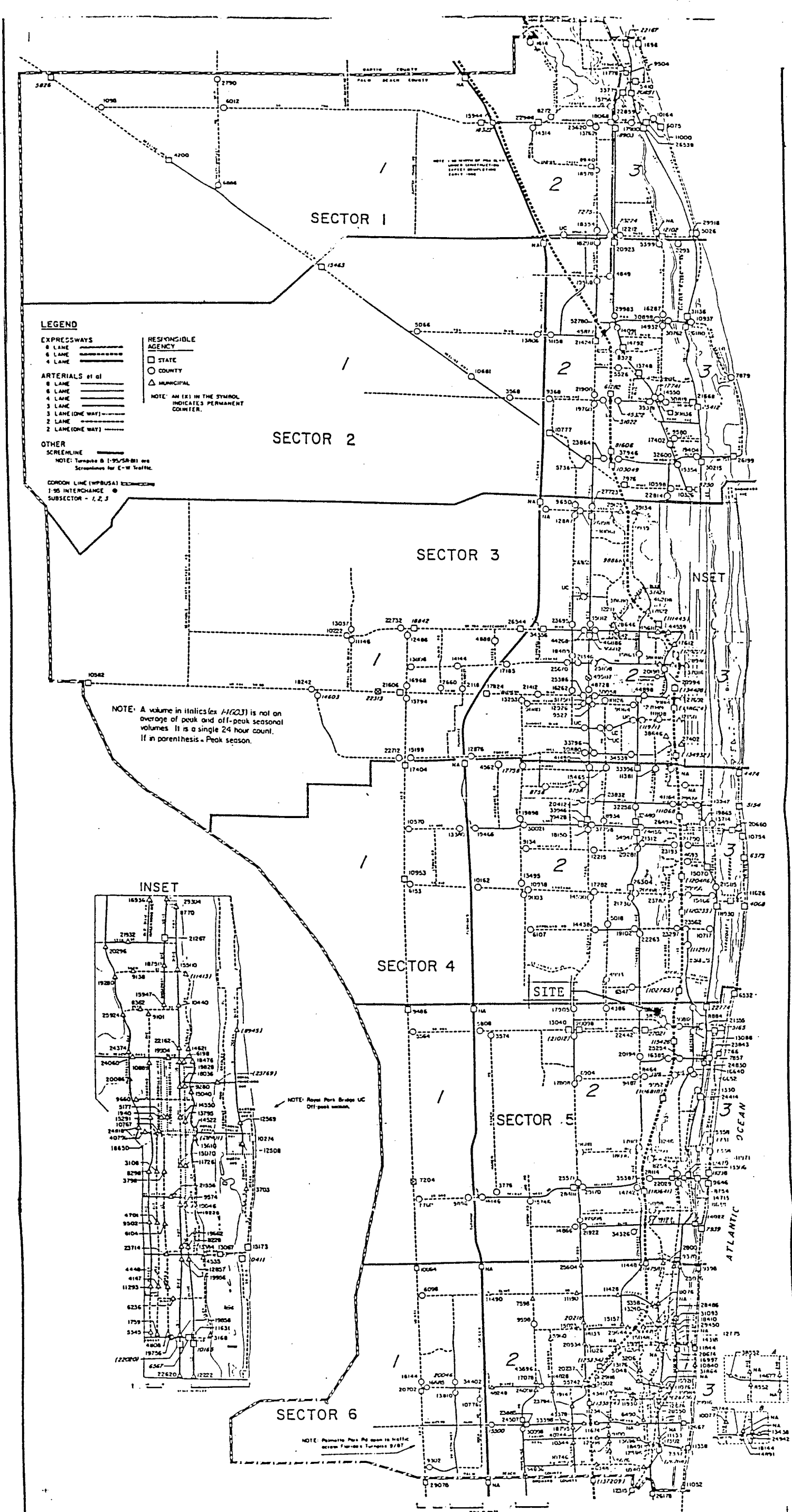


Figure II.A.1(c)-2
Traffic Volumes
Safety-Kleen Corp. Facility
Boynton Beach, Florida

ATTACHMENT II.A.2
FINANCIAL RESPONSIBILITY INFORMATION

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. National Union Fire Insurance Company (the "Insurer") of Pittsburgh, PA hereby certifies that it has issued liability insurance covering bodily injury and property damage to Safety-Kleen Corp., (the "Insured"), of 777 Big Timber Road, Elgin, Illinois 60123 in connection with the Insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147, as adopted by reference in Section 17-30.18, Florida Administrative Code (FAC). The coverage applies at:

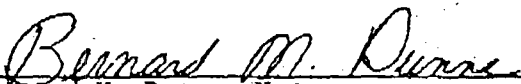
(SEE ATTACHED LIST) (FLORIDA)

for sudden and nonsudden accidental occurrences. The amounts of liability are \$4 million per each occurrence with annual aggregate of \$8 million, exclusive of legal defense costs. The coverage is provided under policy number RMGL2498750 issued on October 1, 1990. The effective date of said policy is October 1, 1990.

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

- (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.
- (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f) as adopted by reference in Section 17-30.18, FAC.
- (c) Whenever requested by the Secretary of the Florida Department of Environmental Regulation (FDER), the Insurer agrees to furnish to the Secretary a signed duplicate original of the policy and all endorsements.
- (d) Cancellation of the insurance, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Secretary of the FDER.
- (e) Any other termination of the insurance (e.g., expiration, non-renewal) will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Secretary of the FDER.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151(j), as adopted by reference in Section 17-30.18, FAC, as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines Insurer, in one or more states including Florida.


Bernard M. Dunne, Manager
Authorized Representative
National Union Fire Insurance Company
500 West Madison
Chicago, IL 60606

Date Printed: 10/16/90

STATE OF FLORIDA

<u>EPA/DER I.D. NO.</u>	<u>NAME</u>	<u>ADDRESS</u>
FLD 097837983	Safety-Kleen Corp.	505 Plumosa Dr. Altamonte Springs, FL 32701
FLD 984167791	Safety-Kleen Corp.	Lot 46B Quantum Industrial Park Bcynton Beach, FL
FLD 980847214	Safety-Kleen Corp.	161 Industrial Loop South Orange Park, FL 32073
FLD 980840086	Safety-Kleen Corp.	7875 NW 54th Street Miami, FL 33166
FLD 984171694	Safety-Kleen Corp.	E. of NW 89th Ave. & NW 96th St. Medley, FL
FLD 000776716	Safety-Kleen Corp.	19200 Peachland Blvd. Port Charlotte, FL 33949
FLD 000776773	Safety-Kleen Corp.	3082 W. Tharpe St. (Rear) Tallahassee, FL 32303
FLD 982133159	Safety-Kleen Corp.	Entrepot Blvd. Airport Ind. Park Tallahassee, FL 32303
FLD 980847271	Safety-Kleen Corp.	5809 24th Avenue South Tampa, FL 33619

ARTHUR ANDERSEN & Co.

CHICAGO, ILLINOIS

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To Safety-Kleen Corp.:

We have audited, in accordance with generally accepted auditing standards, the consolidated financial statements of SAFETY-KLEEN CORP. (a Wisconsin corporation) AND SUBSIDIARIES (the "Company") for the fiscal years ended December 29, 1990, and December 30, 1989, and have issued our report thereon dated February 8, 1991. We have not performed any auditing procedures since that date.

At your request, we have read the letter dated March 20, 1991, from your chief financial officer to the Environmental Protection Agency ("EPA") and compared the data therein that are specified as having been derived from the audited consolidated financial statements for the year ended December 29, 1990, referred to above, with the corresponding amounts in those financial statements. In connection with this procedure, no matters came to our attention that caused us to believe that the specified data should be adjusted.

This report is furnished solely for the use of the Company and the EPA and should not be used for any other purpose.

Arthur Andersen & Co.

Chicago, Illinois,
March 27, 1991.

ARTHUR ANDERSEN & CO.

CHICAGO, ILLINOIS

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Board of Directors
and Shareholders of
Safety-Kleen Corp.:

We have audited the accompanying consolidated balance sheets of SAFETY-KLEEN CORP. (a Wisconsin corporation) AND SUBSIDIARIES as of December 29, 1990, and December 30, 1989, and the related consolidated statements of earnings, shareholders' equity and cash flows for each of the three fiscal years in the period ended December 29, 1990. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Safety-Kleen Corp. and Subsidiaries as of December 29, 1990, and December 30, 1989, and the results of their operations and their cash flows for each of the three fiscal years in the period ended December 29, 1990, in conformity with generally accepted accounting principles.

Arthur Andersen & Co.

Chicago, Illinois,
February 8, 1991.

STATE OF FLORIDA

HAZARDOUS WASTE FACILITY LETTER FROM CHIEF FINANCIAL OFFICER
TO DEMONSTRATE CLOSURE AND/OR POST-CLOSURE FINANCIAL ASSURANCE

_____, Secretary
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

I am the chief financial officer of Safety-Kleen Corp. located at
[Name and Address of Firm]
777 Big Timber Rd., Elgin, IL 60123

This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265, as adopted by reference in Section 17-30.180, Florida Administrative Code (F.A.C.).

(Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "NONE" in the space indicated. For each facility, include its EPA/DER Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.)

1. This firm is the owner or operator of the following facilities in the State of Florida for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265, as adopted by reference in Section 17-30.180, F.A.C. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

total per attached listing: closure, \$1,035,585; post-closure \$1,513,615

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, as adopted by reference in Section 17-30.180, F.A.C., the closure or post-closure care of the following facilities in the State of Florida owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:

none

3. In States other than Florida where EPA is administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this firm, as owner or operator or guarantor is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such test are shown for each facility:

Total per attached listing: closure, \$2,412,017; post-closure, \$555,819

4. In States other than Florida where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility:

Total per attached listing: closure, \$15,657,338; post-closure \$4,048,501

5. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265, or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:

none

6. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144 and/or Section 17-28.27(9), F.A.C. The current plugging and abandonment cost estimates as required by 40 CFR 144.62 and/or Section 17-28.27(9), F.A.C. are shown for each facility:

none

This firm is required [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on the Saturday closest to December 31. the
[Month, Day]

figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, ended December 29, 1991.

[Date]

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of §§264.143 or 264.145, or of paragraph (e)(1)(i) of §§265.143 or 265.145, as adopted by reference in Section 17-30.180, F.A.C., are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of §§264.143 or 264.145, or of paragraph (e)(1)(ii) of §§265.143 or 265.145, as adopted by reference in Section 17-30.180, F.A.C., are used.]

ALTERNATIVE I

N/A

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] \$ _____
 - *2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4] \$ _____
 - *3. Tangible net worth \$ _____
 - *4. Net worth \$ _____
 - *5. Current assets \$ _____
 - *6. Current liabilities \$ _____
 - *7. Net working capital [line 5 minus line 6] \$ _____
 - *8. The sum of net income plus depreciation, depletion, and amortization \$ _____
 - *9. Total assets in U.S. (required only if less than 90 percent of firm's assets are located in the U.S.) \$ _____
- | | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 10. Is line 3 at least \$10 million? | _____ | _____ |
| 11. Is line 3 at least 6 times line 1? | _____ | _____ |
| 12. Is line 7 at least 6 times line 1? | _____ | _____ |
| 13. Are at least 90 percent of firm's assets located in the U.S.? If not, complete line 14. | _____ | _____ |
| 14. Is line 9 at least 6 times line 1? | _____ | _____ |
| 15. Is line 2 divided by line 4 less than 2.0? | _____ | _____ |
| 16. Is line 8 divided by line 2 greater than 0.1? | _____ | _____ |
| 17. Is line 5 divided by line 6 greater than 1.5? | _____ | _____ |

PARAGRAPH #1

STATE OF FLORIDA

Casselberry (\$52,050)	(3-130-01) (0)	464 A Pulmosa Drive Casselberry, FL 32707	FLD 097837983
Sanford (\$52,050)	(3-130-01) (0)	North Star Business Park, Lot 10 Sanford, FL 32771	FLD 984171165
Delray Beach (\$207,159)	(3-097-01) (733,905)	16086 SW 4th Ave., Bldg. B Delray Beach, FL 33444	FLD 000776757
Boynton Beach (\$52,050)	(3-097-01) (0)	Lot 46B Boynton Beach Park of Commerce Boynton Beach, FL	Applied For
Orange Park (\$52,050)	(3-079-01) (0)	161 Industrial Loop South Orange Park, FL 32073	FLD 980847214
Miami (\$52,050)	(3-097-02) (0)	7875 NW 54th Street Miami, FL 33166	FLD 980840086
Medley (\$52,050)	(3-097-02) (0)	Palmetto Dr. & NW South River Dr. Medley, FL	Applied For
Port Charlotte (\$52,050)	(3-163-02) (0)	19200 Peachland Blvd. Bachman Blvd. Port Charlotte, FL 33949	FLD 000776716
Tallahassee (\$52,050)	(3-079-02) (40,600)	3082 West Tharpe Street (Rear) Tallahassee, FL 32303	FLD 000776773
Tallahassee (\$52,050)	(0)	Entrepot Blvd.-Airport Ind. Park Tallahassee, FL 32303	Applied For
Tampa (\$234,225)	(3-163-01) (739,110)	4701 North Manhattan Tampa, FL 33614	FLD 049557408
Tampa AC (\$125,751)	(0-007-50) (0)	5309 24th Avenue South Tampa, FL 33619	FLD 980847271
<u>\$ 1,035,585</u>	<u>\$ 1,513,615</u>		

Closure Post Closure

PARAGRAPH #2

None

PARAGRAPH #3 (See Transmittal Letter for Description)

STATE OF CALIFORNIA

El Monte (\$52,050)	(7-088-06) (0)	10625 Hickson Street Unit A El Monte, CA 91731	CAT 000613893
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Fresno (\$52,050)	(7-015-01) (0)	3561 S. Maple Street Fresno, CA 93725	CAD 066113465
Gardena (\$150,000)	(0) (7-088-04)	139 E. 157th Street Gardena, CA 90248	CAT 000613919
Highland (\$52,050)	(7-172-01) (0)	7979 Palm Ave., Unit E Highland, CA 92346	CAT 000613927
Los Alamitos (\$52,050)	(7-088-05) (0)	3876 Florista Street Los Alamitos, CA 90270	CAD 066177783
Los Angeles (\$52,050)	(7-088-02) (0)	2918 Worthen Avenue Los Angeles, CA 90039	CAT 000613935
Oakland (\$411,612)	(7-178-01) (0)	404 Market Street Oakland, CA 94607	CAD 053044053
Reedley Recycle Center (\$106,182) (61,419)		1000 South I Street Reedley, CA 93654	CAD 093459485
Rohnert Park (\$52,050)	(7-178-03) (0)	5750 Commerce Blvd. Rohnert Park, CA 94928	CAT 000613943
Rancho Cordova (\$52,050)	(7-157-01) (0)	2576 Mercantile Drive Rancho Cordova, CA 95670	CAT 000613950
Salida (\$52,050)	(7-185-01) (0)	5050 Salida Blvd. Salida, CA 95368	CAT 000613968
San Diego (\$52,050)	(7-175-01) (0)	6306 Federal Blvd. San Diego, CA 92114	CAD 080916968
Santa Ana (\$52,050)	(7-088-07) (0)	2120 South Yale Street Santa Ana, CA 92704	CAT 000613976
Santa Barbara (\$375,000)	(7-177-01) (0)	214 E. Montecito Street Santa Barbara, CA 93103	CAT 000613984
Goleta (\$52,050)	(7-177-01) (0)	5310 Overpass Road Goleta, CA 93103	CAD 981374077
Santa Clara (\$52,050) (\$332,000)	(7-178-02)	3461 Woodward Ave. Santa Clara, CA 95054	CAD 077187888
San Jose (\$52,050)	(7-178-02) (0)	1147 N. 10th Street San Jose, CA 95112	CAD 980817159
Sylmar (\$52,050)	(7-088-01) (0)	13024 Bradley Avenue Sylmar, CA 91342	CAT 000613992

STATE OF CONNECTICUT

Branford (\$52,050)	(2-112-01) (0)	11 Tipping Drive Branford, CT 06405	CTD 980667927
West Hartford (\$52,050) (40,600)	(2-070-01)	24 Brixton Street West Hartford, CT 06110	CTD 000845982

Plainsfield
(\$104,100) (0)

Community Avenue
Plainsfield, CT 06374

CTD 001156009

STATE OF IDAHO

Boise (1-183-08)
(\$52,050) (40,600)

514 E. 45th Street
Boise, ID 83704

IDD 000712026

Pocatello (1-183-28)
(\$52,050) (40,600)

2610 Garrettway
Pocatello, ID 83201

IDD 991281270

Boise (1-183-01)
(\$52,050) (0)

Supply Way and Gowan Road
Boise, ID 83705

IDD 981770498

STATE OF IOWA

Davenport (5-047-01)
(\$52,050) (0)

3035 West 73rd Street
Davenport, IA 52806

IAD 098027592

Grimes (5-053-21)
(\$52,050) (40,600)

5318 NW 111 Drive, RR #2
Grimes, IA 50111

IAD 083489773

Des Moines (5-053-01)
(\$52,050) (0)

4705 NE 22nd Street
Des Moines, IA 50317

IAD 981718000

Mason City (5-093-01)
(\$120,023) (0)
\$2,412,017 \$555,819

16 SW 11th Street
Mason City, IA 50401

IAD 000678326

Closure Post Closure

PARAGRAPH #4 (See Transmittal Letter for Description)

STATE OF ALABAMA

Dolomite (3-019-01)
(\$59,503) (0)

1002 Hoke Avenue
Dolomite, AL 35061

ALD 077640001

Gurley (3-019-02)
(\$52,050) (40,600)

201 Section Line Street
Gurley, AL 35748

ALD 000776807

Huntsville (0-007-49)
(\$142,237) (0)

Colemont Ind. Site
U.S. 72 East
Huntsville, AL

ALD 981028798

Montgomery (3-019-21)
(\$52,050) (0)

4815 N. Birmingham
Montgomery, AL 36308

ALT 020010997

Whistler (6-133-01)
(\$52,050) (0)

3023 Dials Street
Whistler, AL 36612

ALD 071951628

STATE OF ARIZONA

Phoenix (7-142-01)
(\$52,050) (40,600)

4401 E. University
Phoenix, AZ 85034

AZD 089308803

Tucson (7-142-02)
(\$52,050) (0)

4161 E. Tennessee
Tucson, AZ 85714

AZD 980892897

Chandler (7-142-01)
(\$52,050) (0)

Lot 42, Beck Avenue
Williams Field Rd. Ind. Park
Chandler, AZ 05224

AZD 981969504

STATE OF ARKANSAS

Little Rock (6-086-01)
(\$52,050) (40,600)

11727 Arch St. Pike
Little Rock, AR 72206

ARD 054575238

Fort Smith (6-063-01)
(\$52,050) (40,600)

2511 Johnson Street
Fort Smith, AR 72904

ARD 000709733

West Memphis (6-094-01)
(\$52,050) (0)

309 Mound City Road
Between I 55 and 40
West Memphis, AR 72301

ARD 056855232

STATE OF COLORADO

Commerce City (6-052-01)
(\$52,050) (0)

4980 Locust Street
Commerce City, CO 80022

COD 000716613

Englewood AC (6-052-02)
(\$171,765) (0)

2801 S. Tejon
Englewood, CO 80110

COD 000716621

Grand Junction (6-052-21)
(\$52,050) (0)

368 Bonny
Grand Junction, CO 81501

COT 090010851

Pueblo (6-052-04)
(\$52,050) (0)

2841 East Fourth Street
Pueblo, CO 81001

COD 000716639

Denver
(\$104,100) (0)

1345 Bayoud Avenue
Denver, CO 80223

COD 980954101

STATE OF GEORGIA

Columbus (3-106-01)
(\$52,050) (0)

5920 Coca Cola Blvd.
Columbus, GA 31909

GAD 000823096

Garden City (3-179-01)
(\$52,050) (0)

5217 Augusta Road
P.O. Box 7036
Garden City, GA 31408

GAD 000776781

Hapeville (3-013-01)
(\$52,050) (0)

3440 Lang Avenue
Hapeville, GA 30354

GAD 000823070

Morrow (3-013-01)
(\$52,050) (0)

South Lake Com. PK- Commercial Dr.
Morrow, GA 30260

GAD 981265424

Macon (3-106-21)
(\$52,050) (0)

6850 Hawkinsville Road
Macon, GA 31207

GAD 980709257

Norcross (3-013-02)
(\$170,000) (0)

480 S. Old Peachtree Road
Norcross, GA 30071

GAD 980842777

Ringgold (\$52,050)	(3-019-22) (0)	RR #5, Dietz Road Ringgold, GA 30736	GAD 980842835
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STATE OF ILLINOIS

Arlington Heights (\$52,050)	(5-034-03) (0)	306 Campus Drive Arlington Heights, IL 60004	ILD 000805929
Elgin Recycle Center (\$206,115) (2,236,900)		1500 E. Villa Street Elgin, IL 60120	ILD 000805911
Caseyville (\$165,000)	(5-160-02) (0)	20 Tucker Drive Caseyville, IL 62232	ILD 981097819
Chicago Plant (\$329,422)	(0)	1445 W. 42nd Street Chicago, IL 60609	ILD 005450697
Franklin Park (\$52,050)	(5-034-04) (0)	412 Domenic Court Franklin Park, IL 60131	ILD 000665869
Mokena (\$52,050)	(5-034-05) (0)	9631 West 194th Place Mokena, IL 60448	ILD 000665851
Pekin (\$74,916)	(5-136-01) (0)	RR #3 Pekin, IL 61554	ILD 093862811
Schaumburg (\$52,050)	(5-034-01) (0)	728 Morse Avenue Schaumburg, IL 60193	ILD 079749073
Urbana (\$52,050)	(5-033-01) (0)	500 Anthony Drive Urbana, IL 61801	ILD 981088388
Dolton (\$460,000)	(0-006-54) (0)	633 E. 138th St. P.O. Box 100 Dolton, IL 60419	ILD 980613913

STATE OF INDIANA

Evansville (\$52,050)	(5-060-01) (0)	4417 St. Joe Street Evansville, IN 47712	IND 000815894
Fort Wayne (\$54,271) (40,600)	(5-068-01)	2112 Production Road Ft. Wayne, IN 46808	IND 000715466
Indianapolis (\$52,050) (40,600)	(4-076-02)	8418-26 Brookville Road Indianapolis, IN 46239	IND 000815886
Portage (\$52,050) (40,600)	(5-034-06)	6050 Eagle Drive Portage, IN 46368	IND 000714428
South Bend (\$52,050) (40,600)	(5-082-01)	2217 Western Avenue South Bend, IN 46628	IND 000715474
Breslube USA (\$298,585) (0)		601 Riley Road E. Chicago, IN 46312	IND 077042034

STATE OF KANSAS

Kansas City (\$58,289)	(5-085-01) (0)	11565 K-32 Highway Kansas City, KS 66111	KSD 000687681
Dodge City (\$52,050)	(6-195-21) (0)	600 East Trail Dodge City, KS 67801	KSD 980686844
Wichita (\$63,311)	(40,600) (6-195-01)	1311 South Anna Wichita, KS 67209	KSD 000809723
Edwardsville (\$52,050)	(40,600) (5-085-01)	9317 Woodend Road Edwardsville, KS 66022	KSD 980973515
Bonner Springs (\$ 0)	(428,137) (5-085-01)	11565 K 32 Highway Bonner Springs, KS	KSD 000687681

STATE OF KENTUCKY

Ashland (\$52,050)	(4-075-01) (0)	1592 Wolohan Drive Ashland, KY 41101	KYD 000776724
Ashland (\$52,050)	(4-075-01) (0)	West Virginia & Kevin Aves. Ashland, KY 41105	KYD 981027451
Lexington (\$52,050)	(4-090-01) (0)	264 Big Run Road Lexington, KY 40503	KYD 020440459
Lexington (\$52,050)	(4-090-01) (0)	550 Blue Sky Parkway Lexington, KY 40509	KYD 981027469
Louisville (\$52,050)	(4-091-01) (0)	751 Grade Lane Louisville, KY 40213	KYD 091514653
New Castle (\$311,586)	(0-006-54) (0)	State Highway 146 New Castle, KY 40050	KYD 053348108

STATE OF LOUISIANA

Pineville (\$52,050)	(6-073-04) (0)	4200 Shreveport Highway Pineville, LA 71360	LAD 000757708
Tioga AC (\$171,765)	(6-073-04) (0)	518 Ryder Drive Pineville, LA 71360	LAD 981057441
Kenner (\$52,050)	(40,600) (6-115-01)	14 26th Street Kenner, LA 70062	LAD 089841902

STATE OF MAINE

Leeds (\$52,050)	(2-011-01) (0)	Route 202, RFD 3, Box 1990 Leeds, ME 04263	MED 980667810
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STATE OF MARYLAND

Baltimore (\$52,050)	(2-016-01) (0)	1448 Desoto Road Baltimore, MD 21230	MDD 981034291
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Glen Burnie (\$52,050)	(2-016-02) (40,600)	150 Penrod Court Section G & H Glen Burnie, MD 21061	MDD 000737106
Silver Springs (\$52,050)	(2-058-01) (40,600)	12164 Tech Road Silver Springs, MD 20904-1980	MDD 000737395
Odenton (\$52,050)	(2-016-01) (0)	Betson Court Odenton, MD 21230	MDD 982678385

STATE OF MASSACHUSETTS

Bridgewater (\$52,050)	(2-022-03) (0)	128 Elm Street Bridgewater, MA 02324	MAD 000846006
Marlborough (\$52,050)	(2-022-02) (0)	50A Brigham Marlborough, MA 01752	MAD 088978143
Salisbury (\$52,050)	(2-022-01) (0)	189A Willow Street Salisbury, MA 01950	MAD 060095569
West Brookfield (\$52,050)	(2-184-01) (0)	P.O. Box C Route 9 West Brookfield, MA 01585	MAD 096287354

STATE OF MICHIGAN

Saginaw (\$84,253)	(4-059-01) (0)	3899 Wolf Road Saginaw, MI 48601	MID 981000607
Grand Rapids (\$84,253)	(5-061-01) (0)	2700 Mullins Grand Rapids, MI 49505	MID 981000615
Mt. Clemens (\$62,460)	(4-055-01) (0)	44043 North Grosebeck Mt. Clemens, MI 48043	MID 981091838
Pontiac (\$62,460)	(4-055-02) (0)	751 Orchard Lake Road Pontiac, MI 48053	MID 000722686
Romulus (\$62,460)	(4-055-03) (0)	35201 Crane Road Romulus, MI 48174	MID 000772694
Mason (\$120,513)	(4-010-01) (0)	700 Zimmerman Road Mason, MI 48854	MID 981000359

STATE OF MINNESOTA

Cloquet (\$52,050)	(5-050-01) (0)	1302 18th Street Cloquet, MN 55720	MND 000686170
St. Paul (\$80,000)	(5-103-01) (0)	180 Ryan Drive St. Paul, MN 55117	MND 000823823
Blaine (\$52,050)	(5-103-01) (0)	Lot 1 and Hokanson Ind. Park Isanti St. NE Blaine, MN 55434	MND 981953045

Eagan AC (\$171,765)	(40,600)	(5-103-02)	3227 Terminal Drive Eagan, MN 55121	MND 981097884
Burnsville (\$52,050)	(0)	(5-103-02)	1401 Cliff Rd. Burnsville, MN 55337	MND 000686188

STATE OF MISSISSIPPI

Jackson (\$52,050)	(0)	(6-078-01)	120 Richardson Drive Jackson, MS 39209	MSD 000776765
Southhaven AC (\$171,765)	(0)	(0-007-44)	7217 Airways Avenue Southhaven, MS 38671	MSD 981030894

STATE OF MISSOURI

Blue Springs (\$179,721)	(0)	(5-085-02)	24016 East 40 Highway Blue Springs, MO 64015	MOD 000669077
Cape Girardeau (\$99,535)	(0)	(5-030-01)	Route 2, Box 549-D Cape Girardeau, MO 63701	MOD 000669051
Columbia (\$52,050)	(0)	(5-042-01)	610 Big Bear Blvd. Columbia, MO 65201	MOD 980971626
St. Charles (\$52,050)	(0)	(5-160-03)	4526 Towne Court, Lot #22 Harvestowne Industrial Park St. Charles, MO 63301	MOD 095486312
Springfield (\$104,310)	(0)	(6-193-02)	734 Northwest Bypass 66 Springfield, MO 65802	MOD 000669069
Independence AC (\$171,765)	(0)	(5-085-02)	901 Yuma Independence, MO 64056	MOD 980973564
Holnam/Safety-Kleen - Clarksville, MO (\$204,296)	(0)		Hwy. 79 North P.O. Box 456 Clarksville, MO 63336	MOD 029729688

STATE OF NEBRASKA

Gering (\$52,050)	(0)	(6-052-03)	RR 1, Box 15E Gering, NE 69341	NED 000687178
Grand Island (\$52,050)	(0)	(5-065-01)	Highway 281 South Behind Grand Island Dodge Grand Island, NE 68801	NED 000687186
Grand Island (\$52,050)	(0)	(5-065-01)	2700 W. 2nd Avenue Grand Island, NE 68801	NED
Omaha (\$52,050)	(0)	(5-127-01)	14564 Grover Street Omaha, NE 68144	NED 020185138
Omaha AC (\$195,621)	(0)	(5-127-01)	Lamont & 139th St. Omaha, NE 68144	NED 981495724

STATE OF NEVADA

North Las Vegas (\$52,050)	(7-087-01) (0)	1655 Stocker Street North Las Vegas, NV 89030	NVD 007096761
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STATE OF NEW MEXICO

Albuquerque (\$52,050)	(7-008-01) (40,600)	2720 Girard NE Albuquerque, NM 87107	NMD 000804294
Farmington (\$52,050)	(7-008-21) (40,600)	4200A Hawkins Road Farmington, NM 87401	NMD 980698849

STATE OF NEW YORK

Avon (\$52,050)	(2-028-02) (0)	1525 West Henrietta Road Avon, NY 14414	NYD 980753784
Colonie (\$52,050)	(2-004-01) (0)	Green Mountain Drive Colonie, NY 12110	APPLIED FOR
Congers (\$52,050)	(2-118-01) (0)	68 North Harrison Avenue Congers, NY 10920	NYD 000708164
Amityville (\$52,050)	(2-118-08) (0)	80 Seabro No. Amityville, NY 11701	NYD 000708198
Latham (\$52,050)	(2-004-01) (0)	72 Sicker Road Latham, NY 12110	NYD 000708206
Mattydale (\$52,050)	(2-187-01) (0)	Factory & Mitchell P.O. Box 56 Mattydale, NY 13211	NYD 000824581
Lackawanna (\$52,050)	(2-028-01) (0)	75 N. Gates Avenue P.O. Box A Lackawanna, NY 14218	NYD 981556541
Thornwood (\$52,050)	(2-118-05) (0)	9 Walnut Place Thornwood, NY 10594	NYD 000708172
Waverly (\$52,050)	(2-074-01) (0)	Route 34 North Road #1 Waverly, NY 14892	NYD 000708156
Woodside (\$52,050)	(2-118-06) (0)	58-05 52nd Avenue Woodside, NY 11377	NYD 980785760

STATE OF NORTH CAROLINA

Charlotte (\$78,100)	(3-031-01) (0)	2320 Yadkin Avenue Charlotte, NC 28205	NCD 079060059
Raleigh (\$52,050)	(3-171-01) (0)	Sommerville Industrial Building Route 3, 6225 Old State Road Raleigh, NC 27603	NCD 000776740

High Point AC (3-064-01)
(\$208,200) (0)

High Point Building, Inc.
Mendenhall Road
High Point, NC 27263

NCD 077840148

St. Pauls (3-031-02)
(\$78,100) (0)

Hwy. 301 North
St. Pauls, NC 28384

NCD 980846935

STATE OF NORTH DAKOTA

Fargo (1-183-03)
(\$52,050) (0)

1537-1/2 First Avenue South
Fargo, ND 58103

NDD 000716738

Bismarck (1-183-23)
(\$52,050) (0)

3704 Saratoga
Bismarck, ND 58501

NDD 980957070

STATE OF OHIO

Kent (4-040-03)
(\$170,651) (0)

4341 Mogadore Road
Kent, OH 44240

OHD 981099401

Brunswick (4-040-02)
(\$52,050) (40,600)

1169 Industrial Parkway
Brunswick, OH 44212

OHD 000720987

Hamilton (4-037-01)
(\$173,722) (0)

4579 Port Union Road
Hamilton, OH 45011

OHD 084750579

Hebron Recycle Center
(\$762,572) (0)

581 Milliken Drive SE
Hebron, OH 43025

OHD 980587364

Groveport (4-046-01)
(\$52,050) (0)

4465 Marketing Place
Groveport, OH 43125

OHD 981000664

Oregon (4-190-01)
(\$173,920) (0)

161 North Lallendorf
Oregon, OH 43616

OHD 000721001

Tallmadge (4-040-03)
(\$131,117) (0)

2929 Mogadore Road
Tallmadge, OH 44278

OHD 000720136

Warrensville Heights (4-040-01)
(\$52,050) (40,600)

26309 Miles Road, Unit M1
Warrensville Heights, OH 44128

OHD 000810275

Tipp City (4-037-02)
(\$52,050) (0)

4205 Lisa Drive
Tipp City, OH 45371

OHD 980683155

Toledo (4-190-01)
(\$52,050) (0)

5148 Tractor Road
Toledo, OH 43616

OHD 981097876

Youngstown (4-196-01)
(\$52,050) (0)

1171-1/2 N. Meridian Road
Youngstown, OH 44509

OHD 980990162

Sharonville (4-037-01)
(\$52,050) (0)

11919 Tramway Drive
Sharonville, OH 45241

OHD 981187313

STATE OF OKLAHOMA

Wheatland (6-124-01)
(\$52,050) (0)

7825 State Hwy. 152
Wheatland, OK 73097-0128

OKD 980878474

Tulsa	(6-193-01)	16215 East Marshall Street	ORD 000763821
(\$74,127) (40,600)		Tulsa, OK 74138	

STATE OF OREGON

Springfield	(7-054-01)	550 Shelley Street	ORD 000712067
(\$52,050) (40,600)		Space C & D Springfield, OR 97477	
Clackamas	(7-148-01)	11843 SE Highway 212	ORD 092895481
(\$52,050) (40,600)		Clackamas, OR 97015	
Clackamas AC	(7-148-01)	16540 SE 130th Street	ORD 981766124
(\$124,413) (0)		Clackamas, OR 97015	

STATE OF PENNSYLVANIA

Kuhnsville	(2-007-01)	SEMA Building, Main Street	PAD 980552020
(\$171,765) (0)		Kuhnsville, PA 18104	
Clairton	(4-145-02)	670 Cochran Mill Road	PAD 000738815
(\$52,050) (0)		Clairton, PA 15025	
Erie	(4-057-01)	1606 Pittsburgh Avenue	PAD 086673407
(\$52,050) (0)		Erie, PA 16505	
Malvern	(2-139-02)	Rear 147 West King Street	PAD 099081812
(\$52,050) (0)		Malvern, PA 19355	
Athens	(2-074-01)	Industrial Park Rd.	PAD 987266673
(\$52,050) (0)		Rd 1 Box 19F Athens, PA 18810	
Wilkes Barre	(2-180-01)	Hanover Industrial Park	PAD 981737109
(\$52,050) (40,600)		600 Stewart Road	
PA 18706			Wilkes Barre,
Fairless Hills	(2-139-01)	77 Canal Road	PAD 987266715
(\$52,050) (0)		Fairless Hills, PA 19030	
Johnstown	(4-077-01)	150 Allenbille Drive	PAD 981736143
(\$52,050) (0)		Johnstown, PA 15904	
West Mifflin	(4-145-02)	650 Noble Drive	PAD 982576258
(\$52,050) (0)		West Mifflin, PA 15122	
New Kingstown	(2-067-01)	10 Eleanor Drive	PAD 000738823
(\$52,050) (0)		New Kingstown, PA 17072	
Stoystown	(4-077-01)	Rt. 30, 1 Mile East of	PAD 000738831
(\$52,050) (0)		Stoystown Stoystown, PA 15563	
Tullytown	(2-139-01)	Bldg. PP, #9 River Road	PAD 065716813
(\$52,050) (0)		Tullytown, PA 19007	
Westchester	(2-139-03)	1142 Greenhill Road	PAD 000738849
(\$52,050) (0)		Westchester, PA 19380	

Wilkes-Barre (\$52,050)	(2-180-01) (0)	131 Second Street Plains Township Wilkes-Barre, PA 18705	PAD 084872043
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PUERTO RICO

Safety-Kleen Envirosystems Company of Puerto Rico, Inc. - Manati (\$331,267)	(0) Manati, PR 00701	KM 51, Hwy. 2 (P.O. Box 1098)	PRD 090399718
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Safety-Kleen Envirosystems of Puerto Rico, Inc. - Dorado (\$87,730)	(0)	KM 267, Hwy. 2 Dorado, PR 00646	PRD 981182421
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STATE OF SOUTH CAROLINA

Greer (\$52,050)	(3-066-01) (0)	Old Gilreath Road Greer, SC 29651	SCD 981031040
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Lexington Recycle Center & Branch (\$398,738)	(0)	Route 5, Box 319 A Lexington, SC 29072	SCD 077995488
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Florence (\$52,050)	(3-043-21) (0)	Highway 301 South Florence, SC 29501	SCD 980842785
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Summerville (\$52,050)	(3-179-21) (0)	P.O. Box 2053 Rt. 17 A South Summerville, SC 29483	SCD 980709299
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Holly Hill (\$354,226)	(0-006-61) (0)	Rt. 2 Box 418 Hwy 453 South Holly Hill, SC 29059	SCD 003368891
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STATE OF SOUTH DAKOTA

Sioux Falls (\$52,050)	(1-183-05) (0)	2000 North Westport Avenue Sioux Falls, SD 57107	SDD 000716696
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STATE OF TENNESSEE

Dyersburg (\$52,050)	(6-051-01) (0)	2010 Brewer Road Dyersburg, TN 38024	TND 981027410
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Knoxville (\$52,050)	(42,132) (3-080-01)	826 Stewart Knoxville, TN 37917	TND 079025698
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Knoxville (\$52,050)	(0) (3-080-01)	NW Industrial Park Pleasant Ridge Rd. Knoxville, TN 37921	Applied For
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Nashville (\$52,050)	(42,132) (3-109-01)	215 Whitsett Road Nashville, TN 37210	TND 981474125
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STATE OF TEXAS

Abilene (\$52,050)	(40,600) (6-002-01)	4234 Oil Belt Lane Abilene, TX 79605	TXD 062287883
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Amarillo (\$52,050)	(6-009-02) (40,600)	3811 Interstate 40 East Amarillo, TX 79104	TXD 000747410
Corpus Christi (\$52,050)	(6-048-01) (0)	3820 Bratton Road Corpus Christi, TX 78415	TXD 000747402
Denton Recycle Center (\$365,369)	(0)	1722 Cooper Creek Road Denton, TX 76201	TXD 077603371
El Paso (\$52,050)	(6-056-01) (0)	900A Hawkins Blvd. El Paso, TX 79905	TXD 000747394
Ft. Worth (\$53,445)	(6-049-02) (0)	6529 Midway Road Haltom City, TX 76117	TXD 981053416
Irving (\$59,414)	(6-049-01) (0)	2130A East Grauwylar Irving, TX 75061	TXD 981052061
Longview (\$52,050)	(6-194-01) (0)	202 Michael Place Longview, TX 75602	TXD 000747378
Lubbock (\$52,050)	(6-009-01) (0)	1 Mile East of Loop 289 On Highway 62 & 82 Lubbock, TX 79408	TXD 000747436
McAllen (\$52,050)	(6-048-02) (40,600)	1/4 Mile North Jackson Road 1/8 Mile West International McAllen, TX 78501	TXD 083145656
Midland (\$52,050)	(6-002-02) (0)	10043-B County Rd. 125-W Midland, TX 79711	TXD 981054617
Missouri City (\$176,878)	(6-073-02) (0)	1580 Industrial Road Missouri City, TX 77459	TXD 010803203
Orange (\$52,050)	(6-073-03) (0)	3304 Womack Road Orange, TX 77630	TXD 061290276
Pasadena (\$52,050)	(6-073-01) (0)	3333 Federal Road Pasadena, TX 77504	TXD 000747386
San Antonio (\$58,042)	(6-169-01) (0)	5243 Sinclair Road San Antonio, TX 78222	TXD 000729400
Waco (\$52,050)	(6-049-03) (0)	Rt. 12, Box 911 Highway 84 West Waco, TX 76710	TXD 980876015
Wichita Falls (\$52,050)	(6-049-04) (0)	1606 Missile Road Wichita Falls, TX 76306	TXD 000747428

STATE OF UTAH

Salt Lake City (\$52,050)	(7-166-01) (0)	394 Ironwood Drive Salt Lake City, UT 84115	UTD 052430741
Salt Lake City (\$52,050)	(7-166-01) (0)	1066 Pioneer Road Salt Lake City, UT 84104	UTD 980957088

STATE OF VERMONT

Barre (\$58,900)	(2-105-01) (0)	23 West Second Street Barre, VT 05641	VTD 000791699
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STATE OF VIRGINIA

Bristol (\$52,050)	(3-026-01) (0)	2146 King Mill Road Bristol, VA 24201	VAD 981042955
Chesapeake (\$52,050)	(3-121-01) (0)	4545 Bainbridge Blvd. Chesapeake, VA 23320	VAD 000737346
Chester (\$52,050)	(3-154-01) (0)	1200 West 100 Road Chester, VA 23831	VAD 981043011
Vinton (\$52,050)	(3-155-01) (0)	Route 24 East of Vinton at O'Neal Drive Vinton, VA 24179	VAD 000737361

STATE OF WASHINGTON

Auburn (\$52,050)	(1-181-01) (40,600)	3210 C Street NE, Unit G Auburn, WA 98002	WAD 000712059
Lynwood (\$52,050)	(7-092-01) (40,600)	6303 212th Street SW, Suite C Lynwood, WA 98036	WAD 000712042
Pasco (\$52,050)	(1-183-02) (0)	814 E. Ainsworth Pasco, WA 99301	WAD 980978746
Spokane (\$52,050)	(1-183-01) (40,600)	9516 East Montgomery, Unit 16 Spokane, WA 99206	WAD 000712034

STATE OF WEST VIRGINIA

Nitro (\$52,050)	(4-075-02) (40,600)	Rock Branch Industrial Park Nitro, WV 25143	WVD 000737387
Fairmont (\$52,050)	(4-145-23) (40,600)	345 Locust Fairmont, WV 26554	WVD 980510895
Wheeling (\$52,050)	(4-145-03) (0)	10 Industrial Park Dr. Wheeling, WV 26003 Waukesha, WI 53186	WVD 981034101

STATE OF WISCONSIN

La Crosse (\$52,050)	(5-150-01) (0)	2109-1/2 Ward Avenue La Crosse, WI 54601	WID 980896641
North Prairie (\$52,050)	(5-100-01) (40,600)	113 Oakridge Drive, Lot 7 North Prairie, WI 53153	WID 045130713
Shawano (\$52,050)	(5-176-01) (40,600)	P.O. Box 266 Shawano, WI 54166	WID 000668822

Madison	(5-197-01)	2325 Daniels Street	
(\$52,050)	(0)	Madison, WI 53704	WID 980896633
Kaukauna	(5-176-01)	Kaukauna Ind. Park	
(\$52,050)	(0)	Kaukauna, WI 54130	WID 981187297
Waukesha	(5-100-01)	2200 S. West Avenue	
(\$52,050)	(0)	Waukesha, WI 53186	WID 981097769
<u>\$15,657,338</u>	<u>\$4,048,501</u>		

Closure Post-Closure

**BOYNTON BEACH, FLORIDA SERVICE CENTER
CLOSURE COST ESTIMATE**

1. TANK CLOSURE - Open, remove contents of, clean, remove, and dispose of, a 15,000-gallon aboveground storage tank.

Phase I - Remove Contents and Clean

1. Ship contents to a reclaimer.

Crew:

2 Truck Dr. \$17.56/hr. x 8 hrs. = \$ 280.96

2 Trucks \$500 lump sum 500.00

Tank size = 15,000 gal. ÷ 7,500 gal/truck = 2 trucks

2 trucks x 80 miles x 1.75/mile = 315.00

Reclamation cost (\$0.30/gal.) 4,500.00

2. Squeegee Clean Tank

Crew:

1 Foreman \$18.30/hr. x 24 hrs. = 439.20

1 Laborer (\$17.00/hr. & \$3.00/hr. hazard pay)
x 24 hrs. = 480.00

3. Use of high pressure water for two days 800.00

4. Disposal and transportation of wash water
(1,500 gallons @ \$0.12/gallon) = 180.00

5. Transportation of wastewater
1,250 miles x \$1.75/mile = 2,187.50

6. Analysis of rinsate sample 200.00

Total - Phase I \$9,883.00

Phase II - Remove and Dispose of Tank

1. Disconnect and Remove Appurtenant Equipment

Crew:

1 Foreman \$18.30/hr. x 8 hrs. =	\$ 146.40
2 Laborers \$17.00/hr. x 8 hrs. =	272.00

2. Torch Tank

Crew:

1 Foreman \$18.30/hr. x 8 hrs. =	146.40
1 Laborer \$17.00/hr. x 8 hrs. =	136.00

3. Remove Tank

Crew:

1 Foreman	\$18.30/hr. x 2 hrs. =	36.60
4 Laborers	\$16.80/hr. x 2 hrs. =	134.40
1 Backhoe	\$28.97/hr. x 2 hrs. =	57.94
1 Oiler	\$25.47/hr. x 2 hrs. =	50.94
1 Truck Dr.	\$17.56/hr. x 2 hrs. =	35.12
Equipment	\$200 Lump Sum =	<u>200.00</u>

Total Phase II = \$1,216.00

Phase III - Backfilling, Regrading, Soil Testing

1. Test for soil contamination

Scan soil with a photoionization detector
(1 hour) = \$ 50.00

2. Regrading

Crew:

1 F.E. Loader	\$27.38/hr. x 1 hr. =	27.38
Equipment	\$ 2.00/c.y. x 10 c.y. =	<u>20.00</u>

Total - Phase III = \$ 97.00

Summary of Closure Cost for 15,000-gallon Tank:

Phase I =	9,883
Phase II =	1,216
Phase III =	<u>97</u>
	\$11,196

2. CLOSURE OF DRUM STORAGE AREA - Remove and return drums to a reclaimer, clean the drum storage area, and dispose of wash water generated.

a.	3 Truck Dr. \$17.56/hr. x 8 hrs.	\$ 421.44
	3 Trucks \$750 lump sum	500.00
	Hauling cost = 180 miles x \$1.75/mile =	312.00
b.	Clean drum storage area	
	Crew:	
	1 Foreman \$18.30/hr. x 10 hrs. =	183.00
	1 Laborer (\$17.00/hr. & \$3.00/hr. hazard pay) x 10 hrs. =	200.00
c.	Dispose of wash water 700 gallons x \$0.12/gallon =	84.00
d.	Dispose of used solvents - 432 drums x \$30.00/drum	12,960.00
e.	Testing for contamination 2 samples x \$75.00/each	150.00
	Total Drum Closure Cost =	\$14,313.00

3. CLOSURE OF DUMPSTER AND DOCK AREA - Remove, package and dispose of sludge, clean the dumpster and dock area, remove dumpster and dock structure for reuse.

a.	1 Truck \$250 lump sum	\$ 250.00
	Hauling Cost = 30 miles x \$1.75/mile	52.50
	1 Truck Dr. \$17.56/hr. x 8 hrs. =	140.48
	Crew:	
	1 Foreman \$18.30/hr. x 4 hrs. =	73.20
	1 Laborer (\$17.00/hr. & \$3.00/hr. hazard pay) x 4 hrs. =	80.00
b.	Clean Dumpster and Dock Area	
	Crew:	
	1 Foreman \$18.30/hr. x 16 hrs. =	292.80
	1 Laborer (\$17.00/hr. & \$3.00/hr. hazard pay) x 16 hrs. =	320.00
	Use of high pressure water for one day =	400.00
c.	Disposal of wash water 100 gallons x \$0.12/gallon =	12.00

d. Dispose of dumpster mud 16 55-gallon drums x \$300/drum =	4,800.00
e. Testing for contamination 3 samples x \$75 each =	225.00
f. Torch, disassemble, and remove dumpster and dock Crew:	
1 Foreman \$18.30/hr. x 16 hrs. =	292.80
2 Laborers \$17.00/hr. x 16 hrs. =	578.00
Equipment \$5.20/hr. x 8 hrs. =	41.60
1 Truck Dr. \$17.56/hr. x 2 hrs. =	<u>35.12</u>
Total Dock Closure Cost =	\$ 7,594.00
5. <u>PE CERTIFICATION</u> -	\$ 500.00
6. <u>TOTAL CLOSURE COST:</u>	
15,000-gallon tank =	\$11,196.00
Drum storage area =	14,313.00
Dock and dumpster area =	7,594.00
P.E. certification =	<u>500.00</u>
Total	\$33,603.00

FINANCIAL ASSURANCE FOR CLOSURE

Safety-Kleen Corp. is the operator of the Boynton Beach, Florida Service Center. The cost for closure of the facility, as estimated above, is assured through the use of the financial test specified in Subpart H of 40 CFR Part 264. The letter from the Chief Financial Officer of Safety-Kleen Corp. to demonstrate the financial responsibility for closure through the financial test is attached.

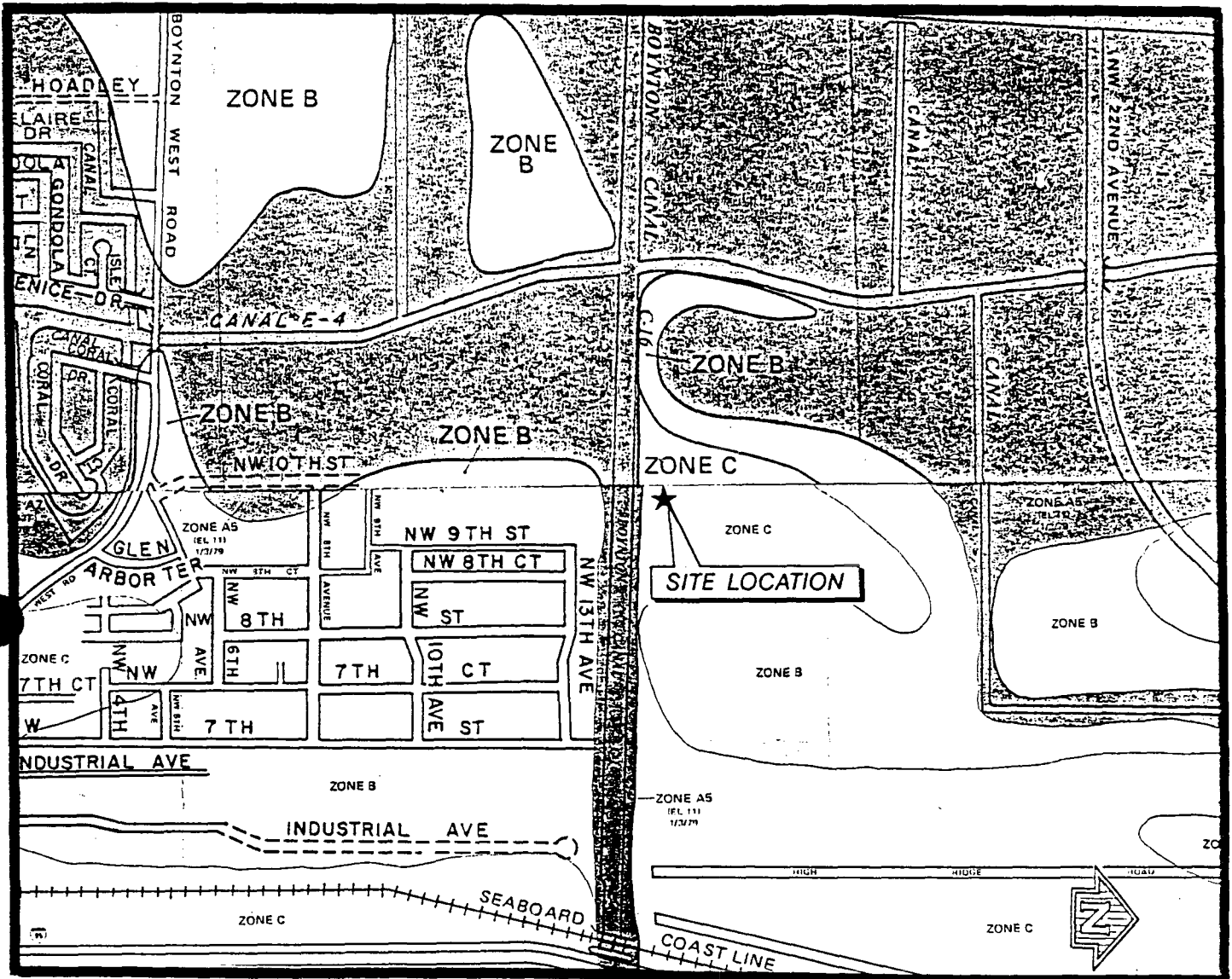


ATTACHMENT II.A.3
FLOOD INFORMATION

ATTACHMENT II.A.3 FLOOD INFORMATION

Based on information available (Figure II.A.3-1) the facility lies within an area classified as Zone C. Such areas have been classified as "areas of minimal flood hazard." Therefore, flood control barriers or special flood response procedures are not required. Currently, the Federal Emergency Management Agency information is the acceptable and best available flood information for flood insurance purposes.

Boynton Beach, Florida



The
ERM
Group

ATTACHMENT II.A.4
FACILITY SECURITY INFORMATION

ATTACHMENT II.A.4(a)
SECURITY PROCEDURES AND EQUIPMENT

ATTACHMENT II.A.4(a)
SECURITY PROCEDURES AND EQUIPMENT

SECURITY MEASURES

In accordance with 40 CFR 264.14, access to the facility is controlled through the following methods:

1. Entry to the drum storage and return/fill area will be controlled through gates and doors. All gates and doors will be locked at all times when facility is not in operation.
2. The combination of doors and signs prevents unknowing entry and minimizes the potential for unauthorized entry of people or livestock into the facility.
3. Signs (in English and Spanish) are posted at the entrance of the facility and additional locations so that they are visible from any approach at 25 feet. Signs are marked "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT." See Figure II.A.4(a)-1 for locations of the signs.
4. The eastern perimeter of the facility is surrounded by a six-foot high chain link fence, with three strands of barbed wire on top for a total height of seven feet, which runs the full length of the eastern property line. The northern boundary is surrounded by a similar chain link fence originating at the northern end of the eastern boundary and terminating at the northern end of the western boundary. The western boundary is formed by the west side of the service center building's exterior wall and six-foot chain link fence and chain link sliding gates, with one foot of barbed wire on top, extending to the north and south perimeters. The north and south gates are six-foot high chain link with one foot of barbed wire on top and the south gate can only be opened by keying an access code into the automated gate

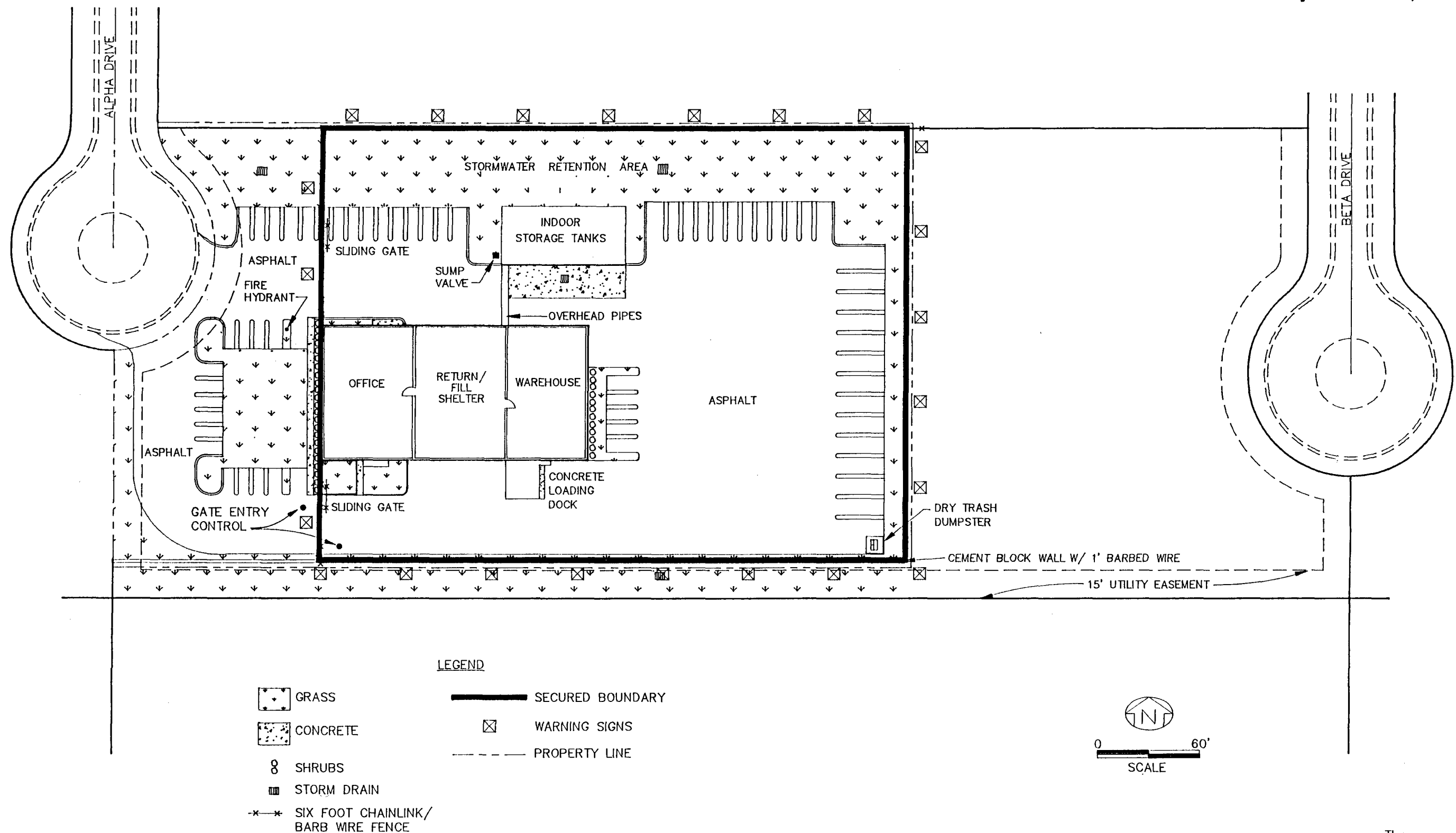


security system. The north gate is secured with a lock and must be manually opened. The southern boundary is formed by a six-foot high concrete block wall, with three strands of barbed wire on top for a total height of seven feet, originating two feet short of the western property line. The block wall and chain link fence create a rectangular-shaped totally secured area.

The aboveground tanks are contained in a concrete block building (with roof) located within the secured perimeter (at minimum 45 feet from the northern boundary).

The only area not secured is the west side parking lot. This parking lot is used by vehicles not involved in the transport of any waste material. Entrance into the facility is through the western perimeter gates (south and north) and office building front door (west side). Motor vehicles can only enter/exit the facility through the gates while employees only enter/exit through the gates and the front door (west side). This door is unsecured during normal business hours and does not directly lead into any area where hazardous waste is stored or handled. Refer to Figure II.A.4(a)-1.

Figure II.A.4(a)-1
Security Signage
Safety-Kleen Corp. Facility
Boynton Beach, Florida



ATTACHMENT II.A.4(b)
CONTINGENCY PLAN AND EMERGENCY PROCEDURES
FOR DAILY BUSINESS OPERATIONS

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EMERGENCY PHONE NUMBERS

Emergency Coordinators

Primary:	Thomas H. Sands	Alternate:	Tom Larsen
	9873 Lawrence Road, G205		5580 Pebblebrook Lane
	Boynton Beach, FL 33436		Boynton Beach, FL 33437
	Home: (407) 736-8968		Home: (407) 364-1573
	Office: ()		Office: ()

Emergency Notification Phone Numbers

Safety-Kleen Environmental Department
Telephone (708) 888-4660 (24-hour number)

National Response Center
Telephone (800) 424-8802

Southeast Florida District of the FDER, 1900 South Congress Avenue, Suite A, West Palm Beach, Florida (407) 433-2650 or (904) 488-1320 - 24 hours.

South Florida Water Management District, West Palm Beach, Florida (407) 686-8800

Emergency Team to be Notified

Boynton Beach Fire Department
150 E. Boynton Beach Blvd.
Boynton Beach, FL 33435
(407) 738-7430

O.H. Materials Company
P.O. Box 551
Findlay, OH 45840
(800) 537-9540
(Primary Cleanup Contractor)

Boynton Beach Police Department
135 N.E. 1st Avenue
Boynton Beach, FL 33435
(407) 732-8132

AMO Pollution Services, Inc.
P.O. Box 311B
Canonsburg, PA 15317
(800) 325-1398
(Secondary Cleanup Contractor)

Bethesda Memorial Hospital
2815 S. Seacrest Blvd.
Boynton Beach, FL 33435
(407) 737-7733 or 278-7733

Ryckman's Emergency Action and
Consulting Team
P.O. Box 27310
St. Louis, MO 63141
(800) 325-1398
(Secondary Cleanup Contractor)

ATTACHMENT II.A.4(b)**CONTINGENCY PLAN AND EMERGENCY PROCEDURES
FOR DAILY BUSINESS OPERATIONS****GENERAL INFORMATION****Purpose**

The contingency plan and emergency procedures are designed to ensure that Safety-Kleen is prepared to address emergency situations rapidly and in a manner to prevent or minimize hazards to human health or the environment from fire, explosion, or any unplanned sudden or nonsudden release of hazardous material constituents to the air, soil, surface water, or ground water at the facility.

The provisions of the contingency plan are to be carried out immediately if there is a fire, explosion, or release of hazardous materials occurs that could threaten human health or the environment. All contingency plan responses must conform with the procedures contained in this plan.

General Description of Activities

The business activities conducted at the Boynton Beach Service Center relate to the leasing and servicing of Safety-Kleen Parts Cleaning Equipment, including the provisions of a solvent leasing service for the customers. Clean solvents are distributed from and the used solvents are returned to the service center, where separate storage tanks are utilized for the storage of clean and used mineral spirits (solvent) and warehouse space is designated for the storage of drums of both clean and used immersion cleaner, mineral spirits, tank bottoms, dumpster mud, antifreeze, paint, and dry cleaning wastes (chlorinated solvent).

The mineral spirits are transported in covered, 16- and 30-gallon drums between the service center and customers. Upon returning to the service center, the used mineral spirits are transferred from the drums into a wet dumpster (solvent return receptacle) in which coarse solids in the mineral spirits are retained. Used mineral spirits in the wet dumpster flow into a 15,000-gallon aboveground tank for storage. Used mineral spirits solvent is picked up periodically by a bulk tank truck from the recycle facility which at the same time delivers a load of clean mineral spirits. The sludge in the wet dumpster is periodically cleaned out, drummed, and temporarily stored in the drum storage area for later shipment to the recycle facility for reclamation.

The immersion cleaner remains in 16-gallon covered drums at all times during transportation and storage. The solvent is not transferred to another container while being used by the customers or while in storage at the service center. Dry cleaning wastes are picked up at commercial dry cleaning establishments in 16-, 20-, and 30-gallon drums and stored temporarily at the service center. The drums are picked up periodically for recycling at the recycle facility.

Dry cleaning wastes consist of spent filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in blue 20- and 30-gallon and black 16-gallon drums with blue lock rings.

The antifreeze waste is approximately one-third water and two-thirds antifreeze (ethylene glycol) and contaminants. The waste is collected and stored in 30-gallon black steel drums.

The paint wastes consist of various lacquer thinners and paints collected in five-gallon pails and in 16-gallon drums.

The waste products exhibit essentially the same biological, physical, and chemical properties as the fresh product. Used products are basically fresh products with impurities of dirt and metals. The MSDSs provided in Appendix A represent the biological, physical, and chemical properties of both the fresh and used products.

Figures II.A.4(b)-1 and II.A.4(b)-2 shows the basic site and floor plans, particularly, the locations of waste management facilities, emergency equipment, facility storage, and evacuation routes.

EMERGENCY NOTIFICATION

Emergency Coordinator

The Branch Manager or his designate is the emergency coordinator. Table II.A.4(b)-1 includes the names, home addresses, and both office and home phones of the primary emergency coordinator and his alternatives. At least one employee is either present on the facility premises or on call with responsibility for coordinating all emergency response measures at all times. This primary emergency coordinator and alternate emergency coordinator are thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of materials handled, the location of all records within the facility, and the facility layout. In addition, these coordinators have the authority to commit the resources needed to carry out the contingency plan.

EMERGENCY RESPONSE AGENCIES AND TEAM MEMBERS

The agencies and response team members to be notified whenever an imminent or actual emergency occurs are presented in Table II.A.4(b)-1. A Telephone Notification Log is shown in Table II.A.4(b)-2.

Figure II.A.4(b)-1
Site Layout Map
Safety-Kleen Corp. Facility
Boynton Beach, Florida

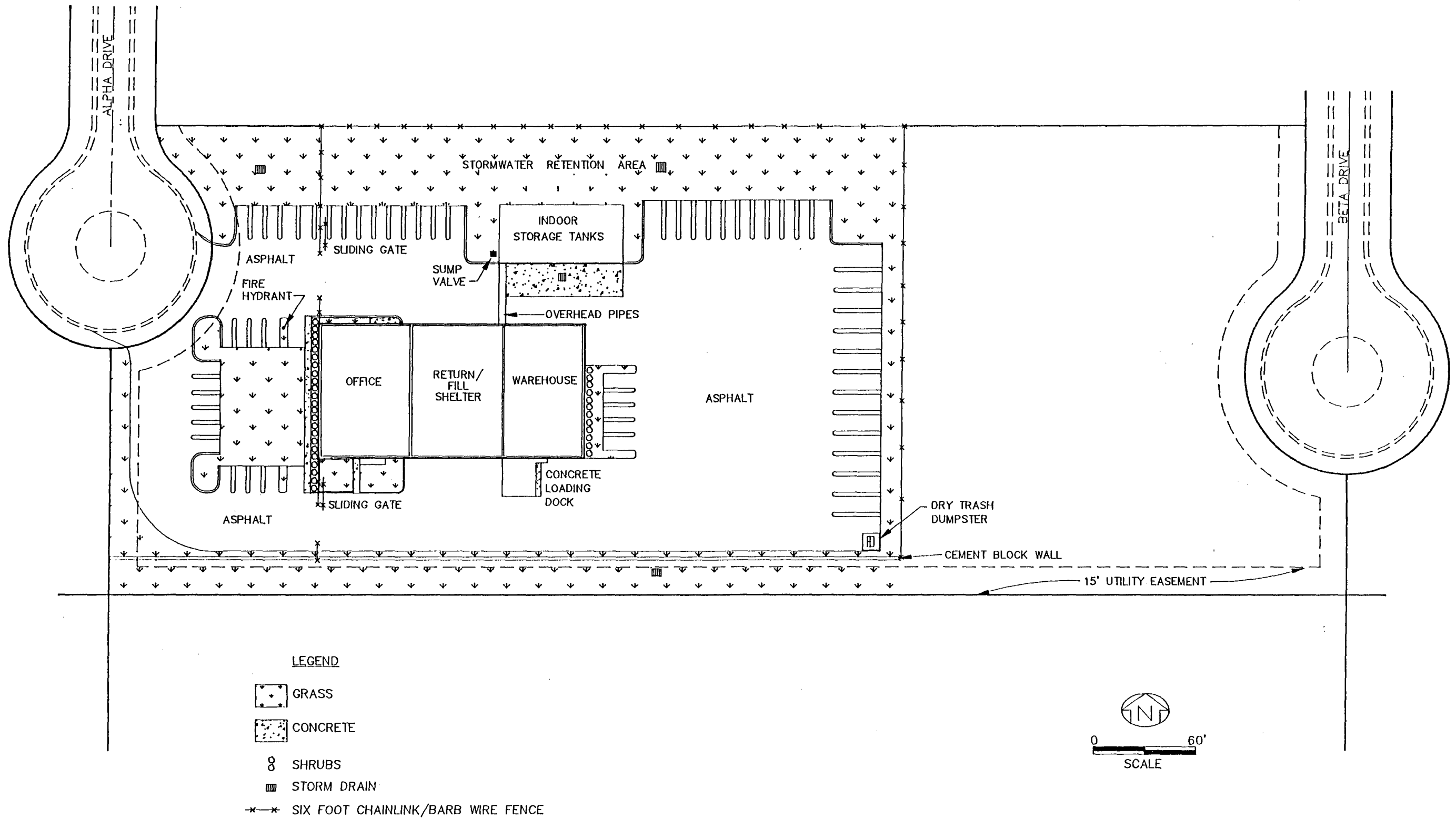
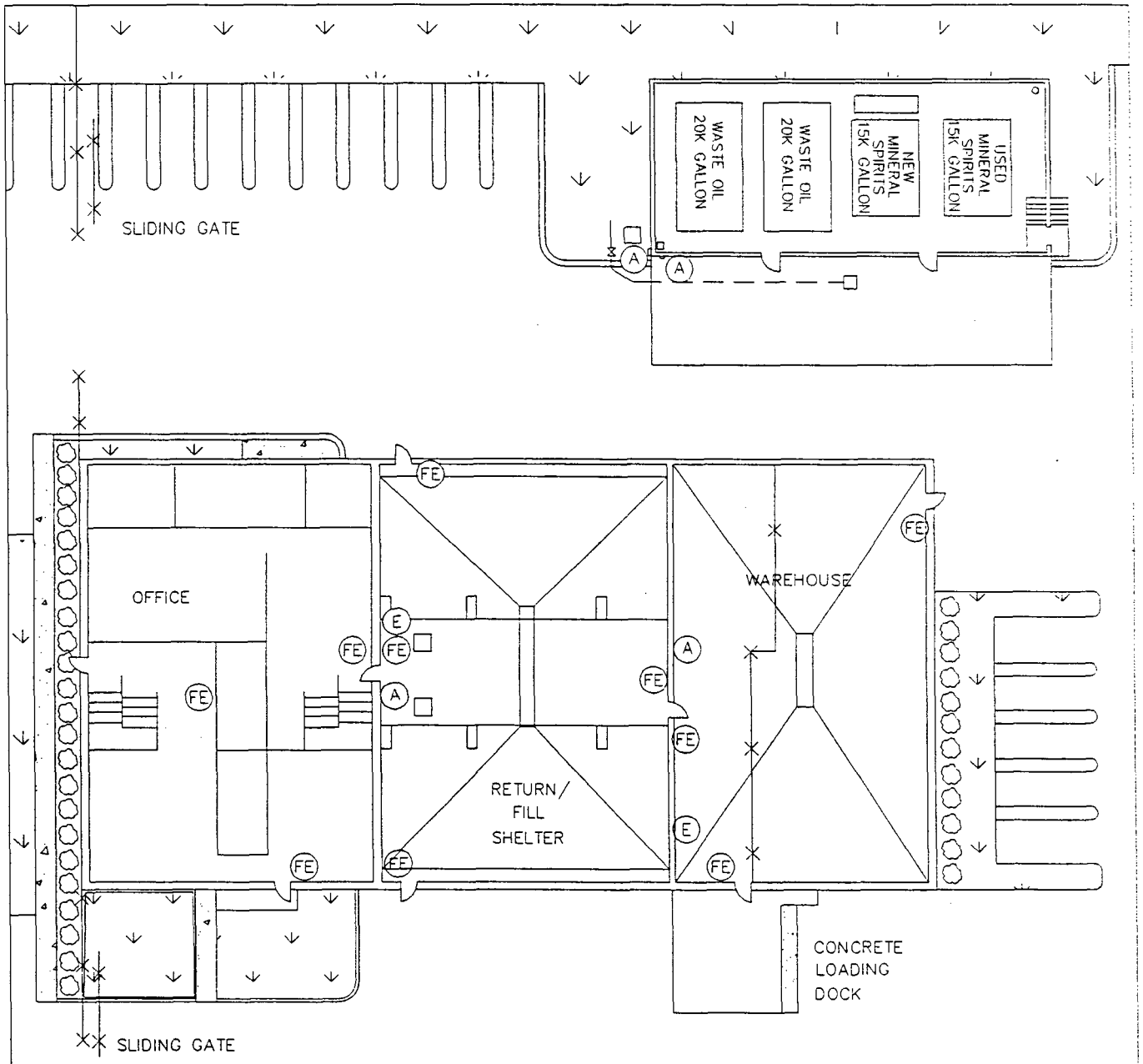
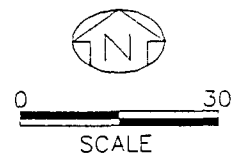


Figure II.A.4(b)-2
Safety Equipment
Safety-Kleen Corp. Facility
Boynton Beach, Florida



LEGEND

- (FE) FIRE EXTINGUISHER
- (E) EYE WASH/SHOWER
- (A) ALARM



**TABLE II.A.4(b)-1
EMERGENCY NOTIFICATION**

Emergency Coordinators

Primary: Thomas H. Sands 9873 Lawrence Road, G205 Boynton Beach, FL 33436 Home: (407) 736-8968 Office: ()	Alternate: Tom Larsen 5580 Pebblebrook Lane Boynton Beach, FL 33437 Home: (407) 364-1573 Office: ()
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Emergency Notification Phone Numbers

Safety-Kleen Environmental Department
 Telephone (708) 888-4660 (24-hour number)

National Response Center
 Telephone (800) 424-8802

Southeast Florida District of the FDER, 1900 South Congress Avenue, Suite A, West Palm Beach, Florida (407) 433-2650 or (904) 488-1320 - 24 hours.

South Florida Water Management District, West Palm Beach, Florida (407) 686-8800

Emergency Team to be Notified

Boynton Beach Fire Department
 150 E. Boynton Beach Blvd.
 Boynton Beach, FL 33435
 (407) 738-7430

O.H. Materials Company
 P.O. Box 551
 Findlay, OH 45840
 (800) 537-9540
 (Primary Cleanup Contractor)

Boynton Beach Police Department
 135 N.E. 1st Avenue
 Boynton Beach, FL 33435
 (407) 732-8132

AMO Pollution Services, Inc.
 P.O. Box 311B
 Canonsburg, PA 15317
 (800) 325-1398
 (Secondary Cleanup Contractor)

Bethesda Memorial Hospital
 2815 S. Seacrest Blvd.
 Boynton Beach, FL 33435
 (407) 737-7733 or 278-7733

Ryckman's Emergency Action and
 Consulting Team
 P.O. Box 27310
 St. Louis, MO 63141
 (800) 325-1398
 (Secondary Cleanup Contractor)

**TABLE II.A.4(b)-2
TELEPHONE NOTIFICATION LOG**

Incident Information

Date and Time of Reporting: _____

Time of Incident: _____

Material Spilled: _____

Location: _____ (Highway No., M.P., etc.)

Shipping Name _____

Hazard Class _____

U.N. Number _____

Estimated Volume Spilled _____

Type of Vehicle _____

Weather Conditions: Temperature _____

Wind Direction _____

Rain or Snow _____

Spilled Material: Contained Yes No (Circle One)

Stream Nearby Yes No (Circle One)

Storm Sewer Yes No (Circle One)

Emergency Personnel at Scene: Yes No (Circle One)

If Yes, Departments represented: _____

Telephone Contacts

Environment, Health and Safety Department, Safety-Kleen (708) 888-4660

Time Notified: _____

Person Receiving Report: _____

Comments Received: _____

National Response Center (800) 424-8802

Time Notified: _____

Person Receiving Report: _____

Comments Received: _____

II.A.4(b)-3D

Revision 0 - 04/23/91

TABLE II.A.4(b)-2 - Continued
TELEPHONE IDENTIFICATION LOG

Southeast Florida District of the FDER, (407) 433-2650 or (904) 488-1320 (24 hours)
South Florida Water Management District, West Palm Beach, Florida (407) 686-8800

Time Notified: _____
Person Receiving Report: _____
Comments Received: _____

Boynton Beach Police (407) 732-8132

Time Notified: _____
Person Receiving Report: _____
Comments Received: _____

Boynton Beach Fire Department (407) 738-7430 or 911

Time Notified: _____
Person Receiving Report: _____
Comments Received: _____

Bethesda Memorial Hospital (407) 737-7733 or 278-7733

Time Notified: _____
Person Receiving Report: _____
Comments Received: _____

ACTIONS OF THE EMERGENCY COORDINATOR

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his or her designee when the emergency coordinator is on call) must immediately:

- a. Activate internal or communication systems to notify all facility personnel. The relatively small size of this Service Center makes direct verbal communication the most expedient form of emergency notification. The emergency coordinator may also elect to proceed to the front of the building and honk a car horn to notify building occupants of an emergency. A head count will be performed by the emergency coordinator.
- b. Notify appropriate state or local agencies with designated response roles if their help is needed.
- c. Summon the primary emergency coordinator, if he is absent.

Whenever a release, fire, or explosion occurs, the emergency coordinator must immediately identify the character, exact source, amount, and area extent of any released materials. Because of the limited types of chemicals in storage, the identification processes can easily be performed visually.

Procedure for Assessing Possible Hazard to the Environment and Human Health:

- a. After identification of the character, source, amount, and extent of a release, fire, or explosion, the emergency coordinator must decide whether the situation can be contained or cleaned up by plant personnel and equipment.
- b. If a fire or explosion is determined uncontrollable by plant personnel or threatening neighboring establishments or population, assistance from a local emergency



response agency shall be summoned immediately and an evacuation order be requested.

- c. In case of a release outside of the containment area that is deemed immediately uncontainable or unrecoverable, a local emergency response agency and/or specialty cleanup contractor shall be called in.
- d. After termination of a fire or explosion, containment and preliminary cleanup of a spill, evaluate whether residues in the form of gas or liquid have become airborne, seeped into ground water, and/or flowed into surface water bodies.
- e. Expert assistance should be requested to determine whether the escaped materials are potentially harmful and whether the receiving medium ultimately will be a populated area, public water supply source, a private well, or an environmentally sensitive area.
- f. Additional steps shall then be taken to mitigate the potential impact on the environment and human health, in accordance with expert recommendations.

If the emergency coordinator determines that the facility has had a release, fire, or explosion that could threaten human health, or the environment outside the facility, the coordinator must report those findings, as follows:

- a. If the assessment indicates that evacuation of local areas may be advisable, the coordinator must immediately notify appropriate authorities. The coordinator must be available to help appropriate officials decide whether local areas should be evacuated.

- b. The coordinator must immediately notify the Southeast Florida District of the FDER, (407) 433-2650, and the National Response Center (800) 424-8802, by telephone.

The report must include:

- (1) Name and telephone number of notifier;
- (2) Name and address of facility;
- (3) Time and type of incident (e.g., release, fire);
- (4) Name and quantity of material(s) involved, to the extent known;
- (5) The extent of injuries, if any; and
- (6) The possible hazards to human health, or the environment outside the facility.

Immediate assistance in assessing and responding to an emergency is obtained by the emergency coordinator by calling the 24-hour emergency number of the Safety-Kleen Corporation Environmental, Health and Safety Department ((708) 888-4660).

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

The emergency coordinator must ensure that, in the affected area(s) of the facility:

- a. No waste that may be incompatible with the released material is treated or stored until cleanup procedures are completed; and
- b. All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

The owner or operator must notify the appropriate state and local authorities that the facility is in compliance with the requirements of the preceding paragraph, before operations are resumed in the affected area(s) of the facility.

The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the owner must submit a written report on the incident to the Southeast Florida District of the FDER, 1900 South Congress Avenue, Suite A, West Palm Beach, Florida 33406 (407) 433-2650. The report must include:

- a. Name, address, and telephone number of the owner or operator;
- b. Name, address, and telephone number of the facility;
- c. Date, time, and type of incident (e.g., fire, explosion);
- d. Name and quantity of material(s) involved;



- e. The extent of injuries, if any;
- f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- g. Estimated quantity and disposition of recovered material that resulted from the incident.

POTENTIAL SPILL SOURCES

The following is a list of activities that have the potential for a small scale (less than 30 gallons of waste) pollution incident.

- a. Moving of drums.

Every time a drum is moved, a chance exists that it could tip over or be dropped. To minimize the possibility of spillage of solvent under those conditions, all drums must remain covered before being moved.

- b. Delivery truck drum transfers.

- (1) Individual delivery drums contain from five to 30 gallons of waste, a quantity which can be contained by oil sorbent clay or pads, if accidentally spilled.
- (2) Each vehicle is equipped with a hoist and hand cart for ease of moving clean solvent off the truck and into the customer's shop and returning the dirty solvent to the truck.
- (3) Clamp type lids are on drums during movement to prevent a spill.

- (4) Each truck should contain a shovel and a quantity of sorbent material to contain a minor spill.
- (5) The cargo should be secured in the route vehicle before transit.

Spills Inside Buildings

In the event of a spill indoors, the doors and windows should be opened to improve the ventilation in the confined area. Following the instructions of the Material Safety Data Sheet (MSDS), the worker would enter the area wearing rubber gloves, boots, and respirator and mop up the liquid and return it to dirty storage. The cleanup is completed only when the workers have cleaned themselves and the emergency equipment with soap and water. Spills originating in the drum return/fill area should be contained within its collection trench. This area has three-inch sloped concrete sides leading to the trench. Spills originating in the warehouse area should be retained within its collection trench. The concrete floor in this area is sloped two inches toward the trench. The concrete floor in both these areas is coated with sealant compatible with and resistant to the chemicals stored at this facility.

Spills on Concrete Pads

Concrete pads in loading and unloading areas are, in most cases, equipped with emergency containment. Under most spill conditions, product can be totally contained on the concrete surface and in the catchment system. Upon containment, arrangements must be immediately undertaken to recover the material. Any soil that may be involved must be removed and treated as a hazardous waste.

Tank Spills or Leakage

Aboveground tanks are completely enclosed within a building which has a monolithically poured slab and 36-inch high sides to contain any spilled or leaked solvent. The surface of the monolithic pour (bottom and sides) are coated with a concrete sealant compatible

with and resistant to the chemicals stored in this area. The remainder of the building is concrete blocks from three feet to the roof. The containment system has been sized in accordance with the regulations, and the product will be totally contained under most spill conditions. Should a spill occur, arrangements must be immediately undertaken to recover the material. In the event of leakage, tank repair or replacement will be initiated. Any soil that may be involved must be removed and treated as hazardous waste.

Spill Control Procedures

If a harmful discharge occurs:

- a. Stop the discharge, if possible, by immediately transferring the liquid to a good drum.
- b. Retain, contain, or slow the flow of the material, if possible, by diking with sorbent pad or dirt. Appropriate personal protective equipment should be worn. Pump and mop up the liquid from the floor into a good drum, and return the drum to storage and then later to the recycle center for reclamation/disposal. The area and equipment that comes in contact with the spill must be decontaminated with soap and water. All residues resulting from containment and decontamination should be collected for proper disposal at a Safety-Kleen recycle center.
- c. If the material escapes the containment efforts, immediately call the cleanup contractor with response time less than two hours (Table II.A.4(b)-1). Record the date, time, and name of person taking the message. Call the primary emergency coordinator, if he is absent.
- d. Immediately recover spilled solvent to reduce property and environmental damage using the safety equipment stored onsite for such situations (Figure II.A.4(b)-2) or



call in emergency response contractors (Table II.A.4(b)-1). Start recovery operations immediately.

After recovery of spilled solvent, wash all contaminated impervious surfaces and equipment with soap and water. The residue of spill- or fire-contaminated soils and waste waters must be removed and disposed of at a Safety-Kleen recycle center. In addition, the recovered solvent will be sent to a Safety-Kleen recycle center for reclamation.

- e. Report any incident as soon as possible to Safety-Kleen Corporate Environmental Department on the 24-hour telephone line: (708) 888-4660. If the Environmental Department does not respond within 30 minutes, call the National Response Center (telephone: (800) 424-8802) and Southeast Florida District of the FDER, 1900 South Congress Avenue, Suite A, West Palm Beach, Florida (407) 433-2650.
- f. The person reporting a spill should be prepared to give his name, position, company name, address, and telephone number. The person reporting also should give the nature of the material spilled (e.g., immersion cleaner, etc.) and, if possible, some estimate of the amount, and whether it is near a stream or could enter a stream by flowing through ditches or storm sewers.

If assistance is needed, the emergency coordinator should describe the containment status and specify any additional equipment needed. When reporting a spill, record the date and time of the call and the name of the person answering the call at the above number.

Spill prevention plans are reviewed with facility personnel every year, and records of the training are kept at the facility.

Every spill must be recorded on the attached form with the revision of the contingency plan to prevent similar spills in the future. A copy of this report is sent to the Corporate Environment Health and Safety Department.

Reports of emergency incidents will be transmitted to the Secretary of the FDER or his designee within 15 days of occurrence. This report shall include:

- a. Name, address, and telephone number of the owner of operator;
- b. Name, address, and telephone number of the facility;
- c. Date, time, and type of incident (e.g., fire, explosion);
- d. Name and quantity of materials involved;
- e. The extent of injuries, if any;
- f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- g. Estimated quantity and disposition of recovered material that resulted from the incident.

DECONTAMINATION

Once the spilled material has been cleaned-up, the spill area and equipment used during the spill clean-up must be decontaminated and/or disposed.

Concrete surfaces/containment areas:



- Concrete surfaces/containment areas will be cleaned with a detergent solution and then rinsed with hot water. The rinsate will be collected via wet vacuums and placed in drums. Visual inspection will be used to determine the success of the decontamination procedure.
- The intent of the surface decontamination is to prevent current or future releases of materials to the environment. It is believed that a vigorous cleaning with detergent is sufficient to prevent releases to the environment during normal operations. Potential for hazards from residual materials to future occupants of the facility are dealt with in the Closure Plans for the facility and the decontamination procedures incorporated therein.

Equipment

The equipment used to clean the area includes mops, pails, scrub brushes, and a wet/dry vacuum. Equipment which is considered reusable (i.e., pails, wet/vac, hoses) will be washed with detergent and the wash water and rinsate collected. All non-reusable equipment and/or equipment which is not capable of being decontaminated will be drummed and disposed of as hazardous waste.

Wash Water and Rinsate

If the rinsate or other wastes generated in the clean-up process are determined to be hazardous, they will be properly disposed of as a hazardous waste, otherwise the material will be disposed of as an industrial waste. It should be noted that wash water and rinsate will not be allowed to drain to the waterway or stormwater.

EMERGENCY RESPONSE EQUIPMENT AND COMMUNICATION

Due to the small size of the facility, routine communication is accomplished by voice communication; however, an intercom is also available. Telephones are used in case of

a spill or fire emergency to summon assistance. Emergency numbers are posted by each phone in the office. Included with these phone numbers is the 24-hour spill number which connects to Corporate Environmental Department at the corporate office in Elgin, Illinois. See Figure II.A.4(b)-2 for locations of telephones, fire extinguisher, the first-aid kit, and the emergency eyewash/shower. Other emergency response equipment (Table II.A.4(b)-3) is kept in a small storage area inside the warehouse near the return/fill dock. This equipment includes mops and buckets, soap, shovels, and spill sorbent pads. Rubber gloves, boots, pumps, and a wet/dry vacuum cleaner are stored in an emergency supply area near the drum storage area. The City of Boynton Beach supplies water for domestic use, decontamination, and fire fighting. Adequate aisle space is provided in the drum storage area for movement in an emergency situation.

The equipment available at the service center for emergency situations is adequate for most cases. Large or serious emergency situations will be remediated by local emergency response teams or special emergency response or cleanup contractors. The facility is constructed and operated in accordance with National Fire Protection Association (NFPA) standards and applicable local ordinances. Applicable health and safety standards also are observed at the service center. A recent air quality survey conducted by an independent industrial hygienist at the Los Angeles service center has shown that air quality at a typical service center is within Threshold Limit Values (TLV) as specified by OSHA and local air pollution control criteria, and no respirator or special protection unit is deemed mandatory.

FIRE CONTROL PROCEDURES

Call the Fire Department.

- a. Immersion cleaner #609 (old formula) (which is a mixture of chlorinated solvents and water) and dry cleaning wastes are initially not flammable, but produce toxic gases and hydrochloric acid at elevated temperatures (about 1200° F).

TABLE II.A.4(b)-3

EMERGENCY RESPONSE EQUIPMENT

Description	Type/Capacity	Location	Quantity
Fire Extinguisher	ABC (10 lb)	Warehouse	3
		Drum Return/Fill Area	4
		Office (1st Floor)	3
Eyewash	Fountain	Warehouse	1
		Drum Return/Fill Area	1
First-Aid		Warehouse	1
Telephones	Standard	Manager's Office	1
Telephones	Standard	Secretary's Desk	1
Telephones	Standard	Warehouse	2
Intercom	Explosion Proof	All Buildings	N/A
Gloves	Rubber	Emergency Equip. Area	Min. 1/employee
Boots (optional)	Rubber	Emergency Equip. Area	Min. 1/employee
Protective Clothing	Apron	Emergency Equip. Area	1/Employee
Eye Protection	Goggles/Safety Glasses	Emergency Equip. Area	Min. 1/employee
Sorbent Material	Oil Absorbing	Emergency Equip. Area	Min. 1 bale
Shovel	Standard	Emergency Equip. Area	Min. 1
Mop and Bucket	Standard	Emergency Equip. Area	Min. 1
Respirator	Self Contained Breathing Apparatus	Emergency Equip. Area	1/employee
Pump	Hand-held, Electric	Emergency Equip. Area	Min. 1
Wet/Dry Vacuum	Portable, Electric	Emergency Equip. Area	1
Water	Fire fighting sprinkler	All buildings	N/A

Center aisles are available in drum storage areas to permit fire department personnel to pass with fire fighting equipment.

Act quickly with the fire extinguisher to put out the fire before it spreads.

Call the Police Department and local hospital (Table II.A.4(b)-1) when injury occurs and/or order of on-lookers and traffic is to be maintained.

Areas in the service building (offices, drum fill/return, drum storage) and storage tank building have automatic fire fighting sprinkler systems (Figure II.A.(b)-3). In addition, building walls have a four hour rating.

AVAILABILITY AND REVISION OF THE CONTINGENCY PLAN

This plan and all revisions to the plan are kept at the facility and regularly updated throughout the operating life of the facility.

Copies of this document are provided to local authorities and organizations listed under the Preparedness and Prevention Plan, which may be called upon to provide emergency services.

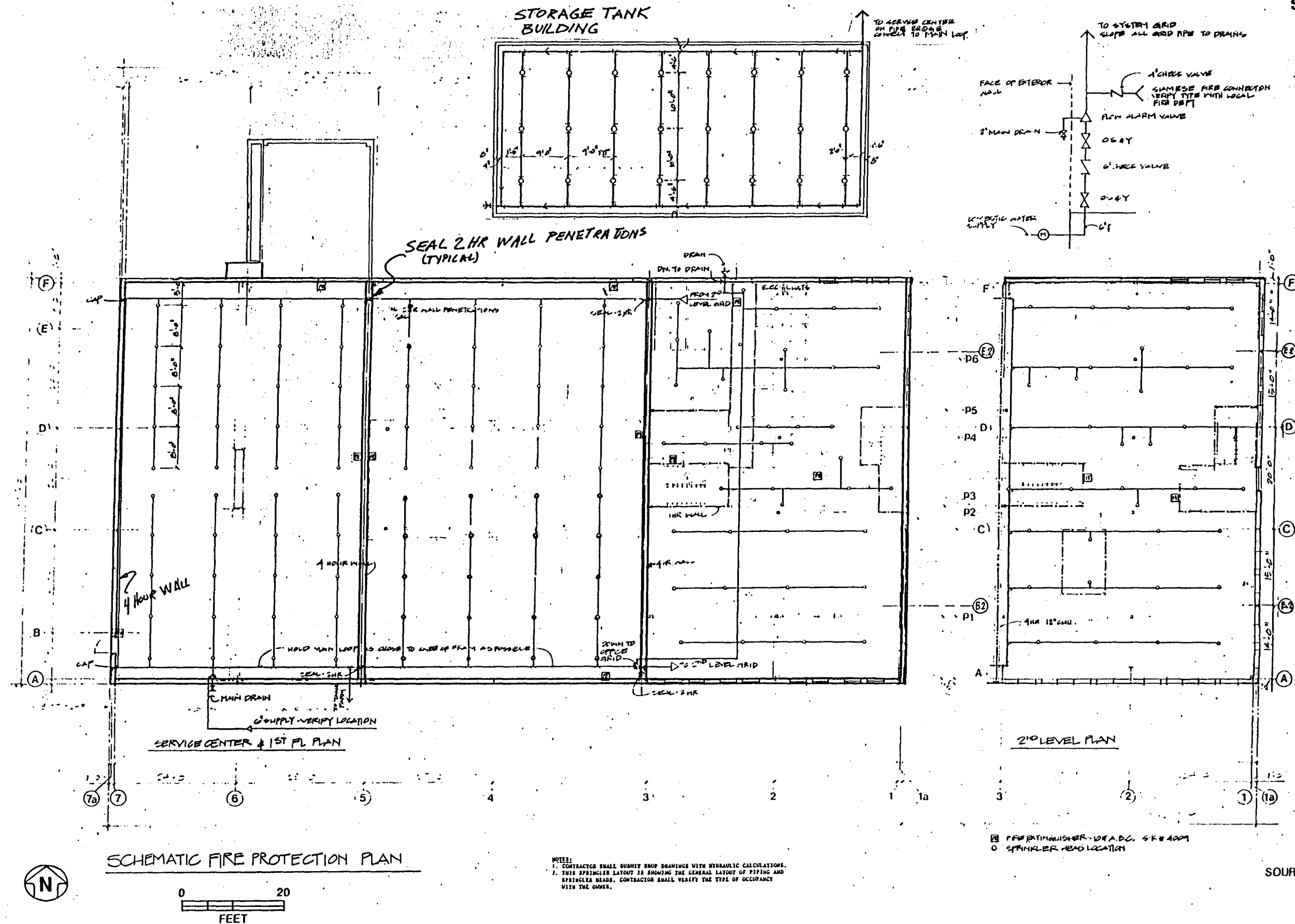
This plan and all revisions to the plan are made readily available to employees working at the facility.

This plan is reviewed and updated, if necessary, whenever:

- a. The facility license is modified to allow new process wastes to be stored or treated, or applicable regulations are revised;
- b. The list or location of emergency equipment changes;



Figure II.A.(b)-3
Fire Fighting Sprinkler System
Safety-Kleen Corp. Facility
Boynton Beach, Florida



SOURCE: PAUL LINNEY AND ASSOCIATES, 10/18/89

- c. The facility changes in its design, construction, operation maintenance, or other circumstances in a way that:
 - (1) Materially increase the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or
 - (2) Changes in response necessary in an emergency.
- d. The names, addresses, or phone numbers of emergency coordinators change;
- e. The employee assigned to each emergency task changes, or
- f. The plan fails when implemented in an emergency.

ARRANGEMENTS WITH LOCAL AUTHORITIES

Arrangements have been made to familiarize the Police Department, Fire Department, and local emergency response teams with the layout of the facility, properties of hazardous materials handled (Material Safety Data Sheets) at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes.

Potential primary and secondary spill control contractors as well as sorbent suppliers are identified in the Contingency Plan and Emergency Procedures.

Arrangements have been made to familiarize the local hospital with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which would result from fires, explosions, or releases at the facility.

Appendix B includes copies of letters which have been transmitted to local authorities for emergency response in the event of an incident where public health or environment is threatened.

EVACUATION PLAN

In an uncontrolled emergency, all persons are to be evacuated from the area by means of a verbal cry and assemble across from the entrance drive to the facility (Figure II.A.4(b)-1). Assure that all personnel are accounted for and out of the area. The emergency coordinator may elect to use a car horn as a means of emergency notification. A head count will be performed by the emergency coordinator.

The Fire Department must be notified at the time of evacuation either from a safe onsite building or neighboring facilities.

Clearly marked exits exist in warehouse and office area.

APPENDIX A

**MATERIAL SAFETY DATA SHEETS FOR
KNOWN HAZARDOUS CONSTITUENTS**



SAFETY-KLEEN 105 PARTS WASHING SOLVENT

MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN 105 PARTS WASHING SOLVENT

SYNONYMS: PETROLEUM DISTILLATES, PETROLEUM NAPHTHA, MINERAL SPIRITS, STODDARD SOLVENT

SK PART NUMBER: 6617

FAMILY/CHEMICAL NAME: HYDROCARBON SOLVENT

PRODUCT USAGE: SOLVENT FOR CLEANING AND DEGREASING PARTS

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Parts Washer Solvent (consists predominantly of C9-C13 hydrocarbon)	Mineral Spirits	(Typical % by Wt.)			
C9-C13 Saturated Hydrocarbon		85	64741-41-9	100 (Stoddard Solvent)	100 (Stoddard Solvent)
*Toluene		0.5	108-88-3	100 150 STEL	100 150 STEL
*Xylene		1.0	1330-20-7	100 150 STEL	100 150 STEL
*Ethyl Benzene		0.5	100-41-4	100 Skin 125 STEL	100 125 STEL
C8+ Aromatics		12.0	Mixture	N/E	N/E
Chlorinated Solvents		(Max 1% by Wt.)			
*1,1,1 Trichloroethane		<0.5	71-55-6	350 450 STEL	350 450 STEL
*Tetrachloroethylene		<0.5	127-18-4	25	50 200 STEL

N/E = Not Established

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR: Combustible liquid - clear, green, with characteristic hydrocarbon odor.

BOILING POINT: 300° - 429° F

EVAPORATION RATE: (Butyl Acetate = 1) 0.1
PERCENT VOLATILE: 99.9%
VAPOR DENSITY: 4.9 (Air = 1)
VAPOR PRESSURE: 2 mm of Hg at 68° F
SOLUBILITY IN WATER: Negligible
pH: Not Applicable
SPECIFIC GRAVITY: 0.77 to 0.80
MOLECULAR WEIGHT: Approximately 142
VOLATILE ORGANIC COMPOUNDS: 795 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 105° F (SETA)
AUTOIGNITION TEMPERATURE: 473° F
CONDITIONS OF FLAMMABILITY: Materials must be moderately heated before ignition can occur.
FLAMMABLE LIMITS IN AIR - LOWER: 0.7% UPPER: 6.0%
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical, water (mist only).
FIRE FIGHTING PROCEDURES -- SPECIAL: NFPA 704 Rating 2-2-0

Keep storage tanks cool with water spray. Use self-contained breathing apparatus (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Decomposition and combustion products may be toxic. Heated tanks may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flashback.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition and burning may produce carbon monoxide.

SECTION V -- REACTIVITY DATA

STABILITY: Normally stable even under fire exposure conditions and is not reactive with water. Normal firefighting procedures may be used.
INCOMPATIBILITY
(CONDITIONS TO AVOID): Strong oxidizing agents (e.g. chlorine, peroxides, strong acids).
HAZARDOUS
POLYMERIZATION: Not known to occur under normal conditions.
HAZARDOUS DECOMPOSITION
PRODUCTS: Normally none; however, incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Skin and eye contact; inhalation.

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE: Skin: Prolonged or repeated contact tends to remove skin oils, possibly leading to irritation and dermatitis.
No significant skin absorption hazard.

Eyes: Contact may cause slight to moderate irritation. High vapor concentrations (> 500 ppm) are irritating to the eyes.

Inhalation: High concentrations of vapor or mist may be irritating to the respiratory tract, cause headaches, dizziness, nausea, impaired coordination, anesthesia and may have other central nervous system effects.

Ingestion: Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting and symptoms of central nervous system depression. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged and/or repeated contact may cause drying and cracking of the skin or dermatitis.

OTHER POTENTIAL HEALTH HAZARDS:

The impurities that may be present are not expected to add significantly to the effects of exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals with pre-existing central nervous system dysfunction may have increased susceptibility to the effects of exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: Tetrachloroethylene is listed by IARC and NTP as a suspected carcinogen. Studies indicate that Ethyl Benzene and 1,1,1 Trichloroethane are experimental teratogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation or pain persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure into fresh air.
- SKIN:** Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.
- INGESTION:** If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

SPILL

PROCEDURES: Remove all ignition sources. Ventilate area and avoid breathing vapors. For large spills, isolate area and deny entry. If possible, contain as a liquid for possible re-refining. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

WASTE DISPOSAL METHODS:

Dispose in accordance with Federal, State, and local regulations. Contact Safety-Kleen regarding recycling.

HANDLING PRECAUTIONS:

Avoid contact with eyes, skin or clothing. Use in well ventilated area and avoid breathing vapors or mists. Keep away from heat, sparks and open flames.

SHIPPING AND STORING PRECAUTIONS:

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Launder contaminated clothing and clean protective equipment before reuse.

SECTION IX -- CONTROL MEASURES

VENTILATION:

Provide local exhaust or general dilution ventilation as determined necessary to maintain concentrations of vapors or mists below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.

**PROTECTIVE
GLOVES:**

Use nitrile or neoprene gloves to prevent contact with skin.

**EYE
PROTECTION:**

Where there is likelihood of spill or splash, wear chemical goggles or faceshield. Contact lenses should not be worn.

**RESPIRATORY
PROTECTION:**

Use NIOSH-approved respiratory protective equipment when concentration of vapors or mists exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapor with mist prefilter). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.

**OTHER PROTECTIVE
EQUIPMENT:**

Wear solvent-resistant boots, apron or other protective clothing where spills and splashes are possible. A source of clean water should be available in work areas for flushing the eyes and skin.

SECTION X -- OTHER REGULATORY INFORMATION

DOT PROPER SHIPPING NAME:

Petroleum Naphtha

DOT CLASS:

Combustible Liquid

DOT NUMBER:

UN 1255

SARA TITLE III:

Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.

Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

SECTION XI -- PREPARATION INFORMATION

PREPARED BY:

SK Product Review Committee

FORM NO. 900-14-001

ORIGINAL ISSUE DATE: July 20, 1989

REVISED: March 12, 1990 **SUPERSEDES:** July 20, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.

IMMERSION CLEANER/CARBURETOR AND COLD PARTS CLEANER 609

MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): IMMERSION CLEANER/CARBURETOR AND COLD PARTS CLEANER 609

SK PART NUMBER: 609, 6631, 50

FAMILY/CHEMICAL NAME: N/A

PRODUCT USAGE: REMOVING CARBON RESIDUE FROM PARTS

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
*Cresylic Acid	Mixed Cresols	11.9	1319-77-3	5 (Skin)	5 (Skin)
Petroleum Sulfonate Contains: Hexylene Glycol Diethylene Glycol	Surfactant Blend	7.4			
			107-41-5 111-46-6	25(C) N/E	25(C) N/E
*Methylene Chloride	Dichloromethane	31.7	75-09-2	500 1000(C)	50
Di-chlorobenzenes: *(o-dichlorobenzene) *(p-dichlorobenzene)	ODCB	10.5 10.5	95-50-1 106-46-7	50(C) 75	50(C) 75
*(m-dichlorobenzene)		10.5	541-73-1	110 STEL N/E	110 STEL N/E
Complex Amines Contains: Propargyl Alcohol *Isopropyl Alcohol	Rust Inhibitor	0.4			
			107-19-7 67-63-0	1 (Skin) 400 500 STEL	1 (Skin) 400 500 STEL
Triethanolamine	TEA	0.4	102-71-6	N/E	N/E
Water		16.8	7732-18-5	N/E	N/E

* See Section X - Other Regulatory Information

N/E = Not Established

(C) = Ceiling Concentration

SECTION III -- PHYSICAL DATA

**PHYSICAL STATE,
APPEARANCE AND ODOR:**

Liquid - clear, dark amber, with aromatic odor. Two distinct layers comprise the product; top layer water, lower layer solvent.

BOILING POINT:

102° - 395° F

MELTING POINT: Not known
EVAPORATION RATE: 1.0 (Water = 1)
PERCENT VOLATILE: Majority
VAPOR DENSITY: Same as Water
VAPOR PRESSURE: Same as Water
SOLUBILITY IN WATER: Completely miscible in all proportions.
pH: 9-10 in water phase
SPECIFIC GRAVITY: 1.19 (Water = 1.0)
MOLECULAR WEIGHT: Use molecular weights of individual components.
VOLATILE ORGANIC COMPOUNDS: 750 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Non-Flammable
AUTOIGNITION TEMPERATURE: Not Known
CONDITIONS OF FLAMMABILITY: Non-Flammable
FLAMMABLE LIMITS IN AIR - LOWER: Non-Flammable **UPPER:** Non-Flammable
EXTINGUISHING MEDIA: None Special
FIRE FIGHTING PROCEDURES - SPECIAL: None; product is non-flammable. NFPA 704 Rating 3-2-0
UNUSUAL FIRE AND EXPLOSION HAZARDS:

Although product is non-flammable, flames, welding arcs or other high temperature sources can cause decomposition. This decomposition can yield corrosive and toxic gases, vapors mists or fumes. Use a self-contained breathing apparatus (SCBA).

HAZARDOUS COMBUSTION PRODUCTS:

Although product is non-flammable, flames, welding arcs or other high temperature sources can cause decomposition. This decomposition can yield corrosive and toxic gases, vapors, mists or fumes (e.g. hydrogen chloride, phosgene, carbon monoxide, etc.)

SECTION V -- REACTIVITY DATA

STABILITY: Normally stable.
INCOMPATIBILITY: (CONDITIONS TO AVOID) Strong oxidizing agents (e.g. chlorine, peroxides, strong acids)
HAZARDOUS POLYMERIZATION: Not known to occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Normally none; however, flames and welding arcs can produce corrosive and toxic gases, vapors and fumes (e.g. hydrogen chloride, phosgene, carbon monoxide).

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin and eye contact, skin absorption.

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE: *Skin:* Corrosive to living tissue and is rapidly absorbed through the skin causing systemic poisoning. Contact with unprotected skin can cause discoloration, irritation, blistering and slow healing chemical burns. Partial anesthetic properties may mask affects.

Eyes: Contact with liquid may cause severe chemical burns and produce permanent damage.

Inhalation: May result in severe respiratory irritation; gastrointestinal distress (nausea, vomiting), central nervous system depression (headache, drowsiness, dizziness, confusion) and tingling or numbness of the extremities. Severe exposures may lead to respiratory failure, coma and death.

Ingestion: May produce burning pain in the mouth and stomach, severe abdominal pain with nausea, vomiting, slow respiration and irregular pulse, and dark blue skin discoloration. Symptoms similar to those for inhalation also may occur.

CHRONIC: Exposure to high concentrations may lead to damage to the liver, kidneys and lungs. Contact with skin may cause dermatitis, gastrointestinal disorders and produce symptoms similar to those for inhalation.

OTHER POTENTIAL HEALTH HAZARDS:

Metabolism of methylene chloride may elevate carboxyhemoglobin levels.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals with pre-existing liver, kidney, lung or cardiovascular dysfunction may have increased susceptibility to the effects of exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: Methylene chloride is listed by NTP and IARC as a suspected carcinogen. P-dichlorobenzene is listed by IARC as a suspected carcinogen.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** For direct contact, flush eyes with clean water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.
- SKIN:** Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.
- INGESTION:** Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

**SPILL
PROCEDURES:** Ventilate area and avoid breathing vapors. Absorb spill with oil absorbent or soda ash. Catch and collect for recovery as soon as possible. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

**WASTE DISPOSAL
METHODS:** Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.

**HANDLING
PRECAUTIONS:** Keep away from heat, sparks and open flames. Use adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapors.

**SHIPPING AND
STORING
PRECAUTIONS:**

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION IX - CONTROL MEASURES

VENTILATION:

Provide local exhaust or general dilution ventilation, as determined necessary, to maintain concentrations of vapors below applicable exposure limits.

PROTECTIVE GLOVES:

Wear Viton gloves to prevent skin contact.

EYE PROTECTION:

Where there is a likelihood of contact with the face and/or eyes, wear a faceshield and chemical goggles. Contact lenses should not be worn.

**RESPIRATORY
PROTECTION:**

Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges or canisters (for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.

**OTHER PROTECTIVE
EQUIPMENT:**

A source of clean water should be available in the work area for flushing eyes and skin. Wear solvent-resistant boots, apron or other protective clothing where spills or splashes are possible.

SECTION X -- OTHER REGULATORY INFORMATION

**DOT PROPER
SHIPPING NAME:**

Compound, Cleaning Liquid

DOT CLASS:

Corrosive Liquid

DOT ID NUMBER:

NA1760

SARA TITLE III:

Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.

Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

SECTION XI -- PREPARATION INFORMATION

PREPARED BY:

SK Product Review Committee

FORM NO. 900-14-002

ORIGINAL ISSUE DATE: July 20, 1989

REVISED: December 1, 1989

SUPERSEDES: July 20, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.

Exhibit I.D.2-12
SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER 699
MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER 699

SK PART NUMBER: 6861, 699

FAMILY/CHEMICAL NAME: N/A

PRODUCT USAGE: REMOVING CARBON RESIDUE FROM PARTS

SECTION II -- HAZARDOUS COMPONENTS

	SYNONYM	TYPICAL % BY WT.	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Aromatic 150	Heavy Aromatic Naphtha Cleaning Solvent, 140 (60) Class		64742-94-5	100 (Exxon)	100 (Exxon)
			91-20-3	10 15 STEL	10 15 STEL
N-Methyl-2-Pyrrolidone	NMP		872-50-4	100 (BASF)	100 (BASF)
Dipropylene Glycol Methyl Ether	Dipropylene Glycol Monomethyl Ether		34590-94-8	100 150 STEL	100 150 STEL
Monoethanolamine	Ethanolamine		141-43-5	3 6 STEL	3 6 STEL
Oleic Acid	Red Oil		112-80-1	N/E	N/E
Water			7732-18-5	—	—

** (Total chlorinated solvents)

1.0 (Max)

N/E = Not Established

* See Section X - Other Regulatory Information

** May contain methylene chloride and/or tetrachloroethylene in concentrations > 0.1%

SECTION III -- PHYSICAL DATA

**PHYSICAL STATE,
APPEARANCE AND ODOR:** Clear, reddish brown liquid with hydrocarbon odor.

BOILING RANGE: 210° - 439° F

MELTING POINT: < 10° F

EVAPORATION RATE: 1.0 (Water = 1)

PERCENT VOLATILE: 92 Wt. %
VAPOR DENSITY: 2.6 (Air = 1.0)
VAPOR PRESSURE: 10.9 mm Hg at 25° C
SOLUBILITY IN WATER: Completely miscible in all proportions.
pH: 10.8, 50/50 (Water/Solvent)
SPECIFIC GRAVITY: 0.95 (Water = 1.0)
MOLECULAR WEIGHT: 127, Average molecular weight of components.
VOLATILE ORGANIC COMPOUNDS: N/E

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: SETA, 142° F (Min.)
AUTOIGNITION TEMPERATURE: Not Known
CONDITIONS OF FLAMMABILITY: Ignitable, if material is heated above its flash point.
FLAMMABLE LIMITS IN AIR - LOWER: 0.8 **UPPER:** 7.0
EXTINGUISHING MEDIA: None Special
FIRE FIGHTING PROCEDURES - SPECIAL: NFPA 704 Rating 2-2-0
UNUSUAL FIRE AND EXPLOSION HAZARDS:

Decomposition and combustion products may be toxic. Heated tanks may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flashback.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition and burning may produce carbon monoxide, oxides of nitrogen and acrid smoke.

SECTION V -- REACTIVITY DATA

STABILITY: Normally stable.
INCOMPATIBILITY: Strong oxidizing agents
(CONDITIONS TO AVOID) (e.g. chlorine, peroxides, strong acids)
HAZARDOUS POLYMERIZATION: Not known to occur under normal conditions, oxides of nitrogen and acrid smoke. Glycol ethers have been shown to form explosive peroxides.
HAZARDOUS DECOMPOSITION PRODUCTS: Normally none; however, incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin and eye contact, skin absorption.
HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:
ACUTE: *Skin:* Corrosive to living tissue and is absorbed through the skin causing systemic poisoning. Contact with unprotected skin can cause discoloration, irritation, blistering and slow healing chemical burns.

Eyes: Contact with liquid may cause severe chemical burns and produce permanent damage.

Inhalation: May result in severe respiratory irritation; gastrointestinal distress (nausea, vomiting), central nervous system depression (headache, drowsiness, dizziness, confusion) and tingling or numbness of the extremities. Severe exposures may lead to respiratory failure, coma and death.

Ingestion: May produce burning pain in the mouth and stomach, severe abdominal pain with nausea, vomiting, slow respiration and irregular pulse. Symptoms similar to those for inhalation also may occur.

CHRONIC: Exposure to high concentrations may lead to damage to the liver, kidneys and lungs. Contact with skin may cause dermatitis, gastrointestinal disorders and produce symptoms similar to those for inhalation.

OTHER POTENTIAL HEALTH HAZARDS:

Dipropylene glycol methyl ether is a mild allergen.

MEDICAL CONDITIONS

AGGRAVATED BY

EXPOSURE: Individuals with pre-existing liver, kidney, lung or cardiovascular dysfunction may have increased susceptibility to the effects of exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: Naphthalene is an experimental tumorigen. Mutagenic data exists and Naphthalene is included in EPA Genetic Toxicology Program. Oleic acid is an experimental tumorigen. Methylene Chloride and Tetrachloroethylene are listed by IARC and NTP as suspected carcinogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

EYES: For direct contact, flush eyes with clean water for 20 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.

SKIN: Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.

INGESTION: Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.

INHALATION: Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

SPILL PROCEDURES: Ventilate area and avoid breathing vapors. Absorb spill with oil absorbent or soda ash. Catch and collect for recovery as soon as possible. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

WASTE DISPOSAL METHODS: Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.

HANDLING PRECAUTIONS: Keep away from heat, sparks and open flames. Use adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapors.

SHIPPING AND STORING PRECAUTIONS: Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

PERSONAL HYGIENE: Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION IX - CONTROL MEASURES

- VENTILATION:** Provide local exhaust or general dilution ventilation, as determined necessary, to maintain concentrations of vapors below applicable exposure limits.
- PROTECTIVE GLOVES:** Wear neoprene gloves to prevent skin contact.
- EYE PROTECTION:** Where there is a likelihood of contact with the face and/or eyes, wear a faceshield and chemical goggles. Contact lenses should not be worn.
- RESPIRATORY PROTECTION:** Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges or canisters (for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.
- OTHER PROTECTIVE EQUIPMENT:** A source of clean water should be available in the work area for flushing eyes and skin. Wear solvent-resistant boots, apron or other protective clothing where spills or splashes are possible.

SECTION X -- OTHER REGULATORY INFORMATION

- DOT PROPER SHIPPING NAME:** Compound; Cleaning Liquid
- DOT CLASS:** Corrosive Liquid
- DOT ID NUMBER:** NA1760
- SARA TITLE III:** Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.
- Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):
- Immediate (Acute) Health Hazard
 - Delayed (Chronic) Health Hazard
 - Fire Hazard
 - Reactivity Hazard

SECTION XI -- PREPARATION INFORMATION

PREPARED BY: SK Technical Services **FORM NO.** 900-14-057

ORIGINAL ISSUE DATE: December 1, 1989 **REVISED:** July 13, 1990 **SUPERSEDES:** April 6, 1990

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representation or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.

SAFETY-KLEEN PERCHLOROETHYLENE
MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN PERCHLOROETHYLENE
SK PART NUMBER: 775, 778, 10778, 30778
FAMILY/CHEMICAL NAME: CHLORINATED HYDROCARBON
PRODUCT USAGE: DRY CLEANING SOLVENT

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
*Perchloroethylene (Stabilized)	1,1,2,2 - Tetra-chloroethylene	100	127-18-4	25	50 200 STEL

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR: Liquid - colorless, clear liquid with mildly sweet odor.

BOILING POINT: 250° F

MELTING POINT: - 9° F

EVAPORATION RATE: 0.09 (Toluene = 1)

PERCENT VOLATILE: Approximately 100%

VAPOR DENSITY: 5.83

VAPOR PRESSURE: 13 mm Hg @ 20° C (Concentrate)

SOLUBILITY IN WATER: 0.015 mg/100 gm @ 25° C

pH: Not Applicable

SPECIFIC GRAVITY: 1.6 (Water = 1.0)

MOLECULAR WEIGHT: 164

VOLATILE ORGANIC COMPOUNDS: None

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Non-Flammable
AUTOIGNITION TEMPERATURE: Not Applicable
CONDITIONS OF FLAMMABILITY: Non-Flammable
FLAMMABLE LIMITS IN AIR - LOWER: Non-Flammable **UPPER:** Non-Flammable
EXTINGUISHING MEDIA: Non-Flammable
FIRE FIGHTING PROCEDURES -- SPECIAL: NFPA 704 Rating 2-0-0

Self-contained breathing apparatus (SCBA) should be used by fire fighters in buildings where perchloroethylene is stored. Keep containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Concentrated vapors will decompose on contact with high intensity heat source and produce hydrogen chloride or phosgene.

HAZARDOUS COMBUSTION PRODUCTS:

Exposure to flames, an electric arc or other high energy sources will result in thermal decomposition forming toxic gases (e.g. phosgene and hydrogen chloride).

SECTION V -- REACTIVITY DATA

STABILITY: Stable under normal temperatures and pressures.
INCOMPATIBILITY (CONDITIONS TO AVOID): Open flames, hot surfaces, emissions from welding arcs. Strong alkalis and oxidizing materials. Reacts violently with barium, beryllium and lithium.
HAZARDOUS POLYMERIZATION: Does not normally occur under normal temperatures and pressures.
HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition produces phosgene and hydrogen chloride and other highly toxic substances.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin and eye contact, skin absorption.

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE: **Skin:** May cause irritation, discomfort or pain. May be absorbed through the skin, although it is not expected to produce toxicity by this route.

Eyes: Contact with liquid may cause slight to moderate irritation resulting in pain, tearing and general inflammation.

Inhalation: May result in respiratory irritation, gastrointestinal distress (nausea, vomiting), central nervous system depression, headaches, drowsiness, dizziness, confusion, loss of coordination and equilibrium and more severe central nervous system effects at much higher concentrations. Overexposure can cause unconsciousness and even death in extreme cases.

Ingestion: May produce irritation of the mouth and gastrointestinal tract and cause effects similar to those of "Inhalation". Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

CHRONIC: Prolonged and repeated exposure to high concentrations may result in damage to the liver, kidneys and central nervous system. Prolonged or repeated contact with skin may cause skin to become reddened, rough and dry and may result in dermatitis.

OTHER POTENTIAL HEALTH HAZARDS:

Animals exposed to high levels have shown cardiac sensitization.

**MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE:**

Individuals with pre-existing liver, kidney or central nervous system dysfunction may have increased susceptibility to effects of the exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: Perchloroethylene is listed by OSHA, NTP and IARC as a suspected carcinogen.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES
--

EYES: Flush eyes with water for 20 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.

SKIN: Remove contaminated clothing. Wash skin twice with soap and water. If irritation persists, consult a physician.

INGESTION: Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.

INHALATION: Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE HANDLING AND USE
--

**SPILL
PROCEDURES:** Isolate area and deny entry. Ventilate area and avoid breathing vapors. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

**WASTE DISPOSAL
METHODS:** Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.

**HANDLING
PRECAUTIONS:** Do not get into eyes, on skin or clothing. Avoid breathing vapors. DO NOT smoke when using this product.

**SHIPPING AND
STORING
PRECAUTIONS:** Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport. Because vapors are much heavier than air, do not store in basements, pits or depressions without ventilation at floor level.

**PERSONAL
HYGIENE:** Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Clothing which becomes soaked with solvent should be removed immediately and must not be worn until it is thoroughly laundered and dried.

SECTION IX -- CONTROL MEASURES

- VENTILATION:** Provide local exhaust or general dilution ventilation as determined appropriate to maintain concentrations of vapors below applicable exposure limits.
- PROTECTIVE GLOVES:** Wear solvent-resistant gloves such as nitrile or neoprene to prevent contact with skin.
- EYE PROTECTION:** Use protective eyewear such as chemical goggles or faceshield to prevent contact from splash, spray or mist. Contact lenses should not be worn.
- RESPIRATORY PROTECTION:** Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.
- OTHER PROTECTIVE EQUIPMENT:** A source of clean water should be available in work area for flushing eyes and skin. Wear boots, apron and other protective clothing as need to protect against contact with skin.

SECTION X -- OTHER REGULATORY INFORMATION

- DOT PROPER SHIPPING NAME:** Perchloroethylene
- DOT CLASS:** ORM-A
- DOT ID NUMBER:** UN 1897
- SARA TITLE III:** Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.
- Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):
- Immediate (Acute) Health Hazard
 - Delayed (Chronic) Health Hazard
- OTHER:** State of California Safe Drinking Water and Toxic Enforcement Act (Proposition #65)
- Warning: Perchloroethylene is known to the State of California to cause cancer.
- California South Coast Air Quality Management District Rule 443.1:
- Maximum Volatile Organic Carbon (VOC): 1620 grams/liter
 - VOC Vapor Pressure at 20° C: 13 mm Hg

SECTION XI -- PREPARATION INFORMATION

PREPARED BY: SK Product Review Committee **FORM NO.** 900-14-022

ORIGINAL ISSUE DATE: July 20, 1989 **REVISED:** December 1, 1989 **SUPERSEDES:** July 20, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the products to which information refers. The data contained on this sheet applies to the material as supplied to the user.

SAFETY-KLEEN DRY CLEANING GRADE SOLVENT F 780

MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN DRY CLEANING GRADE SOLVENT F 780
SK PART NUMBER: 780
FAMILY/CHEMICAL NAME: CHLORINATED/FLUORINATED HYDROCARBON
PRODUCT USAGE: DRY CLEANING SOLVENT

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
*Trichlorotrifluoroethane	Fluorocarbon 113	~ 100	76-13-1	1000 1250 STEL	1000

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR: Liquid - clear, colorless liquid with slight ethereal odor.

BOILING POINT: 117.6° F

MELTING POINT: Not Applicable

EVAPORATION RATE: 0.1 (CCl₄ = 1)

PERCENT VOLATILE: 100%

VAPOR DENSITY: 6.5 (Air = 1)

VAPOR PRESSURE: 334 mm Hg @ 77° F

SOLUBILITY IN WATER: 0.02% by weight (77° F)

pH: Not Applicable

SPECIFIC GRAVITY: 1.57 (Water = 1, @ 77° F)

MOLECULAR WEIGHT: 187

VOLATILE ORGANIC COMPOUNDS: None

OTHER POTENTIAL HEALTH HAZARDS: None Known

**MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE:**

Individuals with pre-existing lung, skin and cardiovascular system dysfunction may have increased susceptibility to effects of the exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: No components are listed by OSHA, NTP or IARC as known or suspected carcinogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** Flush eyes with water for 20 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.
- SKIN:** Remove contaminated clothing. Wash skin twice with soap and water. If irritation persists, consult a physician.
- INGESTION:** Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL

PROCEDURES: Isolate area and deny entry. Ventilate area and avoid breathing vapors. Remove residue with inert sorbent such as sand, oil dry or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

**WASTE DISPOSAL
METHODS:**

Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.

**HANDLING
PRECAUTIONS:**

Do not get into eyes, on skin or clothing. Avoid breathing vapors or mists.

**SHIPPING AND
STORING
PRECAUTIONS:**

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport. Do not store above 125° F.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION IX -- CONTROL MEASURES

- VENTILATION:** Provide local exhaust or general dilution ventilation as determined necessary to maintain concentrations of vapors below applicable exposure limits.
- PROTECTIVE
GLOVES:** Wear neoprene or nitrile gloves for repeated or prolonged contact.
- EYE
PROTECTION:** Where there is likelihood of spill or splash, wear chemical goggles or faceshield. Contact lenses should not be worn.

**RESPIRATORY
PROTECTION:**

Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (chemical cartridge for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.

**OTHER PROTECTIVE
EQUIPMENT:**

A source of clean water should be available in work area for flushing eyes and skin. Wear rubber boots, apron and other protective clothing as need to protect against contact with skin.

SECTION X -- OTHER REGULATORY INFORMATION
--

**DOT PROPER
SHIPPING NAME:**

Cleaning Compound N.O.I.

DOT CLASS:

None

DOT ID NUMBER:

None

SARA TITLE III:

Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.

Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

SECTION XI -- PREPARATION INFORMATION
--

PREPARED BY:

SK Product Review Committee

FORM NO. 900-14-021

ORIGINAL ISSUE DATE: July 20, 1989

REVISED: December 1, 1989

SUPERSEDES: July 20, 1989

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MATERIAL SAFETY DATA SHEET

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For Product/Sales Information Call 312/697-8460

EMERGENCY TELEPHONE

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MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN 140 PARTS WASHING SOLVENT
SYNONYMS: PETROLEUM DISTILLATES, PETROLEUM NAPHTHA
SK PART NUMBER: 6616
FAMILY/CHEMICAL NAME: HYDROCARBON SOLVENT
PRODUCT USAGE: SOLVENT FOR CLEANING AND DEGREASING PARTS

SECTION II -- HAZARDOUS COMPONENTS

NAME	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Mineral Spirits	99.5	64742-88-7	100 (Stoddard Solvent)	100 (Stoddard Solvent)
Dye (contains Xylene)	.003	1330-20-7	100 150 STEL	100 150 STEL
Anti-Static Agent (contains Xylene)	1 ppm	1330-20-7	100 150 STEL	100 150 STEL

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR: Liquid - clear, green, with characteristic hydrocarbon odor.
BOILING POINT: 360° - 400° F
MELTING POINT: Not Available
EVAPORATION RATE: (Toluene = 1) 0.2
PERCENT VOLATILE: 99.9%
VAPOR DENSITY: 4.9 (Air = 1)
VAPOR PRESSURE: 2 mm of Hg at 68° F.
SOLUBILITY IN WATER: Negligible

pH: Approximately 7
SPECIFIC GRAVITY: 0.770 to 0.811
MOLECULAR WEIGHT: Approximately 142
VOLATILE ORGANIC COMPOUNDS: 795 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 140° F (TCC)

AUTOIGNITION TEMPERATURE: 473° F

CONDITIONS OF FLAMMABILITY: Materials must be moderately heated before ignition can occur.

FLAMMABLE LIMITS IN AIR - LOWER: 0.7% **UPPER:** 6.0%

EXTINGUISHING MEDIA: Carbon Dioxide, Foam, Dry Chemical, Water (mist only).

FIRE FIGHTING PROCEDURES -- SPECIAL:

Keep storage tanks cool with water spray. Use self-contained breathing apparatus (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Decomposition and combustion products may be toxic. Heated tanks may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flashback.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition and burning may produce carbon monoxide.

SECTION V -- REACTIVITY DATA

STABILITY: Normally stable even under fire exposure conditions and is not reactive with water. Normal firefighting procedures may be used.

INCOMPATIBILITY (CONDITIONS TO AVOID): Strong oxidizing agents (e.g. chlorine, peroxides, strong acids).

HAZARDOUS POLYMERIZATION: Not known to occur under normal conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Normally none; however, incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Skin and eye contact; inhalation.

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE: **Skin:** Prolonged or repeated contact tends to remove skin oils, possibly leading to irritation and dermatitis. No significant skin absorption hazard.

Eyes: Contact may cause slight to moderate irritation. High vapor concentrations (> 500 ppm) are irritating to the eyes.

Inhalation: High concentrations of vapor or mist may be irritating to the respiratory tract, cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Ingestion: Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting and symptoms of central nervous system depression. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged and/or repeated contact may cause drying and cracking of the skin or dermatitis.

OTHER POTENTIAL HEALTH HAZARDS: None Known

MEDICAL CONDITIONS

AGGRAVATED BY

EXPOSURE: Individuals with pre-existing central nervous system dysfunction may have increased susceptibility to the effects of exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: None of the ingredients are known or suspected carcinogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation or pain persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure into fresh air.
- SKIN:** Remove contaminated clothing. Wash twice with soap and water. If irritation develops and persists, consult a physician.
- INGESTION:** If conscious, dilute with 4-8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

SPILL

PROCEDURES: Remove all ignition sources. Ventilate area and avoid breathing vapors. For large spills, isolate area and deny entry. If possible, contain as a liquid for possible re-refining. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

WASTE DISPOSAL METHODS:

Dispose in accordance with Federal, State, and local regulations. Contact Safety-Kleen regarding recycling.

HANDLING PRECAUTIONS:

Avoid contact with eyes, skin or clothing. Use in well ventilated area and avoid breathing vapors or mists. Keep away from heat, sparks and open flames.

SHIPPING AND STORING PRECAUTIONS:

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

PERSONAL HYGIENE:

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Launder contaminated clothing and clean protective equipment before reuse.

SECTION IX -- CONTROL MEASURES

- VENTILATION:** Provide local exhaust or general dilution ventilation as determined necessary to maintain concentrations of vapors or mists below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.
- PROTECTIVE GLOVES:** Use nitrile or neoprene gloves to prevent contact with skin.
- EYE PROTECTION:** Use protective eyewear such as safety glasses with side shields. Where there is likelihood of spill or splash, wear chemical goggles or faceshield. Contact lenses should not be worn.
- RESPIRATORY PROTECTION:** Use NIOSH-approved respiratory protective equipment when concentration of mists exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapor). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.
- OTHER PROTECTIVE EQUIPMENT:** Wear solvent-resistant boots, apron or other protective clothing where spills and splashes are possible. A source of clean water should be available in work areas for flushing the eyes and skin.

SECTION X -- OTHER REGULATORY INFORMATION

- DOT PROPER SHIPPING NAME:** Petroleum Naphtha
- DOT CLASS:** Combustible Liquid
- DOT NUMBER:** UN 1255
- TSCA INVENTORY STATUS:** Ingredients listed are reported in EPA TSCA Inventory

SECTION XI -- PREPARATION INFORMATION

- PREPARED BY:** SK Product Review Committee **FORM NO.:** 900-14-031
- ORIGINAL ISSUE DATE:** July 20, 1989 **REVISED:** **SUPERSEDES:**

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers.

SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782
SK PART NUMBER: 5820, 5825
FAMILY/CHEMICAL NAME: N/A
PRODUCT USAGE: LACQUER THINNER

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Toluene	Toluol	5-60	108-88-3	100 150 STEL	100 150 STEL
*Xylene	Xylol	5-20	1330-20-7	100 150 STEL	100 150 STEL
Heptane	n-Heptane	N/E	142-82-5	400 500 STEL	400 500 STEL
*Methyl Ethyl Ketone	MEK	5-40	78-93-3	200 300 STEL	200 300 STEL
*Methyl Isobutyl Ketone	MIBK	0.1-10	108-10-1	50 75 STEL	50 75 STEL
Methylcyclohexane	Cyclohexylmethane	0.10-40	108-87-2	400	400
*Acetone	2-Propanone	2-20	67-64-1	750 1000 STEL	750 1000 STEL
*Cyclohexane			110-82-7	300	300
*Isopropanol	Isopropyl Alcohol	0.1-20	67-63-0	400 500 STEL	400 500 STEL
*Methanol	Methyl Alcohol	2-10	67-56-1	200 250 STEL	200 250 STEL
Lactol Spirits	VM & P Naphtha	0.1-20	8030-30-6	300 400 STEL	300
Ethanol	Ethyl Alcohol	0.1-10	64-17-5	1000	1000
n-Butyl Acetate	Butyl Acetate	0.1-15	123-86-4	150 200 STEL	150 200 STEL
Isobutyl Acetate	Isobutyl Ester Acetic Acid	0.1-15	110-19-0	150	150
Ethyl 3-Ethoxypropionate	3-Ethoxypropionic Acid Ethyl Ester	N/E	763-69-9	N/E	N/E

N/E = Not Established

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR:	Liquid - colorless, clear, with a characteristic solvent odor.
BOILING POINT:	~ 131 - 347° F
MELTING POINT:	Not Applicable
EVAPORATION RATE:	3.68 (N-Butyl = 1)
PERCENT VOLATILE:	100%
VAPOR DENSITY:	3.02 (Air = 1)
VAPOR PRESSURE:	94.7 mm Hg @ 20° C
SOLUBILITY IN WATER:	Appreciable
pH:	Not Applicable
SPECIFIC GRAVITY:	~ 0.802 (Water = 1)
MOLECULAR WEIGHT:	Use molecular weight of individual components.
VOLATILE ORGANIC COMPOUNDS:	802 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	< 20° F (TCC)	
AUTOIGNITION TEMPERATURE:	Not Available	
CONDITIONS OF FLAMMABILITY:	Normal temperatures and pressures.	
FLAMMABLE LIMITS IN AIR - LOWER:	1.0%	UPPER: 13.2%
EXTINGUISHING MEDIA:	Carbon dioxide, foam, dry chemical, water (mist only)	
FIRE FIGHTING PROCEDURES -- SPECIAL:	NFPA 704 Rating 2-3-0	

Water may be used to cool containers and firefighters. However, water could cause free solvent to float and spread fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Flammable liquid. Most components are Class 1B with flash point below 73° F and boiling point above 100° F.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon Monoxide
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SECTION V -- REACTIVITY DATA

STABILITY:	Stable under normal temperatures and conditions.
INCOMPATIBILITY: (CONDITIONS TO AVOID)	Heat sparks, flames, fire, strong oxidizing agents.
HAZARDOUS POLYMERIZATION:	Not known to occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS:	Normally none. Incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:	Inhalation, skin and eye contact.
--	-----------------------------------

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE:

Skin: Contact may cause irritation, dryness and cracking. Prolonged or repeated contact may remove skin oils, possibly leading to irritation and dermatitis. Material is readily absorbed through skin.

Eyes: Direct contact may cause severe irritation and temporary corneal damage. Vapors may cause noticeable redness, tearing, irritation and pain. Conjunctivitis may occur upon chronic exposure.

Inhalation: Can cause headache, dizziness, confusion, nausea, vomiting, irritation of the respiratory system and other central nervous system effects including unconsciousness in extreme cases.

Ingestion: Can cause burning of the mouth, throat and abdomen, nausea, vomiting, diarrhea, symptoms of the central nervous system depression, including weakness, dizziness, slow and shallow respiration, unconsciousness and convulsions. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

CHRONIC:

Inhalation: Prolonged overexposure may cause damage to the liver, kidney, spleen, lungs or nervous system.

OTHER POTENTIAL HEALTH HAZARDS:

Reports have associated prolonged and repeated occupational exposure to solvents with permanent brain and/or central nervous system damage. Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal. Observe all appropriate control measures.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals with pre-existing liver, kidney, spleen, lungs, skin or nervous system dysfunction may have increased susceptibility to the effects of the exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: No components are known or suspected carcinogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** For direct contact, flush eyes with clean water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.
- SKIN:** Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.
- INGESTION:** Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

- SPILL PROCEDURES:** Remove all ignition sources. Isolate area and deny entry. If possible, contain as a liquid for possible recycling. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.
- WASTE DISPOSAL METHODS:** Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.
- HANDLING PRECAUTIONS:** Do not get into eyes, on skin or clothing. Avoid breathing vapors. DO NOT smoke when handling this product.

PRECAUTIONS:

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION IX - CONTROL MEASURES

VENTILATION:

Provide local exhaust or general dilution ventilation as determined necessary, when concentrations of vapors exceed applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.

**PROTECTIVE
GLOVES:**

To protect against contact with skin, wear nitrile gloves.

**EYE
PROTECTION:**

Where there is likelihood of eye contact, wear chemical goggles. Contact lenses should not be worn.

**RESPIRATORY
PROTECTION:**

Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.

**OTHER PROTECTIVE
EQUIPMENT:**

A source of clean water should be available in the work area for flushing eyes and skin. Wear rubber apron or other protective clothing as needed to protect against spills or splash.

SECTION X -- OTHER REGULATORY INFORMATION

**DOT PROPER
SHIPPING NAME:**

Paint-Related Material

DOT CLASS:

Flammable Liquid

DOT ID NUMBER:

NA1263 UN1263

SARA TITLE III:

Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.

Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

SECTION XI -- PREPARATION INFORMATION

PREPARED BY:

SK Product Review Committee

FORM NO. 900-14-055

ORIGINAL ISSUE DATE:

July 20, 1989

REVISED:

DECEMBER 1, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.

SAFETY-KLEEN MULTI-USE LACQUER THINNER 6801

MATERIAL SAFETY DATA SHEET

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN MULTI-USE LACQUER THINNER 6801

SK PART NUMBER: 6801

FAMILY/CHEMICAL NAME: N/A

PRODUCT USAGE: LACQUER THINNER

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Toluene	Toluol	11-43	108-88-3	100 150 STEL	100 150 STEL
*Xylene	Xylol	3-4	1330-20-7	100 150 STEL	100 150 STEL
*Methyl Ethyl Ketone	MEK	- 5	78-93-3	200 300 STEL	200 300 STEL
*Methyl Isobutyl Ketone	MIBK	- 3	108-10-1	50 75 STEL	50 75 STEL
*Acetone	2-Propanone	20-30	67-64-1	750 1000 STEL	750 1000 STEL
*Isopropanol	Isopropyl Alcohol	5-15	67-63-0	400 500 STEL	400 500 STEL
Special Lactol Spirits	VM & P Naphtha	0.5-32	8030-30-6	300 400 STEL	300 STEL
Isobutyl Acetate	Isobutyl Ester Acetic Acid	0.1-15	110-19-0	150	150
Ethyl 3-Ethoxypropionate	3-Ethoxypropionic Acid Ethyl Ester	- 5	763-69-9	N/E	N/E

N/E = Not Established

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

**PHYSICAL STATE,
APPEARANCE AND ODOR:**

Liquid - colorless, clear, with a characteristic solvent odor.

BOILING POINT:

~ 131 - 347° F

MELTING POINT:

Not Applicable

EVAPORATION RATE:

3.30 (N-Butyl = 1)

PERCENT VOLATILE: 100%
VAPOR DENSITY: 3.02 (Air = 1)
VAPOR PRESSURE: 78.6 mm Hg @ 20° C
SOLUBILITY IN WATER: Appreciable
pH: Not Applicable
SPECIFIC GRAVITY: ~ 0.8000 - 0.8438 (Water = 1)
MOLECULAR WEIGHT: Use molecular weight of individual components.
VOLATILE ORGANIC COMPOUNDS: 800 - 844 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: < 20° F (TCC)
AUTOIGNITION TEMPERATURE: Not Available
CONDITIONS OF FLAMMABILITY: Normal temperatures and pressures.
FLAMMABLE LIMITS IN AIR - LOWER: 1.0% **UPPER:** 13.2%
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical, water (mist only)
FIRE FIGHTING PROCEDURES -- SPECIAL: NFPA 704 Rating 2-3-0
Water may be used to cool containers and fire fighters. However, water could cause free solvent to float and spread fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Flammable liquid. Most components are Class 1B with flash point below 73° F and boiling point above 100° F.
HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide

SECTION V -- REACTIVITY DATA

STABILITY: Stable under normal temperatures and conditions.
INCOMPATIBILITY: Heat sparks, flames, fire, strong oxidizing agents.
(CONDITIONS TO AVOID)
HAZARDOUS POLYMERIZATION: Not known to occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Normally none. Incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin and eye contact.
HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:
ACUTE: *Skin:* Contact may cause irritation, dryness and cracking. Prolonged or repeated contact may remove skin oils, possibly leading to irritation and dermatitis. Material is readily absorbed through skin.

Eyes: Direct contact may cause severe irritation and temporary corneal damage. Vapors may cause noticeable redness, tearing, irritation and pain. Conjunctivitis may occur upon chronic exposure.

Inhalation: Can cause headache, dizziness, confusion, nausea, vomiting, irritation of the respiratory system and other central nervous system effects including unconsciousness in extreme cases.

Ingestion: Can cause burning of the mouth, throat and abdomen, nausea, vomiting, diarrhea, symptoms of the central nervous system depression, including weakness, dizziness, slow and shallow respiration, unconsciousness and convulsions. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

CHRONIC: **Inhalation:** Prolonged overexposure may cause damage to the liver, kidney, spleen, lungs or nervous system.

OTHER POTENTIAL HEALTH HAZARDS:

Reports have associated prolonged and repeated occupational exposure to solvents with permanent brain and/or central nervous system damage. Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal. Observe all appropriate control measures.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals with pre-existing liver, kidney, spleen, lungs, skin or nervous system dysfunction may have increased susceptibility to the effects of the exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: No components are known or suspected carcinogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

- EYES:** For direct contact, flush eyes with clean water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure and into fresh air.
- SKIN:** Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.
- INGESTION:** Aspiration hazard. If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.
- INHALATION:** Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

- SPILL PROCEDURES:** Remove all ignition sources. Isolate area and deny entry. If possible, contain as a liquid for possible recycling. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.
- WASTE DISPOSAL METHODS:** Dispose in accordance with Federal, State and local regulations. Contact Safety-Kleen regarding recycling.
- HANDLING PRECAUTIONS:** Do not get into eyes, on skin or clothing. Avoid breathing vapors. DO NOT smoke when handling this product.
- SHIPPING AND STORING PRECAUTIONS:** Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.
- PERSONAL HYGIENE:** Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION IX - CONTROL MEASURES

- VENTILATION:** Provide local exhaust or general dilution ventilation as determined necessary, when concentrations of vapors exceed applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.
- PROTECTIVE GLOVES:** To protect against contact with skin, wear nitrile gloves.
- EYE PROTECTION:** Where there is likelihood of eye contact, wear chemical goggles. Contact lenses should not be worn.
- RESPIRATORY PROTECTION:** Use NIOSH-approved respiratory protective equipment when concentration of vapors exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapors). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.
- OTHER PROTECTIVE EQUIPMENT:** A source of clean water should be available in the work area for flushing eyes and skin. Wear rubber apron or other protective clothing as needed to protect against spills or splash.

SECTION X -- OTHER REGULATORY INFORMATION

- DOT PROPER SHIPPING NAME:** Paint-Related Material
- DOT CLASS:** Flammable Liquid
- DOT ID NUMBER:** NA1263
- SARA TITLE III:** Product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.
- Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):
- Immediate (Acute) Health Hazard
 - Delayed (Chronic) Health Hazard
 - Fire Hazard

SECTION XI -- PREPARATION INFORMATION

- PREPARED BY:** SK Product Review Committee **FORM NO.** 900-14-056
- ORIGINAL ISSUE DATE:** July 20, 1989 **REVISED:** December 1, 1989 **SUPERSEDES:** July 20, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.

APPENDIX B
LETTERS TO LOCAL AUTHORITIES



ERM-South, inc.

9501 Princess Palm Avenue, Suite 100 • Tampa, Florida 33619 • (813) 622-8727 • Fax (813) 621-8504

8181 N. W. 36th Street, Suite 20 • Miami, Florida 33166 • (305) 591-3076

777 Yamato Road, Suite 130 • Boca Raton, Florida 33487 • (407) 241-1752

April 23, 1991

Reply To: Tampa Office

Project No. 13112.28, Task 10

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Boynton Beach Police Department
135 NE 1st Avenue
Boynton Beach, FL 33435

RE: Safety-Kleen Corp. (3-097-01), Lot 46B, Quantum Industrial Park, Boynton Beach, Florida

Dear Sir:

Under terms of U.S.E.P.A. Regulation 40 CFR 264.37, Safety-Kleen Corp. must make arrangements to familiarize police and fire departments with the layout of the facility, places where facility personnel would be working, entrances to roads inside the facility, and possible evacuation routes. ERM-South is making this notification for Safety-Kleen.

Material Safety Data Sheets are enclosed for Mineral Spirits, Immersion Cleaner (chlorinated solvents), and Perchloroethylene (dry cleaning solvent). These documents describe the properties and associated hazards of the materials at the facility.

A facility layout is attached to show where facility personnel would normally be working, entrances to road inside facilities and possible evacuation routes. A copy of the Contingency Plan and Emergency Procedures is also attached for your file.

As required by law, Safety-Kleen will need your acknowledgment of receipt of this letter and indications that you have been familiarized with the action necessary in the event of an emergency and that you are willing to provide assistance.

If you have any questions or desire to visit the facility, please contact the branch manager, Mr. Thomas H. Sands (407) 576-9458.

Sincerely,



Frederick W. Blickle, P.E.

FWB/mmm/pjh

Enclosure(s)



ERM-South, inc.

9501 Princess Palm Avenue, Suite 100 • Tampa, Florida 33619 • (813) 622-8727 • Fax (813) 621-8504
8181 N. W. 36th Street, Suite 20 • Miami, Florida 33166 • (305) 591-3076
777 Yamato Road, Suite 130 • Boca Raton, Florida 33487 • (407) 241-1752

April 23, 1991

Reply To: Tampa Office

Project No. 13112.28, Task 10

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Boynton Beach Fire Department
150 East Boynton Beach Boulevard
Boynton Beach, FL 33435

RE: Safety-Kleen Corp. (3-097-01), Lot 46B, Quantum Industrial Park, Boynton Beach, Florida

Dear Sir:

Under terms of U.S.E.P.A. Regulation 40 CFR 264.37, Safety-Kleen Corp. must make arrangements to familiarize police and fire departments with the layout of the facility, places where facility personnel would be working, entrances to roads inside the facility, and possible evacuation routes. ERM-South is making this notification for Safety-Kleen.

Material Safety Data Sheets are enclosed for Mineral Spirits, Immersion Cleaner (chlorinated solvents), and Perchloroethylene (dry cleaning solvent). These documents describe the properties and associated hazards of the materials at the facility.

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777 Yamato Road, Suite 130 • Boca Raton, Florida 33487 • (407) 241-1752

Reply To: Tampa Office

April 23, 1991

Project No. 13112.28, Task 10

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Bethesda Hospital
2815 South Seacrest Boulevard
Boynton Beach, FL 33435

RE: Safety-Kleen Corp. (3-097-01), Lot 46 B, Quantum Industrial Park, Boynton Beach, Florida

Dear Sir:


Under terms of U.S.E.P.A. Regulation 40 CFR 264.37, Safety-Kleen Corp. is required to familiarize local hospitals with the properties of the materials handled at their facilities and the types of injuries or illnesses which could result from fires, explosions, or releases at this facility. ERM-South is making this notification for Safety-Kleen.

Material Safety Data Sheets are enclosed for Mineral Spirits, Immersion Cleaner (chlorinated solvents), and Perchloroethylene (dry cleaning solvent). These documents describe the properties and associated hazards of the materials at the facility.

As required by law, Safety-Kleen will need your acknowledgment of receipt of this letter and indications that you have been familiarized with the action necessary in the event of an emergency and that you are willing to provide assistance.

If you have any questions or desire to visit the facility, please contact the branch manager, Mr. Thomas H. Sands (407) 576-9458.

Sincerely,



Frederick W. Blickle, P.E.

FWB/mmm/pjh

Enclosure(s)



ATTACHMENT II.A.4(d)
PREPAREDNESS AND PREVENTION PROCEDURES

ATTACHMENT II.A.4(d)
PREPAREDNESS AND PREVENTION PROCEDURES

OPERATING FACILITY PROCEDURES

Inspection of Waste Management Facilities

1. The purpose of the inspection plan is to establish a procedure and schedule for the systematic monitoring and inspection of hazardous waste management and other material management facilities to ensure proper operation and maintain compliance.
2. The Branch Manager or his designate is responsible for carrying out the inspections of all hazardous waste management facilities in accordance with the following procedure and schedule.
3. The Branch Manager inspects the facility daily for security (gates and locks) and any evidence of sticking, corrosion, or uncommon activity. The facility fence is checked weekly for deterioration, gaps, and broken wire ties.
4. Daily inspections include the following:
 - a. Physically examine the container (drum) storage area to verify that leaks have not occurred since the last inspection.
 - b. Verify that the tanks and drums have not been damaged or rusted to the point of near leakage.
 - c. Replace or adjust damaged, missing, or loose equipment.



- d. Examine the tank and container storage areas to verify that all container identification, dates, loading data, hazardous waste labels are attached and current.
 - e. Containment areas to detect signs of deterioration and failure of the containment system such as cracks, breakage, settlement, and spillage.
 - f. Container placement and stacking such as aisle space, height, and stability of stacks.
5. Daily inspections of aboveground tanks also include the following:
- a. Check the automatic high level alarm. In addition, measure depth of used solvent in the tanks to double check the proper functioning of the automatic alarm system and to determine unexpected deviations in tank measuring data or a sudden drop in liquid level, which may indicate possibility of leakage.
 - b. Inspect the solvent dispensing hose, connections, and valve for any leaks, damage, or wear that could cause a leak to develop.
 - c. Drain the hose and unloading pipe so that all of the solvent is caught and returned to storage.
 - d. Inspect the valves for proper seat. Stem leaks from worn glands and warped valve bodies should be repaired. If the valve cannot be repaired, replace the unit.
 - e. Pumps should be inspected for packing leaks and cool, quiet operation.

6. The tanks will be periodically physically inspected and tested. Every five years, a general structural inspection, hydraulic test of the tank, internal inspection, and wall thickness will be made.

This inspection and testing will involve withdrawal of contents, a squeegee cleaning, visual inspection, and performance of Kent-Moore® or other leak detection tests acceptable to FDER. Frequency and method of future inspection and testing will be determined based upon results of prior evaluations.

7. Daily inspection of the solvent return receptacle (wet dumpster) consists of the inspection for leaks and excess dumpster mud build-up.

Inspection of Emergency and Spill Control Equipment

1. The purpose of the inspection plan is to establish a procedure and schedule for the systematic monitoring and inspection of emergency and spill control equipment to ensure proper operation and to maintain compliance.
2. The Branch Manager or his designee is responsible for carrying out the inspection in accordance with the following procedure and schedule.
 - A. A weekly inspection of fire extinguishers must be performed to ensure that the tag date has not expired and the units are properly charged and accessible. The unit must be inspected by a fire service supplier on a yearly basis.
 - B. A weekly inspection of eye wash stands must be performed to assure accessibility; check for proper operation of this equipment on a monthly basis. Inventory of the first-aid kit must be checked on a weekly basis.

- C. A weekly check of the supply of spill control equipment (absorbent material) must be performed.
- D. A weekly check of the conditions and inventory of other emergency equipment will be made. This includes gloves, aprons, goggles, respirators, and other personal protective equipment.

Inspection of Transportation Equipment

1. The purpose of this inspection plan is to establish a procedure and schedule for the systematic monitoring and inspection of the route trucks which travel between the customers and the service center to ensure proper operation and safety of the equipment.
2. The Branch Manager or his designee is responsible for daily inspection of each route vehicle to ensure the proper operation of brakes, lights, turn signals, emergency flashers, and wipers. Trucks dispatched from the recycle center should also be noted for their operation.
3. Daily inspection for safety equipment such as sorbent, eyewash, fire extinguisher, first-aid kit, and reflector kits on the route vehicles must be performed.
4. Any equipment that is inoperative or unavailable shall be immediately repaired or replaced.

Corrective Action

Any discrepancies or deficiencies found during the routine inspection must be corrected on a most expedient basis to ensure that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or an accident has already

occurred, remedial action must be taken immediately. The Branch Manager of the service center has the overall responsibility for resolving any discrepancies found during the routine inspection.

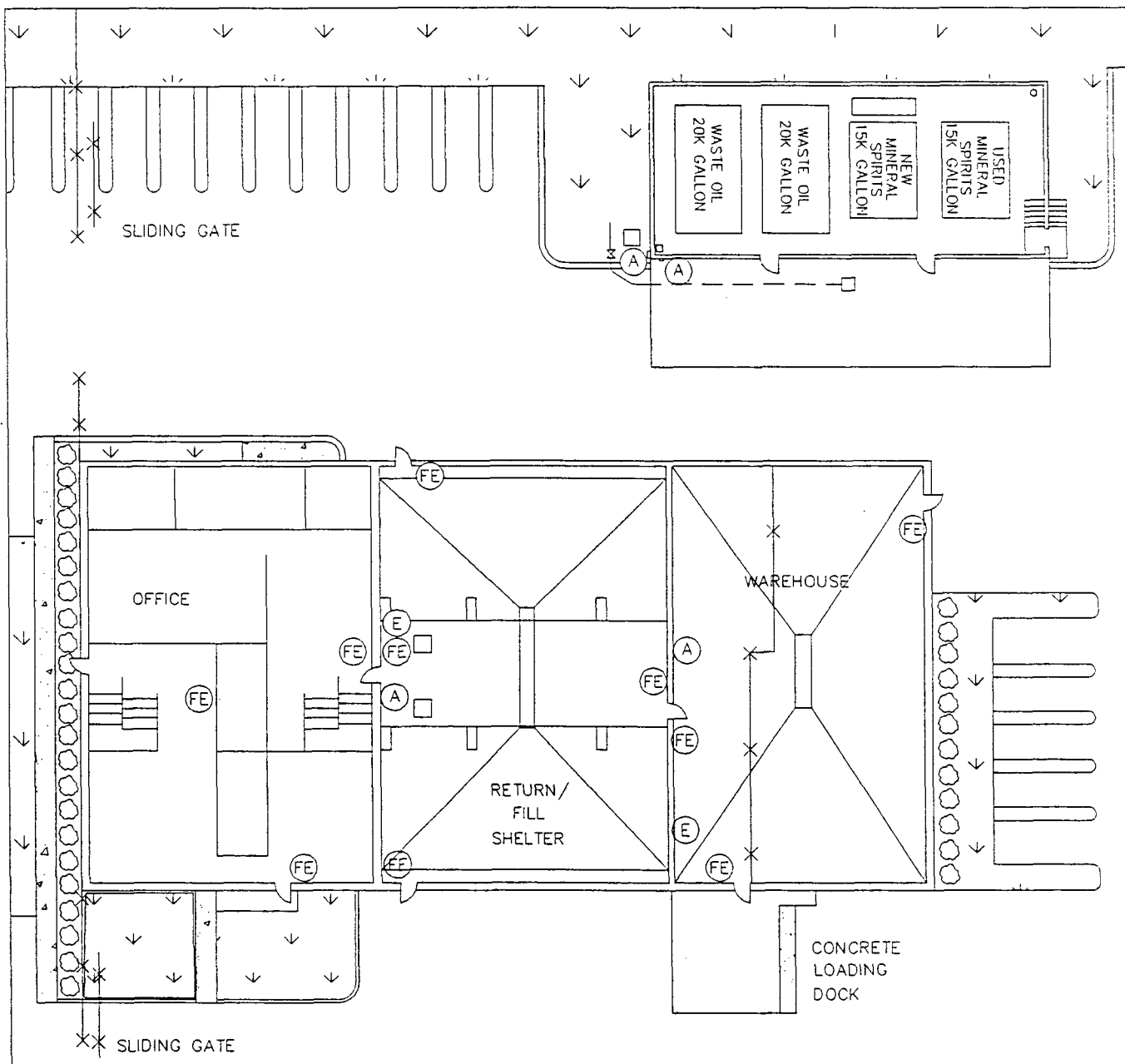
Available Equipment and Communication

Due to the small size of the facility, routine communication is accomplished by voice communication; however, an intercom is also available. Telephones are used in case of a spill or fire emergency to summon assistance. Emergency numbers are posted by each phone in the office. Included with these phone numbers is the 24-hour spill number which connects to Corporate Environmental Department at the corporate office in Elgin, Illinois. See Figure II.A.4(d)-1 for locations of telephones, fire extinguisher, the first aid kit, and the emergency eyewash. Other emergency response equipment (Table II.A.4(d)-1) is kept in a small storage area inside the warehouse near the return/fill dock. This equipment includes mops and buckets, soap, shovels, and spill sorbent pads. Rubber gloves, boots, pumps, and a wet/dry vacuum cleaner are stored in an emergency supply area near the drum storage area. The City of Boynton Beach supplies water for domestic use, decontamination, and fire fighting. Adequate aisle space is provided in the drum storage area for unobstructed movement of personnel and equipment in an emergency situation.

Pails, hoses, and detergent are the primary equipment which will be utilized for decontamination.

The equipment available at the service center for emergency situations is adequate for most cases. Large or serious emergency situations will be remediated by local emergency response teams or special emergency response or cleanup contractors. The facility is constructed and operated in accordance with National Fire Protection Association (NFPA) standards and applicable local ordinances. Applicable health and safety standards also are observed at the service center. A recent air quality survey

Figure II.A.4(d)-1
Safety Equipment
Safety-Kleen Corp. Facility
Boynton Beach, Florida



LEGEND

- (FE) FIRE EXTINGUISHER
- (E) EYE WASH/SOWER
- (A) ALARM



0 30
SCALE

TABLE II.A.4(d)-1
EMERGENCY RESPONSE EQUIPMENT

Description	Type/Capacity	Location	Quantity
		(Shown in Exhibit I.D.5-2)	
Fire Extinguisher	ABC (10 lb)	Warehouse	3
		Drum Return/Fill Area	4
		Office (1st floor)	3
Eyewash	Fountain	Warehouse	1
		Drum Return/Fill Area	1
First-Aid		Warehouse	1
Telephones	Standard	Manager's Office	1
Telephones	Standard	Secretary's Desk	1
Telephones	Standard	Warehouse	2
Gloves	Rubber	Emergency Equip. Area	Min. 1/employee
Boots (optional)	Rubber	Emergency Equip. Area	Min. 1/employee
Protective Clothing	Apron	Emergency Equip. Area	1/Employee
Eye Protection	Goggles/Safety Glasses	Emergency Equip. Area	Min. 1/employee
Sorbent Material	Oil Absorbing	Emergency Equip. Area	Min. 1 bale
Shovel	Standard	Emergency Equip. Area	Min. 1
Mop and Bucket	Standard	Emergency Equip. Area	Min. 1
Respirator	Self Contained Breathing Apparatus	Emergency Equip. Area	1/employee
Pump	Hand-held, Electric	Emergency Equip. Area	Min. 1
Wet/Dry Vacuum	Portable, Electric	Emergency Equip. Area	1
Water	Fire fighting sprinkler	All buildings	NA

conducted by an independent industrial hygienist at the Los Angeles service center has shown that air quality at a typical service center is within Threshold Limit Values (TLV) as specified by OSHA and local air pollution control criteria, and no respirator or special protection unit is deemed mandatory.

External Factors

The design of the installation is such that a harmful spill is highly unlikely to occur from most external factors. The storage tanks are inaccessible to non-Safety-Kleen personnel and the pump switches are located inside. Also, the drum storage area is in a building which is inaccessible to unauthorized personnel.

- a. Vandalism - Only extreme vandalism would result in a solvent spill or fire. Responses to spills and fires are described in the contingency plan.
- b. Strikes - A strike would not result in a solvent spill or fire.
- c. Power Failure - A power failure would not result in a spill or fire. Should a power failure occur, all activities requiring electricity will cease.
- d. Flooding - The waste management facility elevation is above the projected 100-year flood plain; therefore, a 100-year flood will not affect the facility.
- e. Storms or Cold Weather - The solvent return and fill station is roofed to eliminate the possibility of rain or snow entering the dumpsters. No opportunity is foreseen to affect the facility with snow, cold weather or stormwater.

Containment Systems

Drummed Wastes

All containers are stored in the container (drum) storage area. The current storage area is totally contained by a concrete floor and container area's four walls (Figure II.A.4(d)-1). The containment system is free of cracks and coated with a concrete sealer that is compatible with and resistant to chemicals stored at this facility. All drums are stored on pallets.

The floor has a two-inch inward slope (four sides) that would direct a spill toward the collection trench located in the center of the room (Figure II.A.4(d)-1). Only six openings (doorways) in the drum containment area exist. Four of these lead to other containment areas; the drum fill/return and the enclosed concrete dock. The other two openings (doorways) are located on the east side of the drum containment area behind a locked chain link fence. All openings (doorways) are normally closed. Due to the volume of containment available and the configuration of the drum containment area, it is highly unlikely that any spill would extend beyond this area.

In the drum storage area, drums are handled with a hand-truck free of sharp points and stacked by hand. Every time a drum is moved, a chance exists that it will be tipped over, dropped, or punctured. To minimize the possibility of spillage, drums are tightly covered and kept in an upright position. A small portable electric pump is available to quickly transfer the liquid from any leaking container into another safe drum. Each route truck is equipped with an electric hoist. This hoist is used in the loading/unloading operation to minimize chances for spillage and/or employee injury. Trucks used for shipping containers between the recycle center and service center have lift gates for drum loading/unloading. With the exception of mineral spirits, all drummed wastes are loaded/unloaded in the vicinity of the enclosed concrete dock the southeast side of the building (Figure II.A.4(d)-1).

Because these areas are fully enclosed, spills originating in these areas should not come in contact with stormwater.

All drums are covered during movement and are located within diked, concrete floored areas to contain any potential spill. The small quantities of waste onsite at any time can be cleaned up immediately through the use of hand-held electric pumps, mops, wet/dry vacuums, or sorbent materials, should a spill occur. Any spilled waste will be drummed and sent for recycling/reclamation.

All drummed waste movement is done manually or by a pallet jack. Therefore, power outages are not expected to threaten employee safety.

Drum Fill/Return Area

The drum fill/return area is located in the service center building between the office and container storage areas. A slight, nondetectable slope (three inches) exists, which terminates at the central collection trench (22' long, 2'1" wide, and 2' deep). A 20-foot wide steel grate dock (approximately 33 inches above the floor) is located perpendicular to the trench and extends the full width of this area (Figure II.A.4(d)-1). The concrete floor in this area is coated with a concrete sealer that is compatible with and resistant to chemicals handled in this area. Any spill which might occur on the concrete floor would be directed, by gravity, into the collection trench. Any residual remaining on the floor can be cleaned up immediately through the use of mops, wet/dry vacuums, or sorbent materials, should a spill occur. Spilled waste will be drummed and sent for recycling/reclamation. Openings in this area include four overhead doorways for trucks entering/exiting the service building, two doorways for employees entering/exiting the service building, one overhead doorway connecting the drum fill/return area and container storage area, one doorway connecting the drum fill/return area and the container storage area, and one doorway connecting the drum fill/return area and the

offices. The office floor/doorway and the container storage area floor/doorway are approximately 33 inches above the drum fill/return area floor, flush with the steel grate dock. Therefore, spills originating in the drum fill/return area cannot continue into these areas. Based on the capacity of the drum fill/return collection trench and sloped floor, it is extremely unlikely that a spill would exit through the overhead doorways or two doorways entering/exiting the service building. The area just outside the service building drum fill/return area is asphalt covered.

Because the drum fill/return area is fully enclosed and the pavement outside this area is sloped to carry water away from the building, spills originating in this area should not come in contact with stormwater.

Tank Area

The aboveground tanks for this facility are fully enclosed inside a separate building (Figure II.A.4(d)-1). The building's foundation and sides, from grade to three feet, are constructed of monolithically poured concrete and coated with a concrete sealer that is compatible with and resistant to chemicals stored in this area. From three feet to the roof, concrete block was used. Two doorways located on the south side of the building, placed three feet above grade, are used for connecting the tanker trucks to the aboveground tanks. An entrance/exit door, placed three feet above grade, is located on the east side of the building. Within the building a three-foot wide trench extends the full length of the west and north sides. Any minor spills occurring in the building sloped floor are directed by gravity into these trenches and subsequently into the sumps located on the northeast or southwest corners. Other spills are contained within the building.

A rectangular concrete pad, extending the full length of the building and 20 feet wide, is located outside the building on its south side. This concrete is utilized to provide containment during the transfer of product between the aboveground tanks and a tanker truck. All side of this pad are sloped inward and terminate at a 2.5' by 2.5' square

sump. Spills which occur during the transfer of product are directed by gravity into the sump. Residual product remaining on the concrete surface are immediately cleaned up through the use of mops, wet/dry vacuums, or sorbent materials, should a spill occur.

In the absence of any product, rain water collected in the outside concrete pad sump is allowed to flow into the north side retention area. This is performed by manually opening an eight-inch gate valve.

Product contained in any containment trench (container storage area, drum fill/return area, and aboveground tank building area) is immediately pumped into a drum using a hand-held electric pump, and sent for recycling/reclamation.

Employee training emphasizes the importance of inspection, maintenance, personal safety, and reporting of conditions with pollution incident potential. This training, coupled with the Safety-Kleen's containment system and immediate cleanup of any spills, will eliminate or greatly minimize the chance of contamination of ground water, soils, and/or surface water in the vicinity of the site. In addition, surface run-off at the site does not come in contact with stored products in the waste management areas.

Ignitable Wastes

All wastes and products are kept away from ignitable sources--Personnel must confine smoking and open flames to remote areas, separate from any solvent (e.g., the office or locker room). The mineral spirits and paint waste handling areas are separated from the office area to minimize the potential for a fire to spread or injury to personnel to occur.

Ignitable wastes are handled so that they do not:

1. Become subject to extreme heat or pressure, fire or explosion, or a violent reaction--
The mineral spirits and paint wastes are stored in a tank or in drums, none of which

are near sources of extreme heat, fire, potential explosion sources or subject to violent reactions. The tanks are vented and the drums kept at room temperature to minimize the potential for pressure build up. The tanks are painted white to reflect sunlight and are vented to prevent radiant heat buildup.

2. Produce uncontrolled toxic mists, fumes, dusts, or gases in quantities sufficient to threaten human health--The vapor pressure of mineral spirits is low (2 mm) and it and the paint waste are reactive with strong oxidizers and reactive metals only. Toxic mists, fumes, dusts, or gases will not form in quantities sufficient to threaten human health since strong oxidizers are not handled at this facility and the solvent vaporization will be minimal under normal working conditions.
3. Produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion--See 'a' above and 'c' below.
4. Damage the structural integrity of the Safety-Kleen facility--The mineral spirits and paint wastes will not cause deterioration of the tank, drums, or other structural components of the facility.

Incompatible Wastes

Reactive and/or incompatible waste is not handled at the facility. All waste or products are kept away from ignition sources. Employees must confine smoking or open flames to designated safe areas.

Materials are handled so they do not:

- a. Generate extreme heat or pressure, fire or explosion, or violent reaction.



- b. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health.
- c. Produce uncontrolled fires or gases in sufficient quantities to pose a risk of fire or explosion.
- d. Damage the structural integrity of the Safety-Kleen facility.

Adequate aisle space is maintained to allow unobstructed movement of personnel, fire protection equipment, and decontamination equipment to any area of the facility operation in an emergency.

RESPONSIBILITY FOR PREPAREDNESS AND PREVENTION PLAN

The preparedness and prevention plan, as well as the training of employees for its implementation, is the responsibility of the Branch Manager with assistance from corporate staff. The detailed training program is described in the Personnel Training Plan (Attachment II.A.4(e)).

ATTACHMENT II.A.4(e)
TRAINING PROGRAM



ATTACHMENT II.A.4(e)

TRAINING PROGRAM

I. TRAINING PROGRAM FOR OPERATING FACILITY

Personnel Training Abstract

OBJECTIVE: The purpose of training is to familiarize employees with environmental regulations, records, and emergency procedures so they can perform their jobs in the safest and most efficient manner possible. The program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems. Table II.A.4(e)-1 presents the timeframe in which training will occur.

Outline of Training Program

Employees are trained to prepare persons to operate or maintain the facility safely, and to give instructions with respect to hazards unique to the employee's job assignment. New employees must complete an introductory training program within six months, with a continuing program for annual review and update thereafter.

Table II.A.4(e)-2 presents the current training program outline which provides the basic training requirement for employees who work with hazardous waste. The same outline is used for both the introductory and the continuing training programs. Safety-Kleen is planning to integrate all its training programs related to health, safety, environment, and waste management.

Job Title, Qualifications, and Duties of Employees Requiring Training

1. Records of type and amount of training received for all current personnel are kept until closure, or three years after employee termination for former personnel. A Record of Personnel Training (Table II.A.4(e)-3) is used for recording the training

TABLE II.A.4(e)-1
TIME OF TRAINING

Job Title	Prior To Starting Work	On the Job	Annually	When Regulations and/or Procedures Change
Branch Manager	X		X	X
Branch Secretary		X	X	X
Sales Representative	X	X	X	X
Warehouseman		X	X	X

NOTE: Only those job titles shown in this table will be used in completing Table II.A.4(e)-3. Table II.A.4(e)-3 is a corporate form which lists all possible job titles for all Safety-Kleen accumulation and service centers. Only those job titles identified above are present at the Boynton Beach facility.

TABLE II.A.4(e)-2

**INTRODUCTORY AND ANNUAL TRAINING TOPICS
FOR BRANCH EMPLOYEES
TRAINING PLAN OUTLINE
SAFETY-KLEEN CORPORATION
ENVIRONMENTAL COMPLIANCE COURSE**

DAY ONE

8:00 a.m. OPENING REMARKS

8:15 a.m. ENVIRONMENTAL LAWS - NATIONAL

A. Introduction

B. The National Environmental Policy Act (NEPA)

1. Purpose
2. Procedure: The Environmental Impact Statement

C. The Clean Air Act (CAA)

1. Purpose
2. How the Act Works

D. The Clean Water Act (CWA)

1. Purpose
2. Effluent Limitations for Direct Discharges
3. Pretreatment Standards for Indirect Discharges to Publically Owned Treatment Works (POTW)
4. Permit Program

E. The Resource, Conservation and Recovery Act (RCRA)

1. Purpose

II.A.4(e)-1B

TABLE II.A.4(e)-2 (Continued)
INTRODUCTORY AND ANNUAL TRAINING TOPICS
FOR BRANCH EMPLOYEES
TRAINING PLAN OUTLINE
SAFETY-KLEEN CORPORATION
ENVIRONMENTAL COMPLIANCE COURSE

F. The Toxic Substances Control Act (TSCA)

1. Purpose
2. How TSCA Works

G. The Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund")

1. Purpose
2. Superfund Cleanup

RESOURCE, CONSERVATION AND RECOVERY ACT (RCRA)

A. Overview and Scope

B. Hazardous Waste Management

1. Implementation
2. Identification and Listing of Hazardous Waste
 - a. Listed Wastes
 - b. Characteristic Wastes
 - c. Waste Mixtures
3. Generator Regulation
 - a. General Requirements
 - b. Generator Categories:
100-1000 kg.mo. generators
4. Transporter Regulation
 - a. General Requirements
 - b. Discharges of Hazardous Waste During Transportation



TABLE II.A.4(e)-2 (Continued)
INTRODUCTORY AND ANNUAL TRAINING TOPICS
FOR BRANCH EMPLOYEES
TRAINING PLAN OUTLINE
SAFETY-KLEEN CORPORATION
ENVIRONMENTAL COMPLIANCE COURSE

5. Treatment, Storage, or Disposal Facility Regulation

- a. General Requirements
- b. Interim Status Facilities
- c. Permitted Facilities

6. Enforcement

- a. Inspections
- b. Compliance Orders
- c. Criminal Violations
- d. Knowing Endangerment
- e. Enforcement Activity

C. New RCRA Programs

1. Leaking Underground Storage Tanks

- a. The Requirements
- b. New Tank Ban

10:45 a.m. FACILITY OPERATION: INTERIM STATUS

Part A. Application
Waste Analysis Plan
Security Plan and Inspections

NOON LUNCH

1:30 p.m. FACILITY OPERATION: INTERIM STATUS
Contingency Plan and Emergency Procedure
Training
Closure

II.A.4(e)-1D



TABLE II.A.4(e)-2 (Continued)
INTRODUCTORY AND ANNUAL TRAINING TOPICS
FOR BRANCH EMPLOYEES
TRAINING PLAN OUTLINE
SAFETY-KLEEN CORPORATION
ENVIRONMENTAL COMPLIANCE COURSE

3:15 p.m. INSPECTIONS
 TRANSPORTATION LICENSING
 MANIFESTING: OVERVIEW

5:00 p.m. Adjourn

DAY TWO

8:00 a.m. MANIFESTING: BRANCH-SPECIFIC INSTRUCTION

10:00 a.m. MANIFESTING

NOON LUNCH

1:00 p.m. CERTIFICATION EXAMINATION

3:00 p.m. SALES APPLICATION OF ENVIRONMENTAL COMPLIANCE

4:00 p.m. Adjourn

II.A.4(e)-1E



TABLE II.A.4(e)-3

PERSONNEL RECORD

Facility Location: _____
Facility Number : _____
E.P.A. I.D. Number: _____

[illegible]

* Use only the following job titles: Accumulation Center Manager, Accumulation Center Driver, Branch Manager, Branch Facility Manager, Branch Secretary, Sales Representative and Warehouseman. Branch Automotive Managers, Industrial Managers, etc., should be listed as Sales Representatives for the purpose of environmental permits.

II.A.4(e)-1F

TABLE II.A.4(e)-3 (Continued)**EHS TRAINING TOPIC LOG**

Employee Name and No.: _____

Branch Location and No. _____

Date Hired: _____ Position: _____

Note: Employees may not work in unsupervised positions until they have received emergency response training. Employees must be completely trained, in all the items listed above, within six months of starting and annually thereafter.

Certification by the employee that training has been received obligates the employee to discharge his duties in accordance with the training provided. Failure to comply with the requirements established during the training program may result in civil or criminal penalties against the employee.

TRAINING TOPIC*	DATE COMPLETED	SIGNATURE
1.		
2.		
3.		
4.		
5.		
6.		

- * The training topic and training method should be described thoroughly. For example: "Safety Training Part III - Preventing Injuries and Illnesses (Videotape)", "Respirator Fit Testing and Training (written weekly training topic)", "Contingency Plan in Part B (reviewed with regional environmental engineer)", etc.

provided for each individual employee. The employee must sign the training record form each time training is provided. Signing of the training record indicates that the employee has been adequately trained and all questions have been satisfactorily answered.

2. Signing of the training record by the employee certifies that the employee has been properly trained. This creates an obligation on the part of the employee to comply with the rules and regulations applicable to his activities. Failure of the employee to discharge his duties in accordance with the applicable regulations may result in civil and criminal penalties against the employee.

Organization Structure and Job Descriptions

Environmental compliance and training of branch employees is the responsibility of the branch manager. The Environment, Health and Safety Department, in turn, provides a training program to be executed annually. Job descriptions for branch personnel are in Tables II.A.4(e)-4 through 7.

Branch Manager

The branch manager is ultimately responsible for the operations at the service center. The sales representatives, secretary, and warehouse personnel report to the branch manager and he, in turn, must provide the training and materials necessary for the branch employees to execute their duties. With respect to environmental compliance, the branch manager must:

- a. keep the service center clean and orderly;
- b. execute or designate an employee to execute the daily inspection, keep a written log and remediate any problems;

TABLE II.A.4(e)-4**JOB DESCRIPTION
BRANCH MANAGER****JOB DESCRIPTION:**

The Branch Manager has overall responsibility for the facility operations and maintenance, and directs sales activities within a certain geographic area are defined by the corporate Marketing Department. He is responsible for the proper operations and profitability of the service center.

REPORTS TO:

Regional Manager of Sales

QUALIFICATION:

Minimum high school graduate with Safety-Kleen sales experience

PRINCIPAL RESPONSIBILITIES:

1. Plan, direct, and monitor activities of Sales Representatives.
2. Training of branch facility managers, sales representatives, and other branch personnel.
3. Assist or accompany sales representatives during their sales activities when necessary.
4. Tabulate daily sales and inventory figures and report them to the corporate offices.
5. Maintain adequate inventory of solvents, allied products, and equipment.
6. Carry out corporate policies and standards regarding facilities, equipment operation and maintenance.
7. Ensure the regular inspection of the facility and equipment and the implementation of any necessary repairs or remedial actions.
8. Represent Safety-Kleen Corp. in local community affairs and public relations activities.
9. Coordinate with corporate Technical Services and EHS Departments and implement necessary actions or plans for Regulatory compliance.
10. Be able to act as the primary emergency response coordinator.

II.A.4(e)-2A

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TABLE 11.A.4(e)-5

**JOB DESCRIPTION
BRANCH SECRETARY**

JOB DESCRIPTION:

Performs duties to assist the branch manager, sales representatives, and customers with billing, scheduling, and recordkeeping. Performs secretarial duties at the branch.

REPORTS TO:

Branch Manager

QUALIFICATION:

Attended high school

PRINCIPAL RESPONSIBILITIES:

1. Maintain records in an orderly manner.
2. Assist sales representatives in scheduling services.
3. Ensure that all hazardous waste manifests are complete, and manage distribution and filing of copies.
4. Maintain Personnel Training Record files.
5. Maintain Facility Inspection Records.
6. Answer customer inquiries.
7. Manage customer billing.
8. Perform other related duties as assigned.



TABLE II.A.4(e)-6

**JOB DESCRIPTION
SALES REPRESENTATIVE**

JOB DESCRIPTION:

The Sales Representative is charged with the responsibility of generating new business and servicing established accounts within a certain defined geographic area.

REPORTS TO:

Branch Manager

QUALIFICATION:

Minimum high school graduate

PRINCIPAL RESPONSIBILITIES:

1. Maintain his route truck and replenish his products on the truck before beginning his route sales.
2. Contact potential customers for the purpose of selling Safety-Kleen services and allied products.
3. Exchange used solvents with fresh solvent and replenish the inventory of Safety-Kleen's products for existing customers.
4. Make minor repairs of Safety-Kleen's parts washer equipment or lease new equipment to the customer.
5. Prepare the necessary paperwork for each service, and bill or credit the customer, as necessary.
6. At the end of each day, return the truck to the branch for cleaning and maintenance, and summarize the day's activities so the Branch Manager can tabulate the daily figures and forward them to the corporate office.

II.A.4(e)-2C

TABLE II.A.4(e)-7

**JOB DESCRIPTION
WAREHOUSE PERSONNEL**

JOB DESCRIPTION:

Perform duties to assist the sales representatives in loading and unloading the trucks.
Perform janitorial duties at the warehouse.

REPORTS TO:

Branch Manager

QUALIFICATIONS:

Attended high school

PRINCIPAL RESPONSIBILITIES:

1. Maintain warehouse in clean and orderly manner.
2. Assist sales representatives in loading trucks and replacing solvent.
3. Refurbish drums as needed.
4. Park or move trucks as needed.
5. Stock inventory.
6. Replenish trucks with inventory.
7. Perform other related duties as assigned.

II.A.4(e)-2D

- c. know the potential hazards of the material and wastes handled on site;
- d. identify potential spill and fire sources and be able to execute the contingency plan;
- e. inform all employees of their environmental responsibilities;
- f. act as emergency coordinator and notify the proper authorities during an emergency, remediate the situation to the best of his abilities, and submit necessary reports to the corporate office; and
- g. maintain all environmental records (such as manifests, training records and spill reports) on file.

Environment Health and Safety Department

Safety-Kleen's Environment Health and Safety (EHS) Department operates out of the corporate office in Elgin, Illinois. Each regional environmental engineer who works in this department is responsible for compliance of the service centers in a given geographic area of the country. The EHS Department must:

- a. provide a training program which addresses the requirements of environmental regulations and corporate policy;
- b. notify the proper authorities, oversee remedial actions, and submit a written report to the state after an emergency situation has occurred;
- c. assure that environmental permits are submitted and updated as required; and
- d. manage any environmental compliance issues which exceed the resources available at the service center level.

Description of the Training Program

Employee training is accomplished using a classroom, videotape, written, and on-the-job methods. The EHS Department prepares a training program for employees and they must provide documentation that the program has been executed.

An employee is trained prior to starting or as soon as he or she begins working, (depending on his or her position), and annually thereafter. Training program timeframes and outlines are provided in Tables II.A.4(e)-1 and 2, respectively.

Training of New Branch Managers

New managers are trained for several weeks before they begin their new positions. This training is both in-situ and in classroom modes. While being trained at a designated "training facility", a new manager reviews all environmental records and learns the recordkeeping requirements. These records include: manifests, personnel records, training records, facility inspection records, and spill records.

The training culminates in four weeks of instruction at the new manager's new facility, at least one day of which is devoted to environmental training with the regional environmental engineer. At least eight hours consists of an introduction to environmental law and a review of the Part B, including the Waste Analysis Plan, Preparedness and Prevention Plan, Contingency Plan, Training Plan, and Closure Plan. This training is outlined in Table II.A.4(e)-8.

Additional time is spent reviewing past environmental compliance at the branch manager's facility and regulations unique to his state are discussed as well.

TABLE II.A.4(e)-8**NEW BRANCH MANAGER TRAINING**

Program for Regional Environmental Engineer branch visit -

1. Review of Part B Permit
 - Part A Application
 - Waste Analysis Plan
 - Preparedness and Prevention Plan
 - Contingency Plan
 - Training Plan
2. Review of Transportation Licensing
3. Review of Environmental Compliance Guidance and Corporate Policy Manual
4. Conduct Detailed Facility Inspection with Branch Manager
 - Identify Deficiencies Requiring Branch Attention
 - Identify Problems Requiring Technical Services Assistance
 - Review Actual vs. Permitted Waste Storage Capacities
5. File Review
 - Manifests and Land Ban Notices
 - Training Files
 - Spill Report File
 - Community Right-to-Know Files
 - Inspection Records
 - Operating Log
6. Contingency Plan Training Session with Branch Manager and All Alternate Emergency Coordinators
 - Include Spill Simulation and Response
 - Update the Emergency Information and Local Authority Notifications
7. Health and Safety
 - OSHA 200 Reporting
 - Hazard Communication Program
8. Review Branch Specific Manifesting Procedures and Customer ID = Compliance
9. Review of Past Agency Inspections and Other Past Branch Compliance-Related Issues
10. Environmental Training for Branch Personnel
 - Requirements for Content and Frequency
 - Conducting Training Sessions
 - Recordkeeping

II.A.4(e)-4A

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Training of New Branch Secretaries

Branch secretaries are trained in the proper recordkeeping procedures as soon as they begin working for Safety-Kleen. While they are not usually responsible for preparing the documentation, they must check it for accuracy and completeness and then process or file it as required. Additional training is overseen by the branch manager and is done within six months of starting. It includes the items listed in the Introductory and Annual Training Topics for Branch Employees (Table II.A.4(e)-2) which are explained in company-produced videotape presentations on emergency response, shipping documents (including manifests), drum labels, and other safety and environmental compliance issues. In addition, the contingency plan must be reviewed with the branch manager within the first two weeks of the secretary starting work.

Training of New Sales Representatives

New sales representatives are trained in-situ for two weeks during which they are introduced to manifests, facility inspection records, and training records. A sales representative may also be trained as the designate for performing the facility inspection. Additional training is in the form of videotape presentations and a review of the contingency plan. The contingency plan must be reviewed with the branch manager before the sales representative formally begins his new position and annually thereafter. All items listed in the Introductory and Annual Topics Training for Branch Employees (Table II.A.4(e)-2) must be explained within six months of starting.

Training of New Warehouse Personnel

A warehouse employee is trained to maintain the service center and assist the other branch employees in their tasks. He may be a designate for the facility inspection and must be trained by the branch manager as such. Within two weeks of the warehouse employee's starting, the branch manager must review the contingency plan with him, and

TABLE II.A.4(d)-1
EMERGENCY RESPONSE EQUIPMENT

Description	Type/Capacity	Location	Quantity
		(Shown in Exhibit I.D.5-2)	
Fire Extinguisher	ABC (10 lb)	Warehouse	3
		Drum Return/Fill Area	4
		Office (1st floor)	3
Eyewash	Fountain	Warehouse	1
		Drum Return/Fill Area	1
First-Aid		Warehouse	1
Telephones	Standard	Manager's Office	1
Telephones	Standard	Secretary's Desk	1
Telephones	Standard	Warehouse	2
Gloves	Rubber	Emergency Equip. Area	Min. 1/employee
Intercom	Explosion Proof	All Buildings	N/A
Boots (optional)	Rubber	Emergency Equip. Area	Min. 1/employee
Protective Clothing	Apron	Emergency Equip. Area	1/Employee
Eye Protection	Goggles/Safety Glasses	Emergency Equip. Area	Min. 1/employee
Sorbent Material	Oil Absorbing	Emergency Equip. Area	Min. 1 bale
Shovel	Standard	Emergency Equip. Area	Min. 1
Mop and Bucket	Standard	Emergency Equip. Area	Min. 1
Respirator	Self Contained Breathing Apparatus	Emergency Equip. Area	1/employee
Pump	Hand-held, Electric	Emergency Equip. Area	Min. 1
Wet/Dry Vacuum	Portable, Electric	Emergency Equip. Area	1
Water	Fire fighting sprinkler	All buildings	NA

within six months he must review the items listed in the Introductory and Annual Training topics for Branch Employees (Table II.A.4(e)-2).

Annual Training

On an annual basis, employees are trained using a program prepared and updated annually by the EHS Department. It includes updates on environmental regulations, an in-depth review of the contingency plan, and a review of RCRA inspection criteria.

All service center employees must annually review the items listed in the Introductory and Annual Topics for Branch Employees. This review is in the form of videotapes and a review and discussion of the storage facility permit application. In addition, periodic memoranda on changes in environmental regulations are issued by the EHS Department and must be read and discussed by all branch personnel.

Description of the Training Programs

1. Type of Training

Employee training is implemented in two forms: On-the-job and classroom training. Initially, the new employee accompanies an experienced employee in his daily activities. This ensures that the new employee is exposed to daily operating procedures and conditions. Classroom training is undertaken by the Branch Manager with the assistance of Corporate Headquarters.

2. Content of Training

Because of the small size of the facility and limited functions of personnel, all personnel are trained with the same program content, as detailed in the following subsections.

3. Amount of Training

a. Introductory Training

Branch Manager - One-day classroom training in Corporate Headquarters in Elgin, Illinois.

Sales Representative and Warehouse Personnel - On-the-job training for one week. Two-hour classroom training by Branch Manager.

b. Continuing Training

Branch Manager - Two-hour classroom training by Corporate Environmental Staff.

Alternate Emergency Coordinator, Sales Representatives, and Warehouse Personnel - One-hour classroom training by Branch Manager and/or Corporate Environmental Staff.

Training Director and Staff

Safety-Kleen Corporation yearly provides numerous training activities to its personnel worldwide, under the direct coordination of Corporate Training Director. Training specific to hazardous waste management is assisted by staff from the Corporate Environmental Engineering Department who are trained in hazardous waste management procedures and familiar with hazardous waste and other environmental regulations.

Relevance of Training to Job Position

1. Employees have available a chemical description and a Material Safety Data Sheet (OSHA Form 20) for the solvents they are handling. The information on these sheets is also important in case of a spill or a disaster/fire.
2. If additional solvents and chemicals are added, Product Bulletins and Material Safety Data Sheets are available from the Technical Services Department and are provided to employees.
3. Personnel are to be made aware of the hazards associated with each waste (i.e., ignitable) and taught proper responses to spills, fires, or accidents. Applicable personnel are instructed on non-compatibility of materials, inspection procedures, required record keeping (waste tracking, manifests, inspections), required reports (annual, discharges, fire, and explosions), manifesting, prepackaging, and labeling.

Preparedness, Prevention and Contingency Plan, and Emergency Procedures

1. Personnel are instructed in the classroom and on-the-job training in:
 - a. Contingency plan and emergency procedures (Attachment II.A.4(b)). Personnel are required to read and be familiar with the Contingency Plan for the facility.
 - b. Using, inspecting, repairing, and maintaining emergency and monitoring equipment.
 - c. Key parameters for feed shut-off, facility valuing, and segregation of tanks.
 - d. Communication and alarm systems (if present).
 - e. Response to surface water and ground water contamination incidents.

- f. Response to fires, spills, or explosions and notification procedures.
 - g. Shutdown of operations.
 - h. Normal operating responsibilities.
- 2. The training program includes training in preparedness and prevention. This includes:
 - a. Importance of safety on the job and the use of safety equipment.
 - b. Routine inspections as a prevention tool.
 - c. Separation of ignitable waste from other waste.
 - d. Use of manifest system.
- 3. The training program includes instructions which teach facility personnel hazardous waste management procedures. Personnel are instructed on general first-aid and on procedures for handling products and waste. Personnel receive on-the-job training concerning the process equipment.
- 4. The Branch Manager is kept informed of current regulations by the Safety-Kleen Environmental Department. Applicable regulatory information on hazardous waste handling, processing, and storage are explained to personnel. Personnel are to be informed of safe operating and correct procedures before handling hazardous materials and wastes.

Other Specific Training Items

1. Measure volume of solvent in belowground tanks at least once per week to ensure timely scheduling of tanker visit.
2. Inspect solvent dispensing and collecting equipment for leaks, damage, or wear that could cause a leak to develop.
3. Maintenance
 - a. If spent solvent tanks are nearly full (85 percent), a pick-up should be immediately scheduled.
 - b. Any fault observed during inspection should be repaired as soon as possible. Order replacement parts as soon as detected.
4. Carry out the Branch Manager's responsibility for the notification procedure for a major spill. He should make sure that the spill is cleaned up properly. For assistance in spill cleanup, he will contact the contractors identified in the contingency plan.
5. The Branch Manager should also make sure that the facility is generally clean and well ordered. He should see that all spills are cleaned up promptly and that all refuse is placed in the refuse container.
6. No open drums of solvent should ever be left unattended inside or outside.
7. The Branch Manager should also inform all of his employees of their anti-pollution responsibilities. These include:

- a. Prompt reporting and cleanup of any spill.
 - b. Prompt reporting of any situation which could lead to a spill.
 - c. Exercise of care in any action during which a spill could occur.
 - d. Spill prevention plans must be reviewed with employees every year and records of the training kept at the facility.
8. Transport drivers will be instructed by the Transportation Manager in handling the trucks, unloading line and valves without spills.
 9. All employees are trained to be aware of all potential escape routes during an emergency.
 10. The Branch Manager and his designate are trained to use the inspection form.

Implementation of the Training Program

New employees must complete a training course within six months after the date of employment, with annual reviews and updates thereafter as a result of changes related to job functions, facility and material modifications, and/or regulatory reform. Until they successfully complete training, facility personnel will work only in supervised positions.

ATTACHMENT II.A.5
WASTE ANALYSIS REPORT



ATTACHMENT II.A.5

WASTE ANALYSIS REPORT

In accordance with U.S. EPA Hazardous Waste Regulations, five types of hazardous waste have been identified at the service center:

1. The used mineral spirits solvent, returned from customers in separate drums transferred and stored in the aboveground tank awaiting shipment to the recycle facility is considered to be an Ignitable Waste (D001) and a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043);

Mineral spirits, dumpster mud, and tank bottom sludge accumulated in the solvent return receptacles (wet dumpsters) and in the sludge tank, is considered to be an Ignitable Waste (D001) a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043);

2. The used chlorinated solvent #609 (old formula), returned from customers in separate drums and remaining in the same drum for shipment to the recycle facility is considered to be a Listed Waste from Non-Specific sources (F002 and F004); and a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043);



The used immersion cleaner #699 (new formula), returned from customers in separate drums and remaining in the same drum for shipment to the recycle facility, is considered a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043);

3. Dry cleaning wastes consist of spent filter cartridges, powder residue from diatomaceous or other powder filter systems and still bottoms. While approximately 80 percent of Safety-Kleen's customers use perchloroethylene (F002) and a characteristic waste by TCLP leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043), approximately 17 percent use mineral spirits (D001) and a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043), and the remaining three percent use trichloro-trifluoroethane (F002) and a characteristic waste by TCLP leaching procedure (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043);
4. Antifreeze waste is approximately one-third water with the remaining third being antifreeze (ethylene glycol) and contaminants. As a protective measure, the container storage area for spent antifreeze is being permitted to store wastes with the following TCLP waste codes: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029,



D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043; and

5. The paint waste, collected in black five-gallon pails and 16-gallon drums at the customer's place of business and stored in the drum storage area, is considered to be an ignitable waste (D001); a listed waste (F003 and F005); and a characteristic waste by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043).

A typical composition, and chemical physical analysis for each of the waste streams listed above are shown in the attached chemical analyses reports, based on existing data on these wastes generated from similar processes within Safety-Kleen's current and/or potential customers.

USED MINERAL SPIRITS

The clean mineral spirits solvent is labeled under the trade name of "Safety-Kleen 105 Solvent", so-named because of the flash point of the solvent being 105°F (minimum). Chemically, the solvent primarily consists of petroleum hydrocarbon fraction (the mineral spirits) with boiling points between 310°F and 400°F. Impurities, such as light aromatic hydrocarbons (LAHC) and chlorinated hydrocarbons, usually constitute less than one percent of the total volume. The mineral spirits constitutes over 99.5 percent of the total volume of the solvent.

The used mineral spirits solvent consists primarily of mineral spirits solvent plus water, solid, oil, and grease picked up in the various degreasing operations. In most instances, no water is associated with the used solvent; however, at times, the water content may range from one percent to as much as 50 percent. The oily bottoms may range from 2 percent to 10 percent, by volume, in the used solvent.

Chemically, the composition of the solvent fraction in the used mineral spirits solvent is essentially the same as the clean solvent, as shown in analyses.

An estimated 275,000 gallons of used mineral spirits are expected to be shipped to a recycle center from this facility.

USED MINERAL SPIRITS BOTTOM SLUDGE

This is material settled from used mineral spirits in the aboveground tanks. It contains basically soils, oil and grease, and some water picked up in the degreasing operations, together with a small amount of mineral spirits. Analyses have shown that the sludge is an ignitable waste and might also be considered toxic using TCLP standards.

The sludge is removed from the aboveground tank periodically and shipped to Safety-Kleen's facility for reclamation.

USED MINERAL SPIRITS DUMPSTER MUD

This waste material is accumulated in the wet dumpsters when emptying the used mineral spirits from the drums into the aboveground storage tanks. The nature of this waste is similar to the used mineral spirits bottom sludge, except with some small metal parts and less mineral spirits. It is regarded as an ignitable waste and often is also considered a characteristic waste using TCLP standards.

The sludge in the dumpsters is cleaned out frequently. The waste is drummed and shipped to Safety-Kleen's facility for recycling. Approximately 150 drums (1,500 gallons) of dumpster mud will be removed from this center annually.

USED IMMERSION CLEANER

The old formula clean chlorinated solvent is labeled under the trade name of "Immersion Cleaner and Carburetor and Cold Parts Cleaner #609." It is a two-phase system consisting of an upper aqueous (water) layer and lower non-aqueous (solvent) layer. The water phase consists of water and Dresinate TX (a sodium soap of tall oil). The solvent phase is composed of methylene chloride, orthodichlorobenzene, cresylic acid, and an amines additive.

A new "Immersion Cleaner and Carburetor and Cold Parts Cleaner #699" is also being leased. It is a heavy aromatic naphtha, N-methyl-2-pyrrolidon dipropylene glycol methyl ether, monoethanolamine and oleic acid, and contains a maximum of 1 percent total chlorinated solvents.

The used immersion cleaner is basically unchanged from its clean state, except oil, grease, and other solids may be picked up during the various degreasing operations. The spent solvent is non-flammable. It is regarded as toxic because of the contents of various solvents. Less than five gallons of waste is returned in each drum. It is anticipated that 7,500 gallons of used immersion cleaner will be stored at this facility annually.

DRY CLEANING WASTES

Solvent used in dry cleaning of clothing is commonly tetrachloroethylene (or perchloroethylene). Hence, waste generated from dry cleaning operations contains various concentrations of the solvent. Basically, wastes generated by dry cleaning facilities are in the following forms.

1. Cartridge Filter: In addition to the construction materials consisting of steel, paper, clay, and carbon, the used cartridge retains solvent, oil and grease, and undissolved elements such as lint and soil. Solvent retained in the filter cartridge generally amounts to less than 50 percent of the total cartridge weight.

2. Muck: At some dry cleaning facilities, a mixture of powdered materials is used as the filter medium for the dry cleaning solvent, in lieu of the cartridge filter. This filter medium normally consists of diatomaceous earth and carbon. In addition to lint, soil, oil, and grease retained by this medium, between 40 and 50 percent by weight of the "muck" is absorbed solvent.
3. Still Residue: After filtration, the dry cleaning solvent is distilled by the dry cleaning machine to remove the dissolved materials from the used solvent. The dissolved materials (still residues) are in liquid form and consist of primarily detergent, oil and grease, vinyl acetate (a sizing compound), and 20 to 30 percent of solvent. This facility will ship above 80,00 gallons of dry cleaner wastes for reclamation annually.

ANTIFREEZE COLLECTION SERVICE

The spent antifreeze (ethylene glycol) is collected from automobile service stations. These wastes are deposited into 150-gallon translucent carboy by the customer, on the customer's premises, the carboy is pumped into 30-gallon drums by the sales representative. It should be noted that the vast majority of the antifreeze sample analyses indicated this waste is not hazardous. However, due to the low concentrations at which contaminants render a waste hazardous under TCLP, the container storage area for spent antifreeze will, as a protective measure, be permitted to hold TCLP wastes.

PAINT WASTE COLLECTION

The paint wastes are collected from facilities where one process is managed and the possibility of cross-contamination from other chemicals or wastes is minimal. The contents of the drums are verified by the sales representative when he services the customer and, comparable to the handling of immersion cleaner, the drums are not reopened until they reach the recycle center.

Paint wastes consist of various lacquer thinners (D001, F003, and F005) and paints. Both are characteristic wastes by TCLP (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, and D043). The waste is collected in black five-gallon pails and in 16-gallon drums at the customer's place of business and the containers are then palletized and stored in a designated storage area. It is anticipated that this facility will ship 14,300 gallons of paint waste to a reclaimer annually.





The attached data package covers TCLP analyses of materials obtained from Safety-Kleen Recycle Centers during July of 1990. Each Recycle Center prepared samples for each waste stream received and/or generated. Each sample represents a composite of individual samples received for testing over a fixed period of time. For example, the Parts Washer Solvent sample at each Recycle Center was generated by keeping in a refrigerator a small retain from each tanker received from individual SK Branches over a two week period. At the end of the two weeks, all the retains were combined into one jar.

All composited materials were shipped in coolers immediately upon generation with formal chain-of-custody forms to GT Environmental Laboratories certified for the states involved with each individual recycle center. These laboratories performed the analyses, making sure all holding time restrictions were met.

The resulting data is presented in several different formats. The first page of each set includes a summary of physical and chemical properties their mean and range. It is important to note that all samples, including liquids, were extracted for the TCLP organic phase of the work.

The next set shows volatiles data for whole samples. These samples had to be diluted considerably to bring everything on scale. Thus, the detection limits are relatively high. These data can be used where the sample would normally just be filtered and analyzed for TCLP organic constituent content.

The third set of data is a comparison of the TCLP extracted and non-extracted components. This is useful where one is close to the regulatory limits.

The final page of each set is the detailed, site-by-site data from which the initial summary page was generated. Again, the organic data is for a TCLP extract of the whole sample.

The data summaries have been provided to the Recycle Centers, who in turn have sent the data to the individual SK Branches whose waste streams were included in the composites.

Allan A. Manteuffel Technical Center

SAMPLE IDENTIFICATION CODES

PWS - Spent Parts Washer Solvent

IC - Spent Immersion Cleaner

PGC - Spent Paint Gun Cleaner

DCS - Spent Dry Cleaning Solvent

DM - PWS Dumpster Mud

PWBD - Parts Washer Solvent Distillation Bottoms

MDB - Miscellaneous Distillation Bottoms

CLW - Chlorinated Waste Water

NCLW - Nonchlorinated Waste Water

PWCS - Parts Washer Cooker Solids

DCCS - Dry Cleaner Cooker Solids

FUEL - Blended Outbound Fuel for Kiln

Abbreviation Key

acenaphthene	Acenaphthene	2,4-dClph	2,4-Dichlorophenol
acenaphthyl	Acenaphthylene	dichphthal	Diethylphthalate
acetone	Acetone	dibenzofuran	Dibenzofuran
Ag	Silver	d-n-butylph	Di-n-butylphthalate
anthracene	Anthracene	d-n-octylph	Di-n-octylphthalate
As	Arsenic	2,4dntrophen	2,4-Dinitrophenol
b2ethheoph	bis(2-Ethylhexyl)phthalate	2,4-ONT	2,4-Dinitrotoluene
Ba	Barium	4,6dn2Mep	4,6-Dinitro-2-methylphenol
benz acid	Benzoic Acid	1,2-OCPA	1,2-Dichloropropane
benzene	Benzene	2,6-ONT	2,6-Dinitrotoluene
benzyl 'ol	Benzyl Alcohol	eth-benz	Ethylbenzene
ben(a)anthr	Benzo(a)anthracene	fluoranthene	Fluoranthene
ben(a)pyren	Benzo(a)pyrene	fluorene	Fluorene
ben(b)fluor	Benzo(b)fluoranthene	FP	flashpoint
ben(g,h)per	Benzo(g,h)perylene	2-hex'one	2-Hexanone
ben(k)fluor	Benzo(k)fluoranthene	Hg	Mercury
butylbenzth	Butylbenzylphthalate	ind(123-cd)	Indeno(1,2,3-c,d)pyrene
b-2Cl-ethox	bis(2-Chloroethoxy)methane	isophorone	isophorone
b-2Cl-ethr	bis(2-Chloroethyl) Ether	MEK	2-Butanone (methyl ethyl ketone)
b-2Cl-iPE	bis(2-Chloroisopropyl) Ether	2-Menaph	2-Methylnaphthalene
4Brphenph	4-Bromophenyl phenyl Ether	4-Me-2-pe	4-Methyl-2-pentanone
C2Cl6	Hexachloroethane	2Me-pheno	2-Methylphenol
C2H3Cl	Vinyl Chloride	4Me-pheno	4-Methylphenol
C2H5Cl	Chloroethane	2,4Meph'ol	2,4-Dimethylphenol
CCl4	Carbon Tetrachloride	Me2phthal	Dimethylphthalate
Cd	Cadmium	Naph'ene	Naphthalene
CH2Cl2	Methylene Chloride	2-nitroanil	2-Nitroaniline
CH3Br	Bromomethane	3-nitroanil	3-Nitroaniline
CH3Cl	Chloromethane	4-nitroanil	4-Nitroaniline
CHBr2Cl	Dibromochloromethane	nitrobenz	Nitrobenzene
CHBr3	Bromoform	N-nitroso	N-Nitrosodiphenylamine
CHBrCl2	Bromodichloromethane	N-nitroso	N-Nitroso-di-n-propylamine
CHCl3	Chloroform	4ntrophenol	4-Nitrophenol
chrysene	Chrysene	2ntroph'ol	2-Nitrophenol
4-Claniline	4-Chloroaniline	Pb	Lead
Clbenz	Chlorobenzene	1,1,2,2-PCA	1,1,2,2-Tetrachloroethane
Cl-benz	Chlorobenzene	PCE	Tetrachloroethene
Cl6-benz	Hexachlorobenzene	pH	pH
Cl6benzene	Hexachlorobenzene	phenanthre	Phenanthrene
Cl6butadien	Hexachlorobutadiene	phenol	Phenol
Cl6-1,3-but	Hexachlorobutadiene	pyrene	Pyrene
Cl6cycpent	Hexachlorocyclopentadiene	pyndine	Pyridine
3,3'-Cl2benz	3,3'-Dichlorobenzidine	Se	Selenium
Cl6-eth	Hexachloroethane	SG	specific gravity
4Cl3Mephnl	4-Chloro-3-methylphenol	styrene	Styrene
2-Cl-naph	2-Chloronaphthalene	1,1,1-TCA	1,1,1-Trichloroethane
Cl5phenol	Pentachlorophenol	1,1,2-TCA	1,1,2-Trichloroethene
Cl5-phenol	Pentachlorophenol	TCE	Trichloroethene
2Cl-phenol	2-Chlorophenol	t-1,3-OCPE	trans-1,3-Dichloropropane
4Clphenph	4-Chlorophenyl phenyl Ether	1,2,4-TCIB	1,2,4-Trichlorobenzene
2-CVE	2-Chloroethyl Vinyl Ether	2,4,5-TCIB	2,4,5-Trichlorophenol
Cr	Chromium	2,4,5-TCP	2,4,5-Trichlorophenol
creol	Methylphenols (total)	2,4,6-TCIB	2,4,6-Trichlorophenol
CS2	Carbon Disulfide	2,4,6-TCP	2,4,6-Trichlorophenol
c-1,3-OCF	cis-1,3-Dichloropropene	toluene	Toluene
dben(a,h)an	Dibenzo(a,h)anthracene	VChloride	Vinyl Chloride
1,1-OCA	1,1-Dichloroethane	v-acetate	Vinyl Acetate
1,2-OCA	1,2-Dichloroethane	xylenes	Xylenes (total)
1,1-OCE	1,1-Dichloroethene		
1,2-OCE	1,2-Dichloroethene (total)	na	not applicable
1,2-OCIB	1,2-Dichlorobenzene	matrix	matrix effect - no analysis
1,3-OCIB	1,3-Dichlorobenzene	coc	coc error no analysis
1,4-OCIB	1,4-Dichlorobenzene		

Parts Washer Solvent Wastes

Physical Properties and TCLP Analysis, ppm

Parameter	Reg. Limit	# Samp	Avg	Min	Max
pH	<2 or >10	7	6.6	5.5	8.0
SG	na	7	0.79	0.78	0.80
FP	< 100	7	112	78	151
As	5	7	0.00	0.00	0.00
Ba	100	7	0.47	0.00	1.20
Cd	1	7	0.05	0.00	0.07
Cr	5	7	0.00	0.00	0.02
Pb	5	7	0.90	0.47	1.60
Hg	0.2	7	0.00	0.00	0.00
Se	1	7	0.00	0.00	0.00
Ag	5	7	0.00	0.00	0.00
cresol	200	7	2.70	0.00	9.00
2,4-DNT	0.13	7	0.63	0.00	4.40
Cl6-benz	0.13	7	0.00	0.00	0.00
Cl6-13-but	0.5	7	0.00	0.00	0.00
Cl6-eth	3	7	0.00	0.00	0.00
nitrobenz	2	7	0.00	0.00	0.00
Cl5-phenol	100	7	0.00	0.00	0.00
pyridine	5	7	0.00	0.00	0.00
2,4,5-TCP	400	7	0.00	0.00	0.00
2,4,6-TCP	2	7	0.00	0.00	0.00
benzene	0.5	7	0.04	0.00	0.15
CCl4	0.5	7	0.00	0.00	0.00
Clbenz	100	7	0.00	0.00	0.00
CHCl3	6	7	0.06	0.00	0.41
1,4-DCIB	7.5	7	0.05	0.00	0.38
1,2-DCA	0.5	7	0.00	0.00	0.00
1,1-DCE	0.7	7	0.00	0.00	0.00
MEK	200	7	0.74	0.00	3.90
PCE	0.7	7	0.65	0.00	2.80
TCE	0.5	7	0.07	0.00	0.49
VChloride	0.2	7	0.00	0.00	0.00

Less than values are treated as zeros in the statistical analysis

Greater than values are treated as the value in the statistical analysis

Parts Washer Solvent Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE												
M	CL	< 100	< 100	< 100	< 100	< 50	< 1000	< 50	< 50	< 50	< 50	< 50
W	DE	< 120	< 120	< 120	< 120	< 60	< 1200	< 60	< 60	< 60	< 60	< 60
W	EL	< 120	< 120	< 120	< 120	< 62	< 1200	< 62	< 62	< 62	< 62	< 62
W	HE	< 120	< 120	< 120	< 120	69	< 1200	< 62	< 62	< 62	< 62	< 62
M	LE	< 100	< 100	< 100	< 100	< 50	< 1000	< 50	< 50	< 50	< 50	< 50
M	MA	< 250	< 250	< 250	< 250	120	< 2500	< 120	< 120	< 120	< 120	< 120
C	RE	< 600	< 600	< 600	< 600	< 300	< 6000	< 300	< 300	< 300	< 300	< 300

Parameter		1,2-DCA	MEK	1,1,1-TCA	CCl4	v-acetate	CHBrCl2	1,2-DCPA	1,3-DCPE	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE												
M	CL	< 50	< 1000	< 50	< 50	< 500	< 50	< 50	< 50	410	< 50	< 50
W	DE	< 60	< 1200	380	< 60	< 600	< 60	< 60	< 60	< 60	< 60	< 60
W	EL	< 62	< 1200	750	< 62	< 620	< 62	< 62	< 62	< 62	< 62	< 62
W	HE	< 62	< 1200	480	< 62	< 620	< 62	< 62	< 62	< 62	< 62	< 62
M	LE	< 50	< 1000	300	< 50	< 500	< 50	< 50	< 50	61	< 50	< 50
M	MA	< 120	< 2500	< 120	< 120	< 1200	< 120	< 120	< 120	< 120	< 120	< 120
C	RE	< 300	< 6000	2300	< 300	< 3000	< 300	< 300	< 300	< 300	< 300	< 300

Parameter		benzene	2-CVE	1,3-DCPE	CHBr3	Me-2-pen	2-hex'one	PCE	1,1,2,2'PCA	toluene	Cl-benz	eth-benz
LAB SITE												
M	CL	< 50	< 100	< 50	< 50	< 500	< 500	96	< 50	180	< 50	67
W	DE	< 60	< 120	< 60	< 60	< 600	< 600	720	< 60	480	< 60	320
W	EL	< 62	< 120	< 62	< 62	< 620	< 620	930	< 62	540	< 62	310
W	HE	< 62	< 120	< 62	< 62	< 620	< 620	1900	< 62	340	< 62	390
M	LE	< 50	< 100	< 50	< 50	< 500	< 500	140	< 50	290	< 50	150
M	MA	< 120	< 250	< 120	< 120	< 1200	< 1200	< 120	< 120	420	< 120	140
C	RE	< 300	< 600	< 300	< 300	< 3000	< 3000	1500	< 300	1500	< 300	580

Parts Washer Solvent Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		styrene	xylenes	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE						
M	CL	< 50	660	< 100	< 100	< 100
W	DE	< 60	4100	790	290	< 60
W	EL	< 62	2500	< 62	< 62	< 62
W	HE	90	3400	340	< 62	90
M	LE	< 50	1300	140	< 100	< 100
M	MA	< 120	920	< 250	< 250	< 250
C	RE	17000	3900	1900	380	1500

Parts Washer Solvent Wastes
TCLP Organics And EPA 8240/8270 Analyses, ppm

Parameter			cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-eth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
Reg. Limit			200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE ANALYSIS										na		
M	CL	TCLP	9	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
M	CL	8240/8270	< 1	< 1	< 1	< 1	< 1	< 1	< 5	na	< 1	< 1
W	DE	TCLP	3	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
W	DE	8240/8270	280	< 100	< 100	< 100	< 100	< 100	< 500	na	< 100	< 100
W	EL	TCLP	6.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0
W	EL	8240/8270	< 1200	< 1200	< 1200	< 1200	< 1200	< 1200	< 6200	na	< 1200	< 1200
W	HE	TCLP	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.6	< 1.6	< 0.33	< 0.33
W	HE	8240/8270	< 1200	< 1200	< 1200	< 1200	< 1200	< 1200	< 6200	na	< 1200	< 1200
M	LE	TCLP	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
M	LE	8240/8270	< 50	< 50	< 50	< 50	< 50	< 50	< 250	na	< 50	< 50
M	MA	TCLP	< 0.67	4.4	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 3.3	< 0.67	< 0.67
M	MA	8240/8270	< 100	< 100	< 100	< 100	< 100	< 100	< 500	na	< 100	< 100
C	RE	TCLP	0.21	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
C	RE	8240/8270	< 100	< 100	< 100	< 100	< 100	< 100	< 500	na	< 100	< 100

Parameter			benzene	CCl4	Clbenz	CHCl3	1,4-DCIB	1,2-DCA	1,1-DCE	MEK	PCE	TCE	VChloride
Reg. Limit			0.5	0.5	100	6	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE ANALYSIS													
M	CL	TCLP	0.5	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	0.61	< 0.10	< 0.20
M	CL	8240/8270	< 50	< 50	< 50	< 50	< 100	< 50	< 50	< 1000	96	410	< 100
W	DE	TCLP	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.16	< 0.10	< 0.20
W	DE	8240/8270	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 1200	720	< 60	< 120
W	EL	TCLP	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.9	2.8	< 0.10	< 0.20
W	EL	8240/8270	< 62	< 62	< 62	< 62	< 62	< 62	< 62	< 1200	930	< 62	< 120
W	HE	TCLP	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	< 0.10	0.49	< 0.20
W	HE	8240/8270	< 62	< 62	< 62	< 62	90	< 62	< 62	< 1200	1900	< 62	< 120
M	LE	TCLP	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	0.58	< 0.10	< 0.20
M	LE	8240/8270	< 50	< 50	< 50	< 50	< 100	< 50	< 50	< 1000	140	61	< 100
M	MA	TCLP	0.15	< 0.10	< 0.10	0.41	< 0.20	< 0.10	< 0.10	< 2.0	0.15	< 0.10	< 0.20
M	MA	8240/8270	< 120	< 120	< 120	< 120	< 250	< 120	< 120	< 2500	< 120	< 120	< 250
C	RE	TCLP	0.12	< 0.05	< 0.05	< 0.05	0.38	< 0.05	< 0.05	1.3	0.27	< 0.05	< 0.1
C	RE	8240/8270	< 300	< 300	< 300	< 300	1500	< 300	< 300	< 6000	1500	< 300	< 600

Parts Washer Solvent Wastes

Physical Properties and TCLP Metals Analysis, ppm

Parameter		pH	SG	FP	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
Reg. Limit		<2 or >10	na	< 100	5	100	1	5	5	0.2	1	5
LAB SITE												
M	CL	5.5	0.79	125	< 0.5	0.51	0.041	< 0.01	0.47	< 0.001	< 0.2	< 0.01
W	DE	6.5	0.799	110	< 0.05	0.6	< 0.05	< 0.05	1.3	< 0.01	< 0.05	< 0.05
W	EL	7	0.777	151	< 0.05	0.6	0.06	< 0.05	0.5	< 0.01	< 0.05	< 0.05
W	HE	6.5	0.775	95	< 0.05	1.2	0.07	< 0.05	1.2	< 0.01	< 0.05	< 0.05
M	LE	6	0.78	115	< 0.5	0.27	0.055	< 0.01	0.74	0.002	< 0.2	< 0.01
M	MA	6.5	0.8	110	< 0.5	< 1.0	0.059	0.017	1.6	0.0018	< 0.2	< 0.01
C	RE	8	0.79	78	< 1	0.09	0.05	< 0.02	0.5	< 0.002	< 1	< 0.05

TCLP Semi Volatiles Analysis, ppm

Parameter		cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-eth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
Reg. Limit		200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE											
M	CL	9	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
W	DE	3	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
W	EL	6.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0
W	HE	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.6	< 1.6	< 0.33	< 0.33
M	LE	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
M	MA	< 0.67	4.4	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 3.3	< 0.67	< 0.67
C	RE	0.21	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033

TCLP Volatiles Analysis, ppm

Parameter		benzene	CCl4	Clbenz	CHCl3	1,4-DCIB	1,2-DCA	1,1-DCE	MEK	PCE	TCE	VChloride
Reg. Limit		0.5	0.5	100	6	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE												
M	CL	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	0.61	< 0.10	< 0.20
W	DE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.16	< 0.10	< 0.20
W	EL	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.9	2.8	< 0.10	< 0.20
W	HE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	< 0.10	0.49	< 0.20
M	LE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	0.58	< 0.10	< 0.20
M	MA	0.15	< 0.10	< 0.10	0.41	< 0.20	< 0.10	< 0.10	< 2.0	0.15	< 0.10	< 0.20
C	RE	0.12	< 0.05	< 0.05	< 0.05	0.38	< 0.05	< 0.05	1.3	0.27	< 0.05	< 0.1

Dumpster Mud Wastes

Physical Properties and TCLP Analysis, ppm

<i>Parameter</i>	<i>Reg. Limit</i>	<i># Samp</i>	<i>Avg</i>	<i>Min</i>	<i>Max</i>
pH	<2 or >10	6	7.8	6.5	10.0
SG	na	1	1.2	1.2	1.2
FP	< 100	6	107	80	160
As	5	6	0	0	0
Ba	100	6	0.65	0.28	1.00
Cd	1	6	1.46	0.80	2.80
Cr	5	6	0.04	0.00	0.16
Pb	5	6	98.03	1.30	570.00
Hg	0.2	6	0.00	0.00	0.00
Se	1	6	0.00	0.00	0.00
Ag	5	6	0.00	0.00	0.00
cresol	200	6	22.31	0.00	96.00
2,4-DNT	0.13	6	0.00	0.00	0.00
Cl6-benz	0.13	6	0.00	0.00	0.00
Cl6-13-but	0.5	6	0.00	0.00	0.00
Cl6-eth	3	6	0.00	0.00	0.00
nitrobenz	2	6	0.00	0.00	0.00
Cl5-phenol	100	6	0.00	0.00	0.00
pyridine	5	6	0.00	0.00	0.00
2,4,5-TCP	400	6	0.00	0.00	0.00
2,4,6-TCP	2	6	0.00	0.00	0.00
benzene	0.5	6	0.12	0.00	0.52
CCl4	0.5	6	0.03	0.00	0.17
Clbenz	100	6	0.72	0.00	4.30
CHCl3	6	6	0.00	0.00	0.00
1,4-DCIB	7.5	6	0.82	0.00	4.40
1,2-DCA	0.5	6	0.00	0.00	0.00
1,1-DCE	0.7	6	0.00	0.00	0.00
MEK	200	6	2.50	0.00	15.00
PCE	0.7	6	0.92	0.00	3.60
TCE	0.5	6	0.10	0.00	0.45
VChloride	0.2	6	0.00	0.00	0.00

Less than values are treated as zeros in the statistical analysis

Greater than values are treated as the value in the statistical analysis

Dumpster Mud Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE												
M	CL	< 100	< 100	< 100	< 100	< 50	< 1000	< 50	< 50	< 50	< 50	29
W	DE	< 10	< 10	< 10	< 10	< 50	< 100	< 50	< 50	< 50	< 50	< 50
W	EL	< 110	< 110	< 110	< 110	< 55	< 1100	< 55	< 55	< 55	< 55	< 55
M	LE	< 330	< 330	< 330	< 330	610	< 3300	< 170	< 170	< 170	< 170	< 170
C	RE	< 1000	< 1000	< 1000	< 1000	< 500	< 10000	< 500	< 500	< 500	< 500	< 500

Parameter		1,2-DCA	MEK	1,1,1-TCA	CCl4	n-acetate	CHBrCl2	1,2-DCPA	1,3-DCPE	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE												
M	CL	< 50	< 1000	48	< 50	< 500	< 50	< 50	< 50	< 50	< 50	< 50
W	DE	< 50	< 100	11	< 50	< 50	< 50	< 50	< 50	6.4	< 50	< 50
W	EL	< 55	< 1100	750	< 55	< 550	< 55	< 55	< 55	< 55	< 55	< 55
M	LE	< 170	< 3300	1500	< 170	< 1700	< 170	< 170	< 170	< 170	< 170	< 170
C	RE	< 500	< 10000	2300	< 500	< 2500	< 500	< 500	< 500	< 500	< 500	< 500

Parameter		benzene	2-CVE	1,3-DCPE	CHBr3	Me-2-pon	2-hex'one	PCE	1,1,2,2-PCA	toluene	Cl-benz	eth-benz
LAB SITE												
M	CL	< 50	< 100	< 50	< 50	< 500	< 500	230	< 50	440	< 50	150
W	DE	52	< 100	< 50	< 50	< 50	< 50	84	< 50	550	< 50	270
W	EL	< 55	< 110	< 55	< 55	< 550	< 550	740	< 55	500	430	1700
M	LE	< 170	< 330	< 170	< 170	< 1700	< 1700	260	< 170	530	< 170	200
C	RE	< 500	< 1000	< 500	< 500	< 5000	< 5000	1000	< 500	4600	< 500	1800

Parameter		styrene	xylenes	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE						
M	CL	< 50	1200	< 100	< 100	< 100
W	DE	< 50	13000	< 50	47	< 50
W	EL	< 55	1200	250	< 55	100
M	LE	< 170	1400	< 170	< 170	< 170
C	RE	< 500	8700	< 500	< 500	< 500

Dumpster Mud Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE												
M	CL	< 100	< 100	< 100	< 100	< 50	< 1000	< 50	< 50	< 50	< 50	29
W	DE	< 10	< 10	< 10	< 10	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
W	EL	< 110	< 110	< 110	< 110	< 55	< 1100	< 55	< 55	< 55	< 55	< 55
M	LE	< 330	< 330	< 330	< 330	610	< 3300	< 170	< 170	< 170	< 170	< 170
C	RE	< 1000	< 1000	< 1000	< 1000	< 500	< 10000	< 500	< 500	< 500	< 500	< 500

Parameter		1,2-DCA	MEK	1,1,1-TCA	CCl4	v-acetate	CHBrCl2	1,2-DCEP	1,3-DCEP	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE												
M	CL	< 50	< 1000	48	< 50	< 500	< 50	< 50	< 50	< 50	< 50	< 50
W	DE	< 5.0	< 100	11	< 5.0	< 50	< 5.0	< 5.0	< 5.0	6.4	< 5.0	< 5.0
W	EL	< 55	< 1100	750	< 55	< 550	< 55	< 55	< 55	< 55	< 55	< 55
M	LE	< 170	< 3300	1500	< 170	< 1700	< 170	< 170	< 170	< 170	< 170	< 170
C	RE	< 500	< 10000	2300	< 500	< 2500	< 500	< 500	< 500	< 500	< 500	< 500

Parameter		benzene	2-CVE	1,3-DCPE	CHBr3	Me-2-pen	2-hex'one	PCE	1,1,2,2PCA	toluene	Cl-benz	eth-benz
LAB SITE												
M	CL	< 50	< 100	< 50	< 50	< 500	< 500	230	< 50	440	< 50	150
W	DE	52	< 10	< 5.0	< 5.0	< 50	< 50	84	< 5.0	550	< 5.0	270
W	EL	< 55	< 110	< 55	< 55	< 550	< 550	740	< 55	500	430	1700
M	LE	< 170	< 330	< 170	< 170	< 1700	< 1700	260	< 170	530	< 170	200
C	RE	< 500	< 1000	< 500	< 500	< 5000	< 5000	1000	< 500	4600	< 500	1800

Parameter		styrene	xylene	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE						
M	CL	< 50	1200	< 100	< 100	< 100
W	DE	< 5.0	13000	< 5.0	47	< 5.0
W	EL	< 55	1200	250	< 55	100
M	LE	< 170	1400	< 170	< 170	< 170
C	RE	< 500	8700	< 500	< 500	< 500

Dumpster Mud Wastes

Semivolatile Organics (EPA 8270) Analysis, ppm

Parameter		phenol	b-2Cl-ethr	2Cl-phenol	1,3-DCIB	1,4-DCIB	benzyl'ol	1,2-DCIB	2Me-pheno	b-2Cl-lp'E	4Me-pheno	N-nitroso
LAB SITE												
M	CL	< 2200	< 2200	< 2200	< 2200	< 2200	< 4400	< 2200	< 2200	< 2200	< 2200	< 2200
W	DE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	25	< 3.0	< 3.0	< 3.0
W	EL	< 1100	< 1100	< 1100	< 1100	< 1100	< 2100	< 1100	< 1100	< 1100	< 1100	< 1100
M	LE	230	< 63	< 63	< 63	200	< 130	450	420	< 63	350	< 63
C	NE	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
M	CL	< 2500	< 2500	< 2500	99000	220000	< 5100	610000	< 2500	< 2500	< 2500	< 2500

Parameter		C2Cl6	nitrobenz	Isophorone	2nitrophenol	2,4Meph'ol	benz acid	b-2Clclothox	2,4-dClph	1,2,4-TCIB	Naph'ene	4-Claniline
LAB SITE												
M	CL	< 2200	< 2200	< 2200	< 2200	< 2200	< 11000	< 2200	< 2200	< 2200	< 2200	< 4400
W	DE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 15	< 3.0	< 3.0	< 3.0	180	< 3.0
W	EL	< 1100	< 1100	< 1100	< 1100	< 1100	< 5300	< 1100	< 1100	< 1100	1200	< 2100
M	LE	< 63	< 63	< 63	< 63	< 63	< 310	< 63	< 63	< 63	430	< 130
C	NE	< 100	< 100	< 100	< 100	< 100	< 500	< 100	< 100	< 100	1400	< 100
M	CL	< 2500	< 2500	< 2500	< 2500	6800	< 12000	< 2500	< 2500	< 2500	< 2500	< 5100

Parameter		Cl6butadien	4Cl3Mephnl	2-Menaph	Cl6cycpent	2,4,6tClph	2,4,5tClph	2-Clinaph	2-nitroanil	Me2phthal	acenaphthyl	2,6-DNT
LAB SITE												
M	CL	< 2200	< 4400	< 2200	< 2200	< 2200	< 2200	< 2200	< 11000	< 2200	< 2200	< 2200
W	DE	< 3.0	< 3.0	120	< 3.0	< 3.0	< 15	< 3.0	< 15	< 3.0	< 3.0	< 3.0
W	EL	< 1100	< 2100	< 1100	< 1100	< 1100	< 1100	< 1100	< 5300	< 1100	< 1100	< 1100
M	LE	< 63	< 130	140	< 63	< 63	< 63	< 63	< 310	< 63	< 63	< 63
C	NE	< 100	< 100	1900	< 100	< 100	< 500	< 100	< 500	< 100	< 100	< 100
M	CL	< 2500	< 5100	< 2500	< 2500	< 2500	< 2500	< 2500	< 12000	< 2500	< 2500	< 2500

Dumpster Mud Wastes

Semivolatile Organics (EPA 8270) Analysis, ppm

Parameter	3-nitroanil	acenaphthe	2,4-dinitrophenol	4-nitrophenol	dibenzofuran	2,4-DNT	ditolylphthal	4-chlorophenyl	fluorene	4-nitroanil	4,6-dinitrophenol
LAB SITE											
M CL	< 11000	< 2200	< 11000	< 11000	< 2200	< 2200	< 2200	< 2200	< 2200	< 11000	< 11000
W DE	< 15	< 3.0	< 15	< 15	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 15	< 15
W EL	< 5300	< 1100	< 5300	< 5300	< 1100	< 1100	< 1100	< 1100	< 1100	< 5300	< 5300
M LE	< 310	< 63	< 310	< 310	< 63	< 63	< 63	< 63	< 63	< 310	< 310
C RE	< 500	< 100	< 500	< 500	< 100	< 100	< 100	< 100	< 100	< 500	< 500
M CL	< 12000	< 2500	< 12000	< 12000	< 2500	< 2500	< 2500	< 2500	< 2500	< 12000	< 12000

Parameter	N-nitroso	4-chlorophenyl	1,6-dibenzene	1,5-diphenyl	phenanthrene	anthracene	d-n-butylphthal	fluoranthene	pyrene	butylbenzophenone	3,3'-di(2-benzophenone)
LAB SITE											
M CL	< 2200	< 2200	< 2200	< 11000	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200	< 4400
W DE	< 3.0	< 3.0	< 3.0	< 15	5.2	< 3.0	20	< 3.0	< 3.0	< 3.0	< 6.0
W EL	< 1100	< 1100	< 1100	< 5300	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100	< 2100
M LE	< 63	< 63	< 63	< 310	< 63	< 63	< 63	< 63	< 63	< 63	< 130
C RE	< 100	< 100	< 100	< 500	< 100	< 100	210	< 100	< 100	920	< 200
M CL	< 2500	< 2500	< 2500	< 12000	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500	< 5100

Parameter	ben[a]anthracene	chrysene	b2ethhexaph	d-n-octylphthal	ben[b]fluor	ben[k]fluor	ben[a]pyrene	ind[1,2,3-cd]	dben[a,h]an	ben[ghi]per
LAB SITE										
M CL	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200	< 2200
W DE	< 3.0	< 3.0	50	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
W EL	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100	< 1100
M LE	< 63	< 63	110	< 63	< 63	< 63	< 63	< 63	< 63	< 63
C RE	< 100	< 100	1700	100	< 100	< 100	< 100	< 100	< 100	< 100
M CL	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500

Dumpster Mud Wastes

Physical Properties and TCLP Metals Analysis, ppm

		Parameter	pH	SQ	FP	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
		Reg. Limit	<2 or >10	na	< 100	5	100	1	5	5	0.2	1	5
LAB SITE													
M	CL		10	na	115	< 0.5	0.85	0.8	0.06	2.2	0.002	< 0.2	< 0.01
W	DE		7	na	80	< 0.05	1	0.84	< 0.05	570	< 0.01	< 0.05	< 0.05
W	EL		8	na	115	< 0.05	0.9	1	< 0.05	1.3	< 0.01	< 0.05	< 0.05
M	LE		6.5	na	85	< 0.5	0.47	2	0.01	1.3	< 0.001	< 0.2	< 0.01
C	HE		7.9	1.2	85	< 1	0.41	2.8	0.02	4.6	< 0.002	< 1	< 0.5
M	CL		7.5	na	> 160	< 0.5	0.28	1.3	0.16	8.8	< 0.001	< 0.2	< 0.01

TCLP Semi Volatiles Analysis, ppm

		Parameter	cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-eth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
		Reg. Limit	200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE												
M	CL		10	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.7	< 1.7	< 0.33	< 0.33
W	DE		5	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
W	EL		96	< 0.091	< 0.091	< 0.091	< 0.091	< 0.091	< 0.46	< 0.46	< 0.091	< 0.091
M	LE		< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
C	HE		0.88	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.34	< 0.34	< 0.066	< 0.066
M	CL		22	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 3.3	< 3.3	< 0.67	< 0.67

TCLP Volatiles Analysis, ppm

		Parameter	benzene	CCl4	Clbenz	CHCl3	1,4-DCIB	1,2-DCA	1,1-DCE	MCK	PCE	TCE	VChlorofo
		Reg. Limit	0.5	0.5	100	6	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE													
M	CL		0.11	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	0.96	< 0.10	< 0.20
W	DE		0.52	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	< 0.10	< 0.10	< 0.20
W	EL		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.16	< 0.10	< 0.20
M	LE		< 0.10	< 0.10	< 0.10	< 0.10	0.52	< 0.10	< 0.10	< 2.0	0.64	< 0.10	< 0.20
C	HE		0.1	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	15	0.17	0.14	< 0.1
M	CL		< 0.10	0.17	4.3	< 0.10	> 4.4	< 0.10	< 0.10	< 2.0	3.6	0.45	< 0.20

Immersion Cleaner Wastes

Physical Properties and TCLP Analysis, ppm

Parameter	Reg. Limit	# Samp	Avg	Min	Max
pH	<2 or >10	4	9.3	8.0	10.2
SG	na	4	1.05	0.93	1.20
FP	< 100	4	125	85	185
As	5	4	0.00	0.00	0.00
Ba	100	4	0.29	0.00	0.70
Cd	1	4	0.91	0.32	2.30
Cr	5	4	0.28	0.06	0.51
Pb	5	4	3.60	0.20	11.00
Hg	0.2	4	0.00	0.00	0.00
Se	1	4	0.00	0.00	0.00
Ag	5	4	0.00	0.00	0.00
cresol	200	3	400.00	0.00	1200.00
2,4-DNT	0.13	3	0.00	0.00	0.00
Cl6-benz	0.13	3	0.00	0.00	0.00
Cl6-13-but	0.5	3	0.00	0.00	0.00
Cl6-eth	3	3	0.00	0.00	0.00
nitrobenz	2	3	0.00	0.00	0.00
Cl5-phenol	100	3	0.00	0.00	0.00
pyridine	5	3	0.00	0.00	0.00
2,4,5-TCP	400	3	0.00	0.00	0.00
2,4,6-TCP	2	3	0.00	0.00	0.00
benzene	0.5	4	0.04	0.00	0.16
CCl4	0.5	4	0.63	0.00	2.50
Cibenz	100	4	4.39	0.00	13.00
CHCl3	6	4	0.14	0.00	0.56
1,4-DCIB	7.5	4	13.75	1.60	32.00
1,2-DCA	0.5	4	1.43	0.00	3.60
1,1-DCE	0.7	4	0.03	0.00	0.11
MEK	200	4	4.85	0.00	15.00
PCE	0.7	4	1.97	0.00	4.40
TCE	0.5	4	1.38	0.00	4.40
VChloride	0.2	4	0.00	0.00	0.00

Less than values are treated as zeros in the statistical analysis

Greater than values are treated as the value in the statistical analysis

Immersion Cleaner Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE												
M	CL	< 5000	< 5000	< 5000	< 5000	350000	< 50000	< 2500	< 2500	< 2500	< 2500	2700
W	DE	< 8400	< 8400	< 8400	< 8400	162000	< 84000	< 4200	< 4200	< 4200	< 4200	< 4200
W	EL	< 1100	< 1100	< 1100	< 1100	< 530	< 11000	< 530	< 530	< 530	< 530	< 530
C	RE	< 120	< 120	< 120	< 120	2200	< 1200	< 60	< 60	< 60	< 60	< 60

Parameter		1,2-DCA	MEK	1,1,1-TCA	CCl4	v-acetate	CHBrCl2	1,2-DCPA	1,3-DCPE	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE												
M	CL	< 2500	< 50000	< 2500	< 2500	< 25000	< 2500	< 2500	< 2500	< 2500	< 2500	< 2500
W	DE	< 4200	< 84000	< 4200	< 4200	< 42000	< 4200	< 4200	< 4200	< 4200	< 4200	< 4200
W	EL	< 530	< 11000	< 530	< 530	< 5300	< 530	< 530	< 530	< 530	< 530	< 530
C	RE	< 60	< 1200	< 60	< 60	< 600	< 60	< 60	< 60	< 60	< 60	< 60

Parameter		benzene	2-CVE	1,3-DCPE	CHBr3	Me-2-pen	2-hex'one	PCE	1,1,2,2-F-CA	toluene	Cl-benz	eth-benz
LAB SITE												
M	CL	< 2500	< 5000	< 2500	< 2500	< 25000	< 25000	3600	< 2500	< 2500	5800	< 2500
W	DE	< 4200	< 8400	< 4200	< 4200	< 42000	< 42000	< 4200	< 4200	< 4200	63000	< 4200
W	EL	< 530	< 1100	< 530	< 530	< 5300	< 5300	< 530	< 530	< 530	< 530	< 530
C	RE	< 60	< 120	< 60	< 60	< 600	< 600	480	< 60	190	< 60	89

Parameter		styrene	xylenes	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE						
M	CL	< 2500	< 2500	< 5000	12000	24000
W	DE	< 4200	< 4200	161000	21000	43000
W	EL	< 530	< 530	2000	< 530	600
C	RE	210	590	590	170	270

Semivolatile Organics (EPA 8270) Analysis, ppm

[illegible]

Immersion Cleaner Wastes

Physical Properties and TCLP Metals Analysis, ppm

		Parameter Reg. Limit	pH <2 or >10	SG na	FP < 100	As 5	Ba 100	Cd 1	Cr 5	Pb 5	Hg 0.2	Se 1	Ag 5
LAB SITE													
M	CL		8	1.2	95	< 0.5	0.44	2.3	0.51	11	0.001	< 0.2	< 0.01
W	DE		9	1.11	85	< 0.05	0.7	0.4	0.48	2	< 0.01	< 0.05	< 0.05
W	EL		10	0.945	185	< 0.05	< 0.3	0.32	0.06	1.2	< 0.01	< 0.05	< 0.05
C	RE		10.2	0.93	135	< 1	< 0.02	0.64	0.07	0.2	< 0.002	< 1	< 0.5

TCLP Semi Volatiles Analysis, ppm

		Parameter Reg. Limit	cresol 200	2,4-DNT 0.13	Cl6-benz 0.13	Cl6-13-but 0.5	Cl6-eth 3	nitrobenz 2	Cl5-phenol 100	pyridine 5	2,4,5-TCP 400	2,4,6-TCP 2
LAB SITE												
M	CL		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0
W	DE		1200	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.7	< 1.7	< 0.33	< 0.33
W	EL		matrix	matrix	matrix	matrix	matrix	matrix	matrix	matrix	matrix	matrix
C	RE		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.7	< 1.7	< 0.33	< 0.33

TCLP Volatiles Analysis, ppm

		Parameter Reg. Limit	benzene 0.5	CCl4 0.5	Clbenz 100	CHCl3 6	1,4-DCIB 7.5	1,2-DCA 0.5	1,1-DCE 0.7	MEK 200	PCE 0.7	TCE 0.5	VChloride 0.2
LAB SITE													
M	CL		0.16	2.5	> 4.4	0.56	> 4.4	3.6	< 0.10	> 4.4	> 4.4	> 4.4	< 0.20
W	DE		< 0.10	< 0.10	13	< 0.10	17	2.1	0.11	15	0.68	1.1	< 0.20
W	EL		< 5	< 5	< 5	< 5	32	< 5	< 5	< 100	< 5	< 5	< 10
C	RE		< 0.05	< 0.05	0.14	< 0.05	1.6	< 0.05	< 0.05	< 1	2.8	< 0.05	< 0.1

Dry Cleaner Solvent Wastes

Physical Properties and TCLP Analysis, ppm

<i>Parameter</i>	<i>Reg. Limit</i>	<i># Samp</i>	<i>Avg</i>	<i>Min</i>	<i>Max</i>
pH	<2 or >10	3	7.0	6.0	8.0
SG	na	2	1.14	1.03	1.25
FP	< 100	3	90	80	105
As	5	3	0.00	0.00	0.00
Ba	100	3	0.52	0.37	0.80
Cd	1	3	0.25	0.05	0.45
Cr	5	3	0.18	0.13	0.26
Pb	5	3	1.00	0.20	1.70
Hg	0.2	3	0.00	0.00	0.00
Se	1	3	0.00	0.00	0.00
Ag	5	3	0.00	0.00	0.00
cresol	200	3	0.02	0.00	0.06
2,4-DNT	0.13	3	0.00	0.00	0.00
Cl6-benz	0.13	3	0.00	0.00	0.00
Cl6-13-but	0.5	3	0.00	0.00	0.00
Cl6-eth	3	3	0.00	0.00	0.00
nitrobenz	2	3	0.00	0.00	0.00
Cl5-phenol	100	3	0.00	0.00	0.00
pyridine	5	3	0.00	0.00	0.00
2,4,5-TCP	400	3	0.00	0.00	0.00
2,4,6-TCP	2	3	0.00	0.00	0.00
benzene	0.5	3	0.00	0.00	0.00
CCl4	0.5	3	0.00	0.00	0.00
Clbenz	100	3	0.00	0.00	0.00
CHCl3	6	3	0.00	0.00	0.00
1,4-DCIB	7.5	3	0.00	0.00	0.00
1,2-DCA	0.5	3	0.00	0.00	0.00
1,1-DCE	0.7	3	0.05	0.00	0.14
MEK	200	3	0.00	0.00	0.00
PCE	0.7	3	4.40	4.40	4.40
TCE	0.5	3	0.06	0.00	0.17
VChloride	0.2	3	0.00	0.00	0.00

Less than values are treated as zeros in the statistical analysis

Greater than values are treated as the value in the statistical analysis

Dry Cleaner Solvent Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter	CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE											
W DE	< 10	< 10	< 10	< 10	< 5.0	200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
W HE	< 7700	< 7700	< 7700	< 7700	< 3900	< 77000	< 3900	< 3900	< 3900	< 3900	< 3900
M LE	< 300	< 300	< 300	< 300	< 150	< 3000	< 150	< 150	< 150	< 150	< 150

Parameter	1,2-DCA	MEK	1,1,1-TCA	CCl4	v-acetate	CHBrCl2	1,2-DCEPA	1,3-DCEPE	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE											
W DE	< 5.0	< 100	18	< 5.0	< 50	< 5.0	< 5.0	< 5.0	6.4	< 5.0	< 5.0
W HE	< 3900	< 3900	< 3900	< 3900	< 39000	< 3900	< 3900	< 3900	< 3900	< 3900	< 3900
M LE	< 150	< 3000	< 150	< 150	< 1500	< 150	< 150	< 150	< 150	< 150	< 150

Parameter	benzene	2-CVE	1,3-DCPE	CHBr3	Me-2-pen	2-hex'one	PCE	1,1,2,2-PCA	toluene	Cl-benz	eth-benz
LAB SITE											
W DE	< 5.0	10	< 5.0	< 5.0	< 50	< 50	25000	< 5.0	32	< 5.0	< 5.0
W HE	< 3900	< 3900	< 3900	< 3900	< 39000	< 39000	510000	< 3900	4800	< 3900	< 3900
M LE	< 150	< 300	< 150	< 150	< 1500	< 1500	72000	< 150	< 150	< 150	< 150

Parameter	styrene	xylones	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE					
W DE	< 5.0	62	130	36	76
W HE	< 3900	14000	< 3900	< 3900	< 3900
M LE	< 150	< 150	< 150	< 150	< 150

Dry Cleaner Solvent Wastes

Semivolatile Organics (EPA 8270) Analysis, ppm

Parameter	phenol	b-2Cl- <i>o</i> thr	2Cl-phenol	1,3-DCIB	1,4-DCIB	benzyl 'ol	1,2-DCIB	2Me-pheno	b-2Cl-IPE	4Me-pheno	N-nitroso
LAB SITE											
W DE	< 3.0	< 3.0	< 3.0	3.8	3.8	< 3.0	< 3.0	13	< 3.0	15	< 3.0
W HE	< 770	< 770	< 770	< 770	< 770	< 1500	< 770	< 770	< 770	< 770	< 770
M LE	74	< 42	< 42	< 42	< 42	< 84	< 42	< 42	< 42	< 42	< 42

Parameter	C2Cl6	nitrobenz	isophorone	2nitroph'ol	2,4Meph'ol	benz acid	b-2Clethox	2,4-dClph	1,2,4-TCIB	Naph'ene	4-Claniline
LAB SITE											
W DE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 15	< 3.0	< 3.0	< 3.0	27	< 3.0
W HE	< 770	< 770	< 770	< 770	< 770	< 3900	< 770	< 770	< 770	< 770	< 1500
M LE	< 42	< 42	< 42	< 42	< 42	< 200	< 42	< 42	< 42	< 42	< 84

Parameter	Cl6butadien	4Cl3Mephnl	2-Menaph	Cl6cycpent	2,4,6Clph	2,4,5lClph	2-Cl-naph	2-nitroanil	Me2phthal	acenaphthy	2,6-DNT
LAB SITE											
W DE	< 3.0	< 3.0	3.9	< 3.0	< 3.0	< 15	< 3.0	< 15	< 3.0	< 3.0	< 3.0
W HE	< 770	< 1500	< 770	< 770	< 770	< 770	< 770	< 3900	< 770	< 770	< 770
M LE	< 42	< 84	< 42	< 42	< 42	< 42	< 42	< 200	< 42	< 42	< 42

[illegible]

Dry Cleaner Solvent Wastes

Semivolatile Organics (EPA 8270) Analysis, ppin

[illegible]

Parameter	ben[a]anthr chrysone	b2ethhexph d-n-octphi	ben[b]fluor	ben[k]fluor	ben[a]pyren ind[123-cd]	dben[a,h]an	ben[ghi]per
LAB SITE							
W DE	< 3.0	< 3.0	320	34	< 3.0	< 3.0	< 3.0
W HE	< 770	< 770	< 770	< 770	< 770	< 770	< 770
M LE	< 42	< 42	64	< 42	< 42	< 42	< 42

Dry Cleaner Solvent Wastes

Physical Properties and TCLP Metals Analysis, ppm

Parameter		pH	SG	FP	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
Reg. Limit		<2 or >10	na	< 100	5	100	1	5	5	0.2	1	5
LAB SITE												
W	DE	7	1.03	80	< 0.05	0.8	0.24	0.15	1.7	< 0.01	< 0.05	< 0.05
W	HE	6	1.25	85	< 0.05	0.4	0.05	0.13	0.2	< 0.01	< 0.05	< 0.05
M	LE	8	matrix	105	< 0.5	0.37	0.45	0.26	1.1	< 0.001	< 0.2	< 0.01

TCLP Semi Volatiles Analysis, ppm

Parameter		cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-eth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
Reg. Limit		200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE											
W	DE	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 1.7	< 1.7	< 0.33	< 0.33
W	HE	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.30	< 0.30	< 0.060	< 0.060
M	LE	0.059	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033

TCLP Volatiles Analysis, ppm

Parameter		benzene	CCl4	Clbenz	CHCl3	1,4-DClH	1,2-DCA	1,1-DCE	MEK	PCE	TCE	VChloride
Reg. Limit		0.5	0.5	100	6	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE												
W	DE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	> 4.4	< 0.10	< 0.20
W	HE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.14	< 2.0	> 4.4	0.17	< 0.20
M	LE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 2.0	> 4.4	< 0.10	< 0.20

Paint Gun Cleaner Wastes

Physical Properties and TCLP Analysis, ppm

<i>Parameter</i>	<i>Reg. Limit</i>	<i># Samp</i>	<i>Avg</i>	<i>Min</i>	<i>Max</i>
pH	<2 or >10	2	6.3	6.0	6.5
SG	na	2	0.894	0.851	0.937
FP	< 100	2	75	75	75
As	5	2	0.00	0.00	0.00
Ba	100	2	0.80	0.60	1.00
Cd	1	2	0.36	0.00	0.72
Cr	5	2	0.46	0.21	0.72
Pb	5	2	1.35	0.30	2.40
Hg	0.2	2	0.00	0.00	0.00
Se	1	2	0.00	0.00	0.00
Ag	5	2	0.00	0.00	0.00
cresol	200	2	4.85	0.00	9.70
2,4-DNT	0.13	2	0.00	0.00	0.00
Cl6-benz	0.13	2	0.00	0.00	0.00
Cl6-13-but	0.5	2	0.00	0.00	0.00
Cl6-eth	3	2	0.00	0.00	0.00
nitrobenz	2	2	0.00	0.00	0.00
Cl5-phenol	100	2	0.00	0.00	0.00
pyridine	5	2	0.00	0.00	0.00
2,4,5-TCP	400	2	0.00	0.00	0.00
2,4,6-TCP	2	2	0.00	0.00	0.00
benzene	0.5	2	0.16	0.14	0.18
CCl4	0.5	2	0.00	0.00	0.00
Clbenz	100	2	0.00	0.00	0.00
CHCl3	6	2	0.00	0.00	0.00
1,4-DCIB	7.5	2	0.00	0.00	0.00
1,2-DCA	0.5	2	0.06	0.00	0.12
1,1-DCE	0.7	2	0.00	0.00	0.00
MEK	200	2	2100.00	200.00	4000.00
PCE	0.7	2	0.31	0.00	0.61
TCE	0.5	2	0.80	0.00	1.60
VChloride	0.2	2	0.00	0.00	0.00

Less than values are treated as zeros in the statistical analysis

Greater than values are treated as the value in the statistical analysis

Paint Gun Cleaner Wastes

Volatile Organics (EPA 8240) Analysis, ppm

Parameter		CH3Cl	CH3Br	C2H3Cl	C2H5Cl	CH2Cl2	acetone	CS2	1,1-DCE	1,1-DCA	1,2-DCE	CHCl3
LAB SITE												
W	DE	< 11000	< 11000	< 11000	< 11000	< 5600	< 120000	< 5600	< 5600	< 5600	< 5600	< 5600
W	DO	< 11000	< 11000	< 11000	< 11000	270000	< 110000	< 5300	< 5300	< 5300	< 5300	< 5300

Parameter		1,2-DCA	MEK	1,1,1-TCA	CCl4	v-acetate	CHBrCl2	1,2-DCPA	1,3-DCPE	TCE	CHBr2Cl	1,1,2-TCA
LAB SITE												
W	DE	< 5600	< 120000	< 5600	< 5600	< 56000	< 5600	< 5600	< 5600	< 5600	< 5600	< 5600
W	DO	< 5300	< 110000	< 5300	< 5300	< 53000	< 5300	< 5300	< 5300	< 5300	< 5300	< 5300

Parameter		benzene	2-CVE	1,3-DCPE	CHBr3	Ma-2-pen	2-hex'one	PCE	1,1,2,2PCA	toluene	Cl-benz	eth-benz
LAB SITE												
W	DE	< 5600	< 11000	< 5600	< 5600	< 56000	< 56000	< 5600	< 5600	290000	< 5600	33000
W	DO	< 5300	< 11000	< 5300	< 5300	< 53000	< 53000	< 5300	< 5300	300000	< 5300	13000

Parameter		styrene	xylenes	1,2-DCIB	1,3-DCIB	1,4-DCIB
LAB SITE						
W	DE	< 5600	54000	< 5600	< 5600	< 5600
W	DO	< 5300	55000	< 5300	< 5300	< 5300

Paint Gun Cleaner Wastes

Physical Properties and TCLP Metals Analysis, ppm

Parameter		pH	SG	FP	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
Reg. Limit		<2 or >10	na	< 100	5	100	1	5	5	0.2	1	5
LAB SITE												
W	DE	6	0.851	75	< 0.05	1	< 0.05	0.21	0.3	< 0.01	< 0.05	< 0.05
W	DO	6.5	0.937	75	< 0.05	0.6	0.72	0.72	2.4	< 0.01	< 0.05	< 0.05

TCLP Semi Volatiles Analysis, ppm

Parameter		cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-eth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
Reg. Limit		200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE											
W	DE	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.17	< 0.17	< 0.033	< 0.033
W	DO	9.7	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6	< 13	< 13	< 2.6	< 2.6

TCLP Volatiles Analysis, ppm

Parameter		benzene	CCl4	Clbenz	CHCl3	1,4-DCIB	1,2-DCA	1,1-DCE	MEK	PCE	TCE	VChloride
Reg. Limit		0.5	0.5	100	6	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE												
W	DE	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4000	< 0.10	< 0.10	< 0.20
W	DO	0.14	< 0.10	< 0.10	< 0.10	< 0.10	0.12	< 0.10	> 200	0.61	1.6	< 0.20

Antifreeze Wastes

Physical Properties and TCLP Metals Analysis, ppm

Parameter		pH	SG	FP	As	Ba	Cd	Cr	Pb	Hg	Sb	Ag
Reg. Limit		<2 or >10	na	< 100	5	100	1	5	5	0.2	1	5
LAB SITE												
IV	BU	7.5	1.04	> 200	< 0.05	< 0.3	< 0.05	< 0.05	0.3	< 0.01	< 0.05	< 0.05
IV	EL	8	1.13	> 200	< 0.05	0.3	< 0.05	< 0.05	< 0.1	< 0.01	< 0.05	< 0.05
IV	WL	0.5	1.05	> 200	< 0.05	< 0.3	< 0.05	< 0.05	0.2	< 0.01	< 0.05	< 0.05

TCLP Semi Volatiles Analysis, ppm

Parameter		cresol	2,4-DNT	Cl6-benz	Cl6-13-but	Cl6-oth	nitrobenz	Cl5-phenol	pyridine	2,4,5-TCP	2,4,6-TCP
Reg. Limit		200	0.13	0.13	0.5	3	2	100	5	400	2
LAB SITE											
IV	BU	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.2	< 0.2	< 0.04	< 0.04
IV	EL	0.2	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.35	< 0.35	< 0.07	< 0.07
IV	WL	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.25	< 0.05	< 0.05

TCLP Volatiles Analysis, ppm

Parameter		benzene	CCl4	Clbenz	Cl1Cl3	1,4-DCIB	1,2-DCA	1,1-DCE	MEK	PCE	TCE	VChloride
Reg. Limit		0.5	0.5	100	8	7.5	0.5	0.7	200	0.7	0.5	0.2
LAB SITE												
IV	BU	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.13	0.97	< 0.20
IV	EL	0.32	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.12	< 0.10	< 0.20
IV	WL	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 2.0	0.51	< 0.10	< 0.10

ATTACHMENT II.A.6
WASTE ANALYSIS PLAN



ATTACHMENT II.A.6

WASTE ANALYSIS PLAN

GENERAL

The used solvents are the primary feed stock for regeneration of Safety-Kleen's clean solvent products. Quality control of the used solvents is critical to the Recycle Center to safely recycle the material and to assure quality products. The closed loop system of managing the clean and used solvents is therefore designed to minimize the possibility of product contamination from outside sources. Within the closed loop, ownership of the material remains with Safety-Kleen and the product is leased to the customer.

Prior to leasing a parts cleaning machine, the customer's business activity is reviewed. Where the possibility exists for contamination of the mineral spirits, i.e., pesticide, herbicide, pharmaceutical, printing operations, the process is reviewed to ensure that contamination of the product does not occur.

Sales representatives are instructed to visually examine the spent product when the machines are serviced, noting the consistency and volume of material recovered. If problems are noted, the machine is removed from the customer.

The dry cleaning wastes are collected from dry cleaning facilities where only a single chemical is handled at the facility and chances of cross contamination by other chemicals or wastes are minimal. In addition, each shipment from the dry cleaning facility will be manifested with signature of the owner (generator) for the type of materials contained in the drums.

All the materials collected at the Service Center and subsequently shipped to the Safety-Kleen recycle facility are either managed at all times in the closed loop system or will be collected from a single purpose process. General nature and quality of these materials

are known and Safety-Kleen's operating experiences have shown that the collected materials do not usually deviate from expectation and impact the recycling process. As an additional safeguard, Safety-Kleen's personnel are instructed to inspect all materials before returning them to the service centers.

For these reasons, all waste analyses are performed at the recycle facility, as described in the following section, and only visual and physical inspection is conducted in conjunction with service center operations.

In accordance with 40 CFR 264.13(a), Safety-Kleen will also perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste to be collected does not match the waste designated. It is Safety-Kleen's practice that suspected nonconforming material must not be accepted until an analysis has been done or the material must be rejected.

WASTE ANALYSES AT THE RECYCLE FACILITY

Analyses performed at the recycle facilities are undertaken to safeguard the recycling process and to assure the product quality. The following tables summarize a typical waste analysis plan at the recycle facility related to the hazardous materials returned from the service center:

Table II.A.6-1	Parameters and Rationale for Hazardous Waste Identification
Table II.A.6-2	Parameters and Test Methods
Table II.A.6-3	Methods Used to Sample Hazardous Wastes
Table II.A.6-4	Frequency of Analysis

In addition to the aforementioned analyses, TCLP analyses for all compounds, except pesticides, will be conducted every five years on all characteristic hazardous waste



TABLE II.A.6-1
PARAMETERS AND RATIONALE
FOR HAZARDOUS WASTE IDENTIFICATION

Hazardous Waste	Parameter ^a	Rationale
1. Used Immersion Cleaner (609IC)	Methylene Chloride Orthodichlorobenzene Cresylic Acid	Formula contains these ingredients: F002 & Cresylic Acid F004
2. Used Immersion Cleaner (699IC)	TCLP	May contain these compounds
3. Used Mineral Spirits	Flash Point TCLP	Ignitable characteristics D001; may contain these compounds
4. Mineral Spirits Tank Bottom Sludge and Free Water	TCLP Flash Point	The sludge and free water may contain these compounds and the sludge has a flash point of 105° F (D001)
5. Mineral Spirits Dumpster Mud	TCLP Flash Point	The sludge and free water may contain these compounds and the sludge has a flash point of 105° F (D001)
6. Dry Cleaning Wastes	Perchloroethylene Trichlorotrifluoroethane Mineral Spirits	Contain ingredient of F002 or contains a hazardous constituent. Ignitable characteristics D001
7. Spent Antifreeze	TCLP	May contain these compounds
8. Paint Waste	Toluene, xylene, methyl ethyl ketone, methyl isobutyl ketone,, acetone, isopropanol, methanol, ethanol, normal butyl acetate, isobutyl acetate, cadmium, chromium, lead TCLP	Contains these components: F003 and F005. Ignitable characteristics D001

^a TCLP Waste Codes: D004-D011, D018, D019, D021-D030, D032-D043.



TABLE II.A.6-2

PARAMETERS AND TEST METHODS

Parameter	Test Method	Reference
pH	pH Meter	ASTM Standard D1293-65
Flash Point	Tag closed cup tester	ASTM Standard D56-79
TCLP	Toxicity Characteristic Leaching Procedure	40 CFR 261, Appendix II
Hydrocarbons and Volatile Organics	Gas Chromatography (GC)	Modified Methods Based on "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods," SW-846, USEPA and ASTM Standards
Boiling Range	Distillation of Petroleum	ASTM Method D86-78
API Gravity	Hydrometer Method	ASTM Standard D287-67

II.A.6-2B

TABLE II.A.6-3**METHODS USED TO SAMPLE HAZARDOUS WASTES**

Hazardous Waste	Reference for Sampling	Sampler	Description of Sampling Method
1. Used Immersion Cleaner	Sampling a drum "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/ Chemical Methods, SW-846, USEPA	Representative composite sample using drum sampler
2. Used Mineral Spirits	Sampling a tank "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Same as 1	For tanks--Bomb sampler (similar to weighted bottle sampler)
3. Mineral Spirits, Tank Bottom Sludge, and Free Water	Same as 2	Same as 1	Same as 2
4. Mineral Spirits Dumpster Mud	Same as 1	Same as 1	Same as 1
5. Dry Cleaning Wastes	Same as 1	Same as 1	Same as 1
6. Spent Antifreeze	Same as 1	Same as 1	Same as 1
7. Paint Waste	Same as 1	Same as 1	Same as 1

II.A.6-2C

TABLE II.A.6-4

FREQUENCY OF ANALYSIS

Hazardous Waste	Frequency ^a
1. Used Immersion Cleaner 609	Gas chromatograph annually TCLP every five years
2. Used Immersion Cleaner 699	Gas chromatograph annually TCLP every five years
3. Used Mineral Spirits	Gas chromatograph annually Flash point annually
4. Mineral Spirits, Tank Bottom Sludge, and Free Water	Gas chromatograph annually TCLP every five years
5. Mineral Spirits Dumpster Mud	Gas chromatograph annually TCLP every five years
6. Dry Cleaning Wastes	Gas chromatograph annually TCLP every five years
7. Spent Antifreeze	Gas chromatograph annually TCLP every five years
8. Paint Waste	Gas chromatograph annually TCLP every five years

^a In accordance with 40 CFR 264.13(a), Safety-Kleen will also perform physical and chemical analysis of a waste stream when it is notified or has reason to believe that the process or operation generating the waste has changed, or when the result of inspection indicates that the waste to be collected does not match the waste designated.

II.A.6-2D



streams (example; used mineral spirits, 699 IC). Any compounds which are positively detected in the waste stream will be added to the parameter list for that waste stream on Table II.A.6-1.

ATTACHMENT II.A.7
MANIFEST SYSTEM, RECORDKEEPING,
AND REPORTING



ATTACHMENT II.A.7
MANIFEST SYSTEM, RECORDKEEPING,
AND REPORTING

PROCEDURE FOR RECORDKEEPING

Inasmuch as the mineral spirits and immersion cleaner solvents are commercial products leased to the customer, shipments of the clean and used solvents and equipment are handled by invoices.

Quantities of clean solvents received from used solvents shipped to the recycle center are routinely manifested. Shipments of mineral spirits dumpster mud are also manifested accordingly. Required records are kept at the service center and the recycle center until closure of the facility.

REQUIRED NOTICES

If Safety-Kleen arranges to receive hazardous waste from a foreign source, the Regional Administrator must be notified in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required. Safety-Kleen informs its customers in writing (i.e., on each service document) that the facility has the appropriate permit(s) for, and will accept the waste the generator is shipping. Safety-Kleen keeps a copy of this written notice as part of the operating record.

Before transferring ownership or operation of this facility during its operating life, Safety-Kleen will notify the new owner or operator in writing of the requirements of Part 264 and Part 270 of Chapter 40 in the code of Federal Regulations.



MANIFEST SYSTEM

In accordance with 40 CFR 264.71 through 77, Safety-Kleen will ensure that:

1. Customers who are required to provide a manifest do so;
2. The manifests are prepared and signed properly; and
3. Copies are distributed and kept on file, as required.

In addition, discrepancies must be remediated in accordance with 40 CFR 264.72 and unmanifested wastes will be reported as described under 40 CFR 264.76.

An operating log which contains the information required under 40 CFR 264.73 is maintained and all records and logs are available at the facility, in accordance with 40 CFR 264.74.

Annual reports will be prepared and submitted by Safety-Kleen, and these records will also be available at the facility for review.

The following information will be maintained in writing in the operation record for the facility:

- A description and quantity of each hazardous waste received;
- The date and storage method for such hazardous waste;
- The location of each hazardous waste stored within the facility;
- Records and results of waste analyses performed;

- Summary reports and details of all incidents that require implementation of the Contingency Plan;
- Monitoring, testing, or analytical data, and corrective action where required by Subpart F and other applicable sections of 264;
- All closure cost estimates under 264.142 and all contingent post-closure cost estimates under 264.144;
- Records of quantities and date of placement for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted; and
- For any restricted waste generated that can be land disposed without further treatment, and is sent to a land disposal facility, a notice and certification will be set to the treatment, storage, or land disposal facility with the waste. The notice will state that the waste meets the applicable treatment standards set forth in Subpart D of 268 and applicable prohibitions set forth in 268.32 or RCRA section 3004(d). The notice will include the following information:
 - ▶ EPA Hazardous Waste Number; and
 - ▶ The corresponding treatment standards and all applicable prohibitions set forth in 268.32 or RCRA Section 3004(d).

Further, the certification will be signed by an authorized representative and will state the following:

"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

Section 264.74 requires that all records, including plans, must be furnished upon request to duly designed representative of the Regional Administrator, and this requirement will be honored. A copy of all records of waste disposal locations and quantities will be submitted to the Regional Administrator and/or FDER upon closure of the facility, if applicable.

A biennial report will be submitted to the Regional Administrator and/or FDER by March 1 during each even numbered year (1990 being the first year) on EPA form 8700-13B. The report will cover facility activities during the previous calendar years and will include:

- The EPA identification number, and address of the facility;
- The calendar year covered by the report;
- The method of treatment, storage, or disposal for each hazardous waste;
- The most recent closure cost estimate under 264.142 and the most recent contingent post-closure cost estimate under 264.144; and

- A certification signed by the owner or operator of the facility or the authorized representative.

LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with 40 CFR 268.7, Safety-Kleen will provide notification/certification for wastes banned from landfills as follows:

1. Printing the Notice language on the manifest such as for core-business customers to branch shipments; or
2. Special forms for each regularly handled waste types (e.g., MS, IC, and perc); or
3. A general form that must be completed for unique or non-standard waste streams.

The Notice is required paperwork for the streams handled by Safety-Kleen. Shipments lacking the proper Notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper Notice is received, the Notice is kept in the files of the receiving facility with the manifest or with the pre-print if a manifest is not used.

PART II B
CONTAINERS



ATTACHMENT II.B.1
CONTAINMENT SYSTEM



ATTACHMENT II.B.1

CONTAINMENT SYSTEM

CONTAINMENT

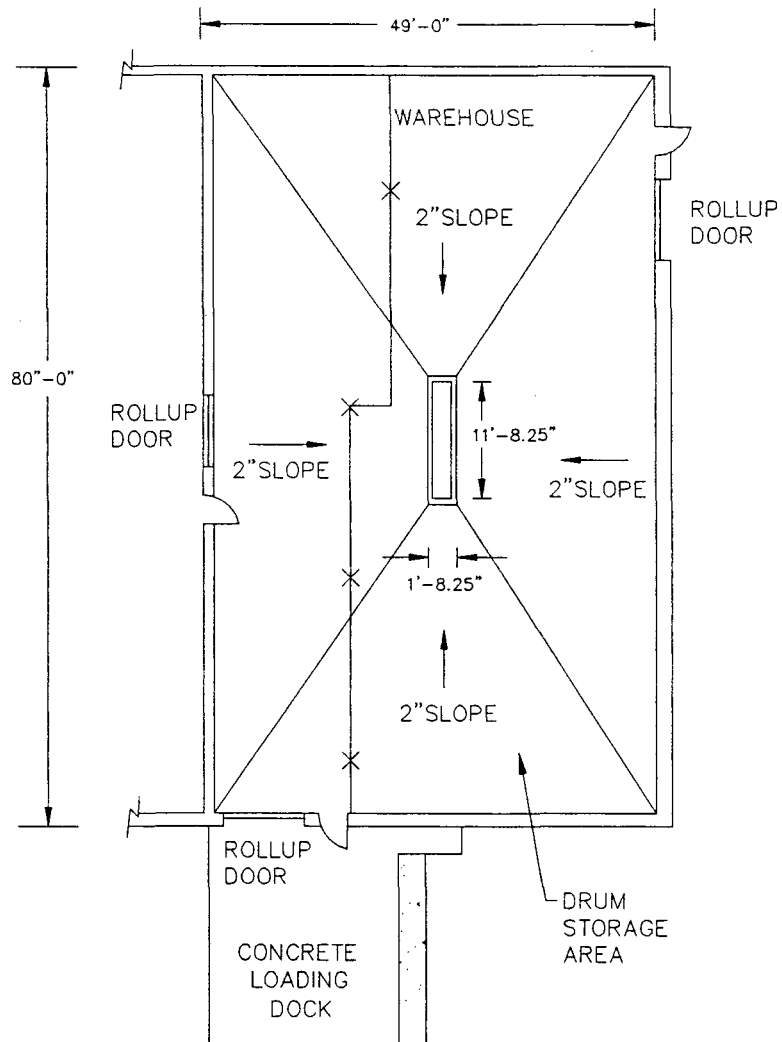
The indoor drum storage area shown in Figure II.B.1-1, occupies a portion of the building area which has a sloped concrete floor and a collection trench to form a spill containment system. The capacity of the containment system is designed to be greater than ten percent of the total liquid storage capacity.

The containment area is free of cracks and has been coated with a concrete sealant, Sikagard® 62. As stated by the manufacturer, this product is compatible with and resistant to products handled by Safety-Kleen. The manufacturer's statement and information regarding this product are provided in Sub-Attachment II.B.1-1.

The containment volume is composed of the sloped concrete floor and the collection trench. As illustrated in Sub-Attachment II.B.1-2, the total containment volume is 2,972 gallons. Therefore, the maximum storage capacity is 29,720 gallons. The types and number of each container may vary; however, the total volume of product and waste stored will never exceed the maximum volume of 29,720 gallons. The estimated maximum storage volume of waste is 6,912 gallons.

Spills are removed by a hand-held, portable electric pump (the COMS pump), wet/dry vacuum cleaner, or sorbent material. Product collected in the collection trench is pumped into a safe drum for transport to the recycle facility for reclamation. Only in the event that the spill were to exceed the containment capacity would spilled wastes be able to extend beyond the containment area. Only six openings (doorways) exist in the drum containment area. Four of these lead to other containment areas; the drum fill/return and the enclosed concrete dock (Figure II.B.1-1). The other two doorways are located on the east side of the drum containment area behind a locked chain link fence. All openings are normally closed and locked. Due to the volume of containment

Figure II.B.1-1
 Drum Storage Area
 Safety-Kleen Corp. Facility
 Boynton Beach, Florida



0 20
 FEET

available and the configuration of the drum containment area, it is highly unlikely that any spill would extend beyond this area. The complete containment assessment is provided in Sub-Attachment II.B.1-2.

Since the characteristics of the stored wastes are known, analyses are not performed on the materials collected from the containment area. All collected materials are sent to a recycle facility for recycling/reclamation. Recovered materials that cannot be effectively reclaimed at the recycle facility will be, in turn, sent to a permitted facility for disposal.

CONTAINER MOVEMENT

In the drum storage area, drums are handled with a hand-truck that is free of sharp points and stacked by hand. Every time a drum is moved, a chance exists that it will be tipped over, dropped, or punctured. To minimize the possibility of spillage, drums are tightly covered and kept in an upright position. A small portable electric pump is available to quickly transfer the liquid from any leaking container into another safe drum. Each route truck is equipped with an electric hoist. This hoist is used in the loading/unloading operation to minimize chances for spillage and/or employee injury. Trucks used for shipping containers between the recycle center and service center have lift gates for drum loading/unloading. With the exception of mineral spirits, all drummed wastes are loaded/unloaded in the vicinity of the garage door on the southern side of the building. The mineral spirits are loaded/unloaded at the fill/return shelter, which are described in the Tank Section, Part IIC.

All drums are transported, moved, and stored carefully in an upright position. The route trucks are equipped with an electric hoist to assist loading/unloading. In the warehouse area, the immersion cleaner, mineral spirits dumpster mud drums, dry cleaning waste, and paint waste drums are moved with two-wheel hand trucks and stacked by hand. All containers will be elevated on pallets to eliminate the possibility of them standing in spilled solvent.

Containers will be double-stacked. Wastes will not remain onsite for more than 30 days. The drums will be arranged so that a two-foot aisle space exists between all rows of pallets such that all containers can be readily visible for inspection and handling. Since all materials handled by Safety-Kleen are compatible with one another, no specific areas have been designated for specific wastes. Wastes will be grouped by type and are distinguishable by the color of the drum; however, since the actual volume present of any product at a given time varies greatly, it is not practical to assign specific locations to given wastes.



SUB-ATTACHMENT II.B.1-1

SIKAGARD® INFORMATION



Safety-Kleen

November 9, 1990
DDD 90-135

SIKA CORP.
201 Polito Avenue
Lindhurst, NJ 07071
Attn: Edwin Diaz

Subject: Testing of Sikadur 51 NS-SL
and Sika Guard 51

Dear Mr. Diaz,

Please provide Safety-Kleen Corp. with a certification letter demonstrating that your products, Sikadur 51 NS-SL and Sika Guard 62, when used to seal concrete floors are compatible with and resistant to the following chemicals:

1. Mineral spirits
2. Perchloroethylene
3. Methylenedichloride
4. Cresylic acid
5. Orthodichlorobenzene
6. Trichlorotrifluoroethane

Please forward the test information to:

Safety-Kleen Corp.
O'Hare Technical Center
P.O. Box 92050
Elk Grove Village, IL 60009-2050
Attn: Daniel D. Dowling

Thank you in advance for your cooperation. If you have any questions or comments please feel free to call at 312/694-2700 ext. 7044.

Sincerely,

DANIEL D. DOWLING
Project Manager
Branch Constr. & Maint.

DDD:bjr

cc: William Heyn
Melissa Hlabasko
Ellen Jurczak
Jack Krivec
Cindy Norton - ERM South

MAY 18 1990

SIKA CORPORATION

products/systems/services...worldwide

April 26, 1990

Executive Offices
201 Palito Avenue
Lyndhurst, NJ 07071

Wishmeier & Assoc.
119 N. Taylor Street
South Bend, IN 46601

Attn: Martin Kleiman

Re: Sikaflex sealants, Sikagard 62
Safety - Kleen Tank Farm

Dear Sir;

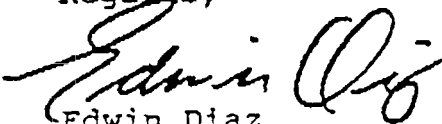
Based on the information provided, it is of our opinion that our Sikaflex sealants will offer a degree of chemical resistance, based on a spillage or intermittent contact, when exposed to solvents. A prolonged working life of the sealants is dependent upon proper application procedures, good maintenance, and expeditious clean-up which will not let any aggressive materials puddle over the sealant, thus causing an accelerated degradation as to a softening of the material.

Our Sikagard 62 will offer a better degree of chemical resistance, but with the nature of the chemicals present at this site, the same limitation recommendations as previously stated will be made. In addition, all other application/limitation guidelines, as stated in the current Technical Data Sheet issued for these products should be followed accordingly.

The opinions given are offered strictly on Sika's working knowledge of the product and are based on the given application parameters. The final responsibility for the success of the application rests on actual field conditions and proper application procedures.

Any further questions should be directed to Sika's Technical Service at 800-631-7270.

Regards,



Edwin Diaz
Technical Service Dept.

Sikagard® 62

High-Build Protective Coating

Technical Data



Description: Sikagard 62 is a 2-component, solvent-free, high-solids, moisture-insensitive epoxy resin. It produces a high-build, protective, dampproofing, and waterproofing vapor-barrier system. Sikagard 62 conforms to ASTM C-881, Type I and IV, Grade 2, epoxy resin.

Where To Use: Use as a high-build, corrosion-resistant, protective coating, or as a seamless flooring system on dry and can't-dry substrates.

Advantages:

- Protects dry and can't-dry substrates.
- Exceptional tensile strength.
- Good chemical resistance for long-term protection.
- Convenient B:A = 1:1 mixing ratio.
- Easy, paint-like viscosity.
- Durable, smooth finish permits wipe-off graffiti-removal.
- Available in 3 standard colors; gray, red, and tan. Special color matches available upon request.
- Excellent bonding to all common structural substrates.
- Super abrasion resistance for long-term wear.
- Sikagard 62, Gray, after cure, is approved for contact with potable water.
- All colors are USDA-approved for use in food plants.

Coverage: 225-400 sq ft/gal (4-7 mils)

Packaging: 4-gal units; 1-qt units, 12/case.

Typical Data for Sikagard 62:

(Material and curing conditions @ 73F and 50% R.H.)

Shelf Life: 2 years in original, unopened containers.

Storage Conditions: Store dry at 40-95F. Condition material to 65-85F before using.

Color: Gray, red, tan.

Mixing Ratio: Component 'A' : Component 'B' = 1:1 by volume.

Viscosity: Approx 2,700 cps.

Pot Life: Approx 35 min.

Application Life: 20-25 minutes.

Tack-Free Time: Approx 4 hr.

Open Time: Light foot traffic - 5-7 hr.
Rubber-wheel traffic - 8-10 hr.

**Immersion and
chemical exposure:** 3 days

Tensile Properties (ASTM D-638):

14 day	Tensile Strength	6,400 psi
	Elongation at Break	2.7 %

Abrasion (Taber Abrader):

7 day	Weight loss, 1,000 cycles (H-22 wheel, 1,000-gm weight)	0.61 gm
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Abrasion Resistance (ASTM D-968):

14 day	Abrasion Coefficient	51 liters/mil
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Adhesion (ASTM D-3359):

1 day	Adhesion Classification	4A
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Water Absorption (ASTM D-570):

7 day	Total Water Absorption (2-hour boil)	0.9%
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Chemical Resistance:

Specimen: Two coats- 10 mils

Cured 10 days

Substrate: asbestos cement

CHEMICAL	TEST TEMP.	STORAGE TIME AND EVALUATION				
		1 Day	1 Month	2 Months	6 Months	12 Months
Water	75F	A	A	A	A	A
	100F	A	A	A	A	A
	140F	A	A	A	A,D	A,D
Sodium Chloride Solution (Saturated)	75F	A	A	A	A	A
	100F	A	A	A	A	A
Sodium Hydroxide 30%	75F	A	A	A	A	A
Cement Water (Saturated)	75F	A	A	A	A	A
Detergent Solution (5% Ajax)	75F	A	A	A	A	A
	140F	A	A	A	A,D	A,D
Hydrochloric Acid 10%	75F	A	A	A	A	A
Sulfuric Acid 10%	75F	A	A	A	B	B
Oxalic Acid 10%	75F	A	A,D	A,D	A,D	A,D
Citric Acid 10%	75F	A	A,D	A,D	A,D	A,D
Fuel Oil (Home Heating)	75F	A	A	A	A	A,D
Gasoline (Unleaded)	75F	A	A	A	A	A,D
Iso-Octane	75F	A	A	A	A	A,D
Toluol	75F	A	A	A	A	A,D
Silage	75F	A	A	A,D	A,D	B,D
Synthetic Silage	75F	A	A	B,D	B,D	B,D
Liquid Manure	75F	A	A	A	A	A,D
Ethyl Alcohol	75F	A	C	—	—	—

A: Resistant in permanent contact
B: Temporary resistance

C: Destroyed
D: Discolored

How To Use

Surface Preparation: Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles, and disintegrated materials.

Preparation Work: Concrete - Sandblast or use other approved mechanical means.

Steel - Sandblast to white-metal finish.

Mixing: Pre-mix each component. Proportion equal parts by volume of Component 'A' and Component 'B' into a clean mixing container. Mix with a low-speed (400- 600-rpm) drill and Sika paddle for 3 minutes, until uniform in color.

Mix only that quantity that can be used within its application life.

Application: Apply coating using high-quality rollers or brushes, or spray. Two coats are recommended. Apply second coat as soon as the first coat is tack-free and the traffic of application will not damage the first coat. The second coat, however, **must** be applied within 48 hours since a longer delay will require additional surface preparation.

For slip-resistance, add approximately ½ lb/gal of Sikagard 62 Granules to the mixed material and apply as first coat. Saturate roller or brush with material and apply first to a disposable cardboard or other surface to distribute the granules evenly on the equipment.

Do not spray with Sikagard 62 Granules in the coating. When spraying, use the following or similar equipment: Binks Model #18 Air Atomized Spray Gun (#68 fluid nozzle, #68 PB air nozzle, #68 fluid needle, #83-5661, 2-gal pressure fluid tank).

For Sikagard 62 Flooring System information consult your Technical Data Sheet or call Technical Service.

Limitations:

- Minimum substrate temperature for application 50F.
- Do not apply over wet, glistening surface.
- Material is a vapor barrier after cure.
- Do not apply to surfaces where vapor can condense and freeze.
- Do not encapsulate saturated concrete in areas of freezing and thawing.
- Do not apply to porous surfaces exhibiting moisture-vapor transmission during application. Consult Technical Service.
- Minimum age of concrete prior to application is 21-28 days, depending on curing and drying conditions.
- Do not apply to exterior substrate on-grade. . .epoxy resin coatings will weather and chalk upon exposure to sunlight.
- For spray applications only, thin with Sika Epoxy Thinner at 5% by volume. Thin only when required.

Caution:

Component 'A'-Irritant - Contains epoxy resins. Prolonged contact with skin may cause irritation. Avoid eye contact.

Component 'B'-Corrosive - Contains amines. Contact with skin may cause severe burns. Avoid eye contact.

Product is a strong sensitizer. Use of safety goggles and chemical-resistant gloves recommended. Remove contaminated clothing. Avoid breathing vapors. Use adequate ventilation. Use of a NIOSH/MSA organic vapor respirator recommended.

First Aid:

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact physician immediately. For respiratory problems, remove person to fresh air. Wash clothing before re-use.

Clean Up:

Ventilate area. Confine spill. Collect with absorbent material, flush area with water. Dispose of in accordance with current, applicable local, state, and federal regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically.

**KEEP CONTAINER TIGHTLY CLOSED
NOT FOR INTERNAL CONSUMPTION**

**KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY**

CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION

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Export Division

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201-933-8800

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201-804-1020

June, 1990



Drawer 278. Sika and Sikagard are registered trademarks. Made in USA. Printed in USA. July, 1990.

Sikadur® 51 NS/SL

Flexible epoxy control-joint sealer/adhesive

Technical Data



Description:	Sikadur 51 is a 2-component, solvent-free, moisture-insensitive, flexible, epoxy resin material. It is available in 2 consistencies - NS (non-sagging) and SL (self-leveling).
Where to Use:	<ul style="list-style-type: none">● Use to fill horizontal, vertical, and overhead non-moving saw-cut, construction, control joints, and cracks.● Use also as a flexible adhesive.
Advantages:	<ul style="list-style-type: none">● Two consistencies to fit project requirements.● 2 to 1 ratio insures easy mixing, easy handling.● An adhesive with excellent flexibility.● Permanent flexibility. . .does not age-harden.● Shock-absorbent cure. . .resists wheels and heavy loads.● Prevents deterioration of control-joint edges.
Coverage:	1 gal will yield 231 cu in. or will fill 102 ft of 1/8-in.-wide x 1 1/2-in.-deep joint.
Packaging:	3-gal units; 12-fl-oz units, 12 per case.

Typical Data for Sikadur 51 NS/SL:

(Material and curing conditions @ 73F and 50% RH)

Shelf Life:	2 years in original, unopened container.	
Storage Conditions:	Store dry at 40-95F. Condition material to 65F -85F before using.	
Color:	Concrete gray	
Mixing Ratio:	Component 'A':Component'B'= 2:1 by volume	
Consistency:	Sikadur 51 NS Non-sag	Sikadur 51 SL Self-leveling
Pot Life:	1 to 1.5 hr	1 to 1.5 hr
Tack-free time (ASTM C-679):	7-8 hr	8-9 hr

Tensile Properties (ASTM D-638):**Tensile strength**

14 day	600 psi	550 psi
--------	---------	---------

Tensile stress at % elongation

10%	60 psi	100 psi
-----	--------	---------

25%	240 psi	230 psi
-----	---------	---------

50%	480 psi	430 psi
-----	---------	---------

Tensile set at % elongation

10%	0 psi	0 psi
-----	-------	-------

25%	0 psi	0 psi
-----	-------	-------

Tensile set

after break	1%	1%
-------------	----	----

Elongation at

break	100%	100%
-------	------	------

Modulus of

Elasticity	13,000 psi	8900 psi
------------	------------	----------

Tear Resistance (ASTM D-624):

14 day	Tear resistance	
	110 lb/in.	110 lb/in.

Shear Strength (ASTM D-732):

14 day	Shear Strength	
	800 psi	700 psi

Bond Strength (ASTM C-882): Hardened concrete to hardened concrete

2 day (dry cure)	Bond Strength	
	800 psi	700 psi

14 day (moist cure)	Bond Strength	
	450 psi	400 psi

Hardness (ASTM D-2240):

28 day	Hardness	75-80	75-80
	(Shore A)		

How To Use

Surface Preparation: Substrate must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles, disintegrated materials, etc., by mechanical means, i.e. - sandblasting, high pressure waterblasting.

Mixing: Pre-mix each component. Proportion 2 parts Component 'A' and 1 part Component 'B' by volume into a clean pail. Mix thoroughly for 3 minutes with a Sika paddle on a low-speed (400-600-rpm) drill until uniform in color. Mix only that quantity you can use within its pot life.

Application: For vertical or overhead applications, gun Sikadur 51, NS, into construction/control joints and cracks with caulking gun, pressure extruder, or other suitable methods. Be sure to maintain steady pressure.
For horizontal applications, pour Sikadur 51, SL into construction/control joints or use low-pressure extrusion equipment. Again, maintain a steady flow of material.
Both applications require care to eliminate overlapping as this may cause bubbling within the material.
For use as a flexible adhesive, consult Sika Technical Service.

Limitations:

- Do not thin Sikadur 51 NS/SL. Solvents may prevent proper cure.
- Substrate temperature should be 40F minimum and rising.
- For best results, materials should be maintained between 65F and 85F.
- Do not apply through standing water.
- Minimum age of concrete 28 days.
- Materials are vapor barriers after cure.
- Concrete or masonry must be tested for water-vapor-transmission prior to application.
- Not designed for use under constant immersion.
- Do not use in expansion (moving) joints.
- For applications other than the sealing of control or construction joints, consult Sika Technical Service.
- For application in non-moving joints only.
- The ultimate performance of Sikadur 51 depends on many factors i.e. proper joint design, thermally stable areas (concrete slab) etc.

Caution: **Component 'A' - Irritant:** Prolonged contact to skin may cause irritation. Avoid eye contact.
Component 'B' - Corrosive: Contact with skin may cause severe burns. Avoid eye contact.
 Product is a strong sensitizer. Use of safety goggles and chemical-resistant gloves recommended. Remove contaminated clothing. Avoid breathing vapors. Use adequate ventilation. Use of NIOSH/MSA organic vapor respirator recommended.

First Aid: In case of skin contact wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for 15 minutes; contact physician immediately. For respiratory problems, remove person to fresh air. Wash clothing before re-use.

Clean Up: Collect with absorbent material, flush with water. Dispose of in accordance with applicable local, state, and federal regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically.

**KEEP CONTAINER TIGHTLY CLOSED
 NOT FOR INTERNAL CONSUMPTION**

**KEEP OUT OF REACH OF CHILDREN
 FOR INDUSTRIAL USE ONLY**

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September, 1989



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SUB-ATTACHMENT II.B.1-2
CONTAINMENT ASSESSMENT



WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601
(219) 234-3433

April 9, 1991

Mr. Rick Peoples
Safety-Kleen Corporation
777 Big Timber Rd.
Elgin, IL 60123

Re: Container Storage Area
Service Center Warehouse
Boynton Beach, Florida
Federal Regulation 40 CFR 264.175,
Subpart I-Use and Management of Containers
Structural Integrity Evaluation of the Base



Charles Keith Wishmeier
4-9-91

Dear Mr. Peoples:

Wishmeier and Associates, Consulting Engineers, has been contracted by Safety-Kleen Corporation to certify that the installation of the Container Storage Area in Safety-Kleen Corporation's Service Center Warehouse at Boynton Beach, Florida is in full compliance with Federal Regulation 40 CFR 264.175 under Subpart I-Use and Management of Containers, and the Structural Integrity Evaluation of the Base as required under Chapter 7 of the Permit Application.

This letter will present those aspects of the installation of the Container Storage Area which are necessary to determine compliance with 40 CFR 264.175 and the Structural Integrity Evaluation of the Base, and which the firm has assessed and reviewed.

The following is a discussion of each item as it occurs in the regulations:

40 CFR 264.175 (a) -----

The Container Storage Area has a containment system that has been designed and will be operated in accordance with paragraphs (b) and (c) of this section.

40 CFR 264.175 (b) -----

The containment system has been designed and will be operated as follows:

- (1) The containers will rest on an impervious base slab which is free of cracks and gaps, that will contain leaks, spills and accumulated precipitation until the collected material has been detected and removed. The container area is enclosed from the outside elements and will collect minimal amounts of precipitation.

Construction consists of a 6" reinforced concrete slab designed and constructed to support all containers in a fully loaded condition stacked a maximum three containers high.

The concrete slab has been coated with two coats of Sikagard 62, manufactured by Sika Corporation of Lyndhurst, N.J. This material is resistant to physical contact with the waste liquids being stored, to climatic conditions and to traffic abrasion. This material provides an impervious surface.

- (2) The concrete slab is gently sloped to a central collection sump pit. No drain is provided out of this pit. Liquids resulting from leaks or spills are, therefore, drained off and the containers, which are elevated on skids, are protected from contact with accumulated liquids.
- (3) The containment system has sufficient capacity to contain considerably more than 10% of the total volume of the containers, 6912 gallons. 10% of this amount is 691 gallons. The central collection sump pit will contain 393 gallons. The sloped floor area will contain an additional 2579 gallons for a total of 2972 gallons. Containment calculations are included with this report.
- (4) Run-on into the container storage area from rain water or others sources will be minimal, the storage area being inside an enclosed structure. Therefore, no additional capacity is required.
- (5) In the event of a waste spill or rainwater accumulation, this material will be removed from the Secondary Containment area and placed in Primary Containment for future handling in a timely manner.

40 CFR 264.175 (c)

There may be containers stored holding only wastes that do not contain free liquids. However,

- (1) The storage area is sloped permitting drainage of accumulated liquids.
- (2) The containers will be elevated on skids and are thus protected from contact with accumulated liquids.

40 CFR 264.175 (d)

This section is not applicable here.

Structural Integrity Evaluation of the Base

Following is our Structural Integrity Evaluation of the Container Storage Area concrete slabs and foundation support. The soil test report furnished by Testing Lab of the Palm Beaches, Inc., dated November 2, 1989, is part of this report.

Design Considerations

1. For foundation information we include the soil test report by Testing Lab of the Palm Beaches, Inc., dated November 2, 1989, and our comments under Item No. 4. Sufficient load bearing capacity is available.
2. The secondary containment will furnish adequate support for the full load of materials to be stored as shown in the engineering calculations that follow the written report.
3. The engineering calculations show that the concrete slabs will have sufficient strength and thickness to prevent failure from container loading. As this is an interior slab, pressure gradients and climatic conditions will not apply.
4. The following structural evaluation is for the new 6" thick concrete floor which has been constructed at the Boynton Beach Florida Service Center Warehouse Container Storage Area.

The concrete selected has a minimum compressive strength of 3000 psi and a minimum tensile strength of the reinforcing steel of 20000 psi.


The load on the concrete slab in question will be shown to be approximately 775 psf. Using a safety factor of 2.0 and the weight of the concrete itself, the load on the soil is shown to be 1625 psf. Therefore, the available soil bearing capacity of 3000 psf is more than adequate. Our engineering calculations follow this written report.

CONCLUSION

In view of the topics discussed above, it is concluded that the installation of the Container Storage Area in Safety-Kleen Corporation's Service Center Warehouse at Boynton Beach, Florida is in full compliance with Federal Regulation 40 CFR 264.175 under Subpart I-Use and Management of Containers, and the Structural Integrity Evaluation of the base as required under Chapter 7 of the Permit Application.

Respectfully submitted,

Wishmeier and Associates.



Charles Keith Wishmeier, P.E.

Florida Professional Engineer License Number PE-0037694

CKW/mw

WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601

(219) 234-3433

LETTER OF CERTIFICATION

April 9, 1991

To Whom It May Concern:

I, Charles Keith Wishmeier, P.E., have supervised the construction of the Container Storage Area in Safety-Kleen Corporation's Service Center Warehouse at Boynton Beach, Florida. My duties were the design and inspection of the construction of this area, as required by the Resource Conservation and Recovery Act (RCRA) regulations, 40 CFR 264.175, and the Structural Integrity Evaluation of the Base as required under Chapter 7 of the Permit Application.

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.



Charles Keith Wishmeier, P.E.

Principal

Title

Florida Professional Engineer PE-0037694

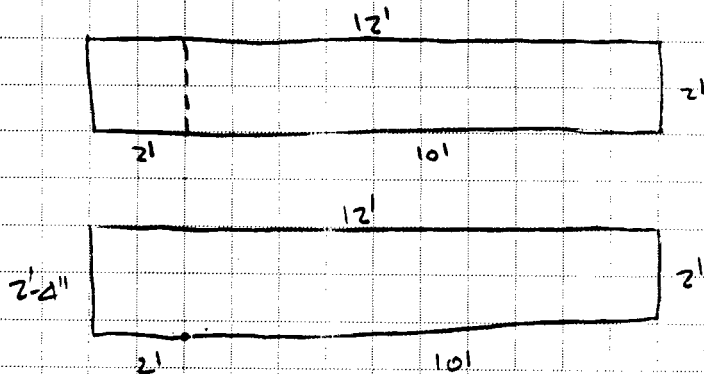
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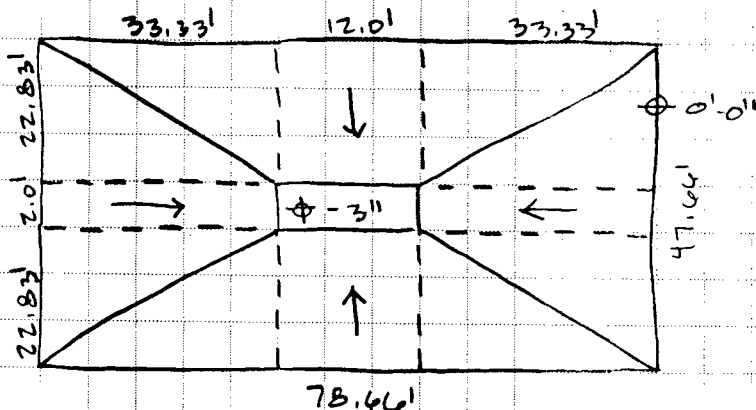
SECONDARY STORAGE CALCULATIONS

COLLECTION TRENCH



$$VOL = (2' \times 2' \times 2.33' + 10' \times 2' \times 2.16') \times 7.48 \text{ GAL/CF} = [393 \text{ GAL}]$$

SLOPED FLOOR



$$VOL = 12' \times 2' \times .25' + 22.83' \times 12.0' \times .25' \times \frac{1}{2} \times 2$$

$$+ 33.33' \times 2.0' \times .25' \times \frac{1}{2} \times 2 + 33.33' \times 2 \times 22.83' \times 2 \times .25' \times \frac{1}{3}$$

$$= 6.0 + 68.49 + 16.66 + 253.64 = 344.79 \text{ CF}$$

$$VOL = 344.79 \text{ CF} \times 7.48 \text{ GAL/CF} = [2579 \text{ GAL}]$$

$$\text{TOTAL CONTAINMENT VOL} = 393 + 2579 = [2972 \text{ GAL}]$$

WISHMEIER & ASSOCIATES

Architects & Engineers
119 North Taylor Street
SOUTH BEND, INDIANA 46601
(219) 234-3433
FAX (219) 234-3498

JOB SAFETY-KLEEN, BOYNTON BEACH, FLA
SHEET NO. 1 OF
CALCULATED BY ckm DATE 4-9-91
CHECKED BY DATE
SCALE

WAREHOUSE SLAB LOADING CAPACITY

GIVEN: MAX ALLOW. BEARING PRESSURE CONCRETE = 750 PSI
FOR MIN. 3000 PSI CONCRETE.
 F_s value = 20000 PSI
CONCRETE WT. = 150 PCF

A. LOAD ON CONCRETE

HEAVIEST PRODUCT STORED IS PERCHLOROETHYLENE
WITH SPECIFIC GRAVITY = 1.4

$$\text{Eq. WT} = 62.4 \text{ PCF} \times 1.4 = 87.36 \rightarrow 100 \text{ PCF}$$

WT. OF 55 GAL DRUM:

$$\left[\frac{55 \text{ GAL}}{\text{DRUM}} \times \frac{1 \text{ CF}}{7.48 \text{ GAL}} \times \frac{100 \#}{\text{CF}} \right] \times 1.05 (\text{FOR DRUM WT})$$

$$= 772.06 \# \rightarrow \text{USE } 775 \#/\text{DRUM}$$

$$\text{WT. OF 3 DRUMS STACKED} = 775 \times 3 = 2325 \#$$

AREA OF BASE OF ONE DRUM (23 1/2" DIA.)

$$\text{AREA} = \left(\frac{23.5}{12 \times 12} \right)^2 \times \pi = 3.01 \text{ SF} \rightarrow \text{USE } 3 \text{ SF.}$$

Eq. LOAD ON SLAB FOR 3 STACKED DRUMS

$$= \frac{2325}{3} = 775 \text{ PSF}$$

WISHMEIER & ASSOCIATES

Architects & Engineers
119 North Taylor Street
SOUTH BEND, INDIANA 46601
(219) 234-3433
FAX (219) 234-3498

JOB SAFETY-KLEEN, BOYNTON BEACH
SHEET NO. 2 OF FLA.
CALCULATED BY ckw DATE 4-9-91
CHECKED BY _____ DATE _____
SCALE _____

B. CHECK CONCRETE

$$775 \text{ PSF} \times 2.0 \text{ (FACTOR OF SAFETY)} = 1550 \text{ PSF}$$

$$1550 / (12 \times 12) = 10.76 \text{ PSI} \ll 750 \text{ PSI} \rightarrow \underline{\text{OK}}$$

C. CHECK UNDERLYING SOIL

$$\begin{aligned} \text{DESIGN LOAD} &= 1550 \text{ PSF} + \text{CONC. WT.} \\ \text{CONC. WT.} &= 150 \text{ PCF} \times 1 \times (.5 \text{ y}) = 75 \text{ PSF} \\ &\text{FOR } 6" \text{ THICK CONCRETE} \end{aligned}$$

$$\text{TOTAL LOAD} = 1550 + 75 = 1625 \text{ PSF}$$

BEARING AREA ON SOIL ON UNIFORMLY
LOADED SLAB IS 1.0 SF ASSUMING
NO LOAD DISTRIBUTION IN THE CONCRETE.

$$\text{SOIL PRESSURE ON SOIL} = \frac{1625 \text{ PSF}}{1} = 1625 \text{ PSF}$$

SOIL REQUIRED UNDER
SLAB = 1625 PSF
CAPACITY MINIMUM.

USE 3000 PSF ENGINEERED
SOIL. SEE SOIL REPORT

6" SLAB WITH 1 LAYER
OF 6x6 W2.9xW2.9 WWM
(6x6, 4/6) IS ADEQUATE.
SEE ATTACHED "CRSI"
COMMENTARY.

SLABS ON GROUND *

For any slab on the ground, adequate preparation of subgrade for drainage and compaction is of prime importance. Dowelled expansion joints and weakened plane contraction joints should be carefully located, including expansion joints at all walls.

The design of slabs on the ground to distribute concentrated or uniform loads involves the elastic properties of the subsoil and the slab itself. An analysis can be made but is quite involved. Slabs for the very lightest occupancy should be not less than 4" thick, and slabs for other occupancies may be empirically selected, the following being about minimum and sometimes less than what is required by ACI 807 for supported slabs:—

Occupancy **	Min. Slab Thickness	Reinforcement †
Sub-slabs under other slabs	2"	None
Domestic or light commercial (loaded less than 100 psf)	4"	One layer 6 x 6 10/10 welded wire fabric, minimum for ideal conditions; 6 x 6 8/8 for average conditions.
Commercial—institutional—barns (loaded 100-200 psf)	5"	One layer 6 x 6 8/8 welded wire fabric or one layer 6 x 6 6/6.
Industrial (loaded not over 400-500 psf) and pavements for industrial plants, gas stations, and garages	6"	One layer 6 x 6 6/6 welded wire fabric or one layer 6 x 6 4/4.
Industrial (loaded 600-800 psf) and heavy pavements for industrial plants, gas stations, and garages	6"	Two layers 6 x 6 6/6 welded wire fabric or two layers 6 x 6 4/4.
Industrial (loaded 1500 psf) †	7"	Two mats of bars (one top, one bottom), each of #4 bars @ 12" c/c, each way
Industrial (loaded 2500 psf) †	8"	Two mats of bars (one top, one bottom), each of #5 bars @ 12" c/c, each way
Industrial (loaded 3000-3500 psf) †	9"	Two mats of bars (one top, one bottom), each of #5 bars @ 8" to 12" c/c, each way

* For further details, see "Concrete Floors on Ground," and "Concrete Airport Pavement," Portland Cement Association, 33 West Grand Avenue, Chicago, Illinois, 1952, and "Design of Concrete Floors on Ground for Warehouse Loadings," Aug. 1957 Journal, American Concrete Institute, P. O. Box 4754, Redford Sta., Detroit 19, Mich.

** For loads in excess of, say, 500 psf, use at least 3000 psi quality controlled concrete, and investigate subsoil conditions with extra care. Fill material and compaction should be equivalent to ordinary highway practice. If laboratory control of compaction is available, the load capacities can be increased in the ratio of the actual compaction coefficient, k , to 100.

† For loads in excess of, say, 1500 psf the subsoil conditions should be investigated with extra care.

‡ Place first layer of reinforcement 2 in. below top of slab; second layer, 2 in. up from bottom of slab.

ASPHALT . . . CONCRETE . . . MATERIALS

GEOTECHNICAL EXPLORATION AND FOUNDATION RECOMMENDATIONS

FOR THE
PROPOSED SERVICE AND TANK FARM BUILDINGS

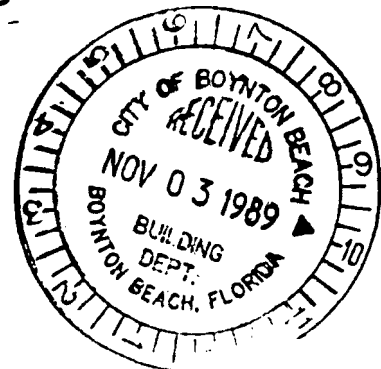
SAFETY KLEEN AT QUANTUM PARK

BOYNTON BEACH, FLORIDA

*Reviewed 3-12-90
& told Matt to follow
this report.*

TLPB REPORT NUMBER: 89/305

NOVEMBER 2, 1989



ASPHALT ... CONCRETE ... MATERIALS

November 2, 1989

M.S.M. Design Group
630 South Dixie Highway
West Palm Beach, Florida 33401

Attention: Mr. Delfin F. Menendez

Re: Geotechnical Exploration and Foundation Recommendations
Proposed Service Center and Tank Farm Buildings
Safety Kleen at Quantum Park
Boynton Beach, Florida
TLPB Report Number: 89/305

Gentlemen:

In accordance with your authorization, Testing Lab of the Palm Beaches, Inc. has conducted a geotechnical exploration and foundation evaluation on the site of the above referenced project.

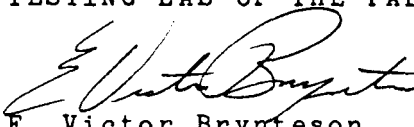
The results of this evaluation, together with our supporting data and recommendations are to be found in this report, four (4) copies of which are being transmitted herewith.

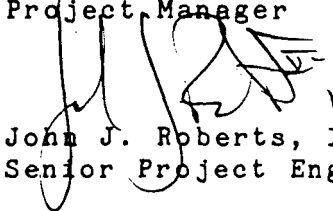
As the project plans and specifications are further developed, questions may arise with respect to the prevailing soil conditions. We welcome the opportunity to provide any further geotechnical services which may be needed.

At the appropriate time we look forward to assisting you with the project's construction materials testing services. Thank you for the opportunity to have been of service and we look forward to working with you on other upcoming projects.

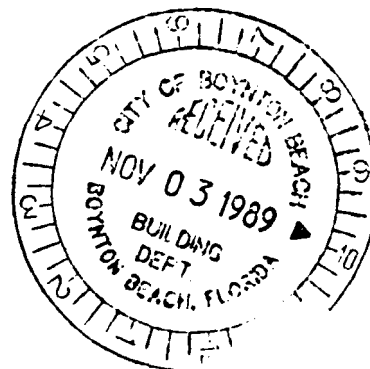
Respectfully submitted,

TESTING LAB OF THE PALM BEACHES, INC.


E. Victor Brynteson
Project Manager


11-3-89
John J. Roberts, II, P.E.
Senior Project Engineer

EVB/JJR/mas



GEOTECHNICAL EXPLORATION AND
FOUNDATION RECOMMENDATIONS
FOR THE
PROPOSED SERVICE CENTER AND TANK FARM BUILDINGS
SAFETY KLEEN AT QUANTUM PARK
BOYNTON BEACH, FLORIDA

PREPARED FOR
M.S.M. DESIGN GROUP
630 SOUTH DIXIE HIGHWAY
WEST PALM BEACH, FLORIDA 33401

BY
TESTING LAB OF THE PALM BEACHES, INC.

REPORT NUMBER: 89/305

NOVEMBER 2, 1989

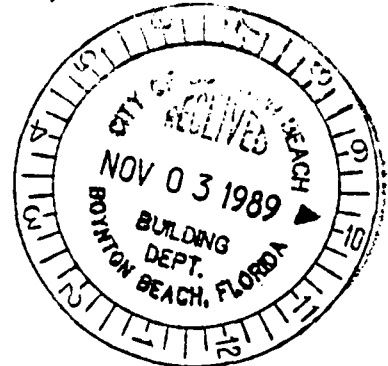
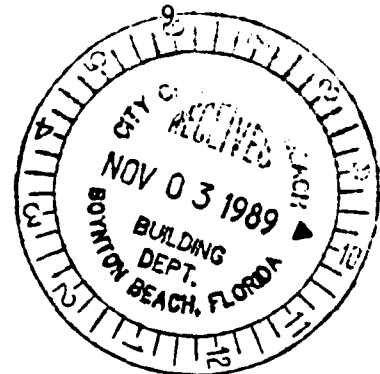


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GEOTECHNICAL EXPLORATION
AND
FOUNDATION RECOMMENDATIONS

INTRODUCTION

General

The following report presents the findings of our recent subsurface exploration and evaluation, and our recommendations related to the design and construction of the foundations for the proposed project.

Authorization

Authorization to perform this exploration and provide these recommendations was in the form of a verbal agreement between Mr. Delfin F. Menendez of M.S.M. Design Group and Mr. E. Victor Brynteson of Testing Lab of the Palm Beaches, Inc. on October 27, 1989.

Purpose

The purpose of our geotechnical exploration was to evaluate the existing subsurface conditions in relationship to the proposed project development needs, and provide foundation and site preparation recommendations.

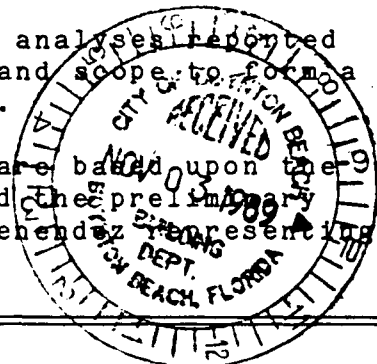
Scope

The scope of our geotechnical exploration included a review of local geological maps, a reconnaissance of the immediate site by our Drill Supervisor, a field testing program consisting of a series of soil test borings and static cone penetration tests, laboratory classifications of the obtained soil samples, an engineering analysis and evaluation of the supporting soils within the proposed building sites, and development of these recommendations.

Qualifications

Our geotechnical exploration and foundation analyses reported herein are considered sufficient in detail and scope to form a reasonable basis for the foundation designs.

The analysis and recommendations submitted are based upon the data obtained from the soil test borings and the preliminary design details furnished by Mr. Delfin F. Menendez, representing M.S.M. Design Group.



In the event that any changes in the nature, design or location of the buildings are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

The nature and extent of variations between the borings may not become evident until construction has commenced. If variations then appear evident, we recommend that Testing Lab be informed and the actual site conditions observed. It may be necessary at that time to re-evaluate the recommendations of this report.

It is recommended that the soil and foundation engineer be provided the opportunity for a general review of the final foundation design and specifications. This will provide the opportunity to assure that the earthwork and foundation recommendations have been properly interpreted and implemented in the design and specifications.

The conclusions and recommendations contained herein were based upon the applicable standards of our profession at the time this report was prepared. Copies of this report are furnished only to provide the factual data which were gathered and which are summarized in this report.

This report has been prepared for the exclusive use of M.S.M. Design Group for specific application to the Proposed Service Center and Tank Farm Buildings for Safety Kleen at Quantum Park in accordance with generally accepted local soil and foundation engineering practices. No other warranty, expressed or implied, is made.

DESCRIPTION OF SITE

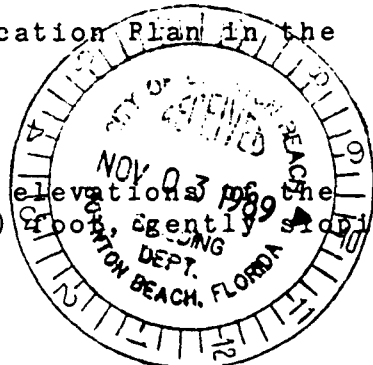
General Site Location

The Proposed Service Center and Tank Farm Buildings are to be located in the Quantum Industrial Park of Boynton Beach, Florida. The specific site location within the Quantum Industrial Park is located on Alpha Drive which is South of 22nd Avenue and East of Congress Avenue in Boynton Beach, Florida.

This is shown on the accompanying Boring Location Plan in the Appendix.

General Site Description

Within the specific building locations, the elevations of the existing ground surface varied about one (1) foot, gently sloping to the East.



The majority of the surface within the proposed building locations is covered by sand and sparse weeds.

At the time of our exploration, surface drainage appears to be good with surface runoff flowing toward the East.

FIELD EXPLORATION

Scope

To explore the subsurface conditions on this site, three (3) standard penetration test borings and four (4) static cone penetration tests were made. These were drilled to depths ranging from 15 feet to 20 feet each below the existing ground surface. The number and depth of the borings and cones were selected by Testing Lab of the Palm Beaches, Inc.

The borings and cones were drilled in the general locations of the Proposed Service Center and Tank Farm Buildings. The borings and cones were located in the field by our driller and are presumed accurate to within a few feet.

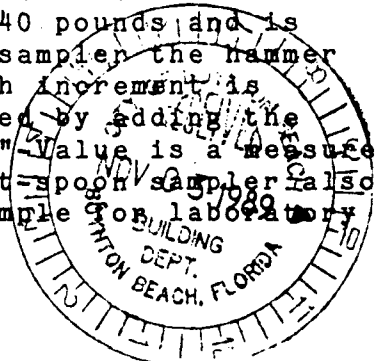
Boring and cone test locations are shown on the accompanying Boring Location Plan in the Appendix.

Drilling and Sampling Procedures

The soil test borings were performed using standard rotary drilling methods. At frequent intervals, standard split-spoon samples of the existing subsurface materials were obtained. The frequency and procedures used to obtain these samples were in general accordance with ASTM designation D 1586. The samples were identified according to boring number, sample number and depth, encased in plastic container, and transported to the laboratory.

Field Tests and Measurements

Penetration Tests - The standard penetration test is used to obtain the "N"-value of the soil. Once the drill hole has been extended to the elevation at which a sample is to be obtained, a standard split-spoon sampler is lowered into the bore hole. A split-spoon sampler is typically 18 to 24 inches long with a 1.5 inch I.D. Barrel. The sampler is driven into the undisturbed soil below the bottom of the bore hole for a distance of 18 inches. The sampler is driven using a hammer that weighs 140 pounds and is dropped 30 inches. During the driving of the sampler the hammer blows needed to advance the sampler each 6-inch increment is recorded. The "N"-Value of the soil is obtained by adding the second and third incremental numbers. This "N"-Value is a measure of the relative density of the soil. The split-spoon sampler also allows for the recovery of a disturbed soil sample for laboratory testing.



Cone Penetration Tests - The cone penetration tests are used to obtain a penetration resistance and friction ratio of the encountered undisturbing soils. This data aids in the computation of in-place bearing values and further classification of the subsurface materials. The cone penetration tests were performed using truck-mounted penetrometer equipment with a friction mantle cone. The cone is pushed into the undisturbed soils and end-bearing and friction measurements are obtained. The frequency and procedures used are performed in general accordance with ASTM designation D 3441.

Water Level Measurements - Water level readings were made following the completion of the drilling and sampling at each boring location. It can be noted that these measurements are generally considered to be more reliable in pervious soils than in relatively impervious soils. Also it is important to note that recent rainfall conditions, seasonal variations, weather conditions, and other factors can greatly influence these levels at other times.

Ground Surface Elevations - The ground surface elevation at each boring location has not been determined at the writing of the report. However, it is recommended that these elevations be established prior to the start of any construction. Typical site elevations were verbally provided to Testing Lab of the Palm Beaches, Inc. by Mr. Delfin Menendez of M.S.M. Design Group.

LABORATORY TESTING PROGRAM

In order to determine additional pertinent engineering characteristics of the foundation materials, a supplemental laboratory testing program was conducted.

The laboratory testing program for this project consisted of and supplementary visual classification on all samples by our Project Manager using the Unified Soil Classification System.

All phases of the laboratory testing program were conducted in general accordance with applicable ASTM specifications, and the results of these tests may be found on the accompanying boring logs in the Appendix.

SUBSURFACE CONDITIONS

General

Copies of the boring and cone penetration logs for this project may be found in the Appendix of this report. These logs detail the visual classification of the encountered soils, the results of the standard penetration tests, the depth of the encountered groundwater levels, and other pertinent information. The stratification of the soils as shown on these logs is based upon the visual classification of the recovered soil samples by our Project Manager, the results of any laboratory testing, and our interpretation of the field boring logs.

Representative soil samples have been retained and stored in our laboratory for further analysis, if desired.

Unless notified in writing to the contrary, all soil samples will be disposed of after 90 days.

The stratification lines shown on the boring logs represent the approximate boundary between soil types; however the actual transition between individual layers may be gradual. It can be noted that the attached boring and cone log information is representative of the subsurface conditions at the specific boring location. Variations of both soil and groundwater conditions may occur between the boring locations.

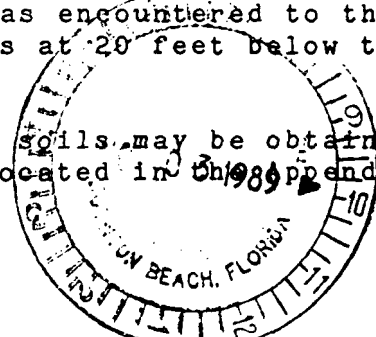
General Subsurface Conditions

A typical soil profile, as indicated from a review of the boring and cone penetration logs, generally consists of a light brown to brown medium fine sand in a very loose to loose condition to depths ranging from 2 feet to 4 feet below the existing grade.

Beneath this layer, dark brown medium fine sand in a medium dense condition was encountered to a depth of between 4 feet to 6 feet. However, Boring Number 3 indicated a layer of concrete and/or rock and concrete was encountered from 3 to 4 feet below the top of the existing ground surface. Brownish yellow medium fine sand in a loose to medium dense was encountered beneath this layer and extended to a depth of about 16 feet.

The final stratum consisted of light brown medium fine sand in a medium dense condition. This stratum was encountered to the maximum termination depth of the borings at 20 feet below the existing ground surface.

Additional information concerning these soils may be obtained from a review of the Test Boring logs located in the Appendix of this report.



Water Level Observations

As observed within the test boring holes, the existing water level appeared to be at a depth of about 10 feet below the existing ground surface immediately upon completion of the drilling operations. It can be noted that fluctuations in the water level on this site may occur due to variations in recent rainfall, temperature, and other factors.

PROJECT DESCRIPTION

Drought conditions & water rationing
at present
3-2-90

Design Information

Based upon the information provided, it is understood that the proposed Service Center will be a 1 and 2 story building with 24 foot high walls, about 80 by 155 feet in plan size. The proposed Tank Farm Building will be a 1 to 2 story building with 21 foot high walls, about 34 by 72 feet in plan size. Both buildings will be constructed of a steel superstructure with concrete block walls with interior and exterior columns.

Finish Floor Elevations have been established at 17.20 to 20.00. This will necessitate the usage of between 0 to 3 feet of compacted structural fill.

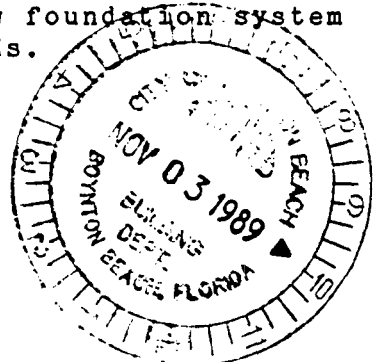
Testing Lab understands that the structural loads will be light to medium. For the purpose of our evaluation we have been given a maximum wall load of 4 kips per lineal foot, and a maximum column load of 67 kips. We have also been given a maximum floor slab load of 200 pounds per square foot.

This project information has been provided to us by Mr. Delfin F. Menendez of M.S.M. Design Group.

FOUNDATION SYSTEM RECOMMENDATIONS

Foundation Discussion

The building loads consists of generally typical wall and column loads. Therefore, it appears that a shallow foundation system may be used to adequately support these loads.



General Discussion

The amount of movement which a foundation will experience is a function of the footing size and imposed sustained pressure intensity, as well as the in-situ stress conditions of the soils within the zone influenced by the footing. Typically, settlements of a footing bearing on granular materials are predicted from empirical procedures based upon the standard penetration resistance (N-Value) as a measure of the in-situ soils' relative density. Footing design pressures given in this report are based on a total settlement in the order of one (1) inch, one-half of which could be differential.

Foundation System Recommendations

Typical continuous wall and/or isolated column footings may be used when they are designed to bear on the compacted natural subgrade soils and/or compacted structural fill materials which must be prepared in general accordance with the site preparation recommendations detailed later in this report.

A net allowable soil bearing pressure of up to 3,000 pounds per square foot may be used in the footing designs when the footings bear at Elevation 14.00 and above.

We recommend all isolated column footings have a minimum dimension of 24 inches and the continuous wall footings have a minimum width of 18 inches.

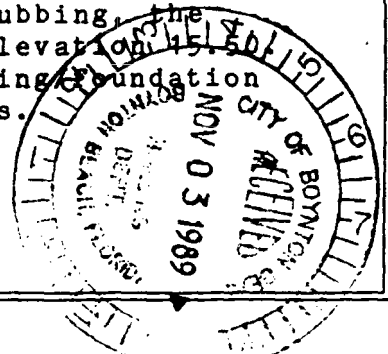
We recommend the bottom of the footing excavations be compacted and tested just prior to the reinforcing and concrete placement. This aids in densifying the granular bearing soils which may have become disturbed during the footing excavations. A minimum density of 98% of the Modified Proctor maximum dry density (ASTM D 1557) for a depth of 12 inches below the bottom of the footing should be achieved.

In order to avoid the effects of any slight differential movements that may occur due to variations in the types and/or relative density of the supporting soils, it is recommended that all continuous footings be suitably reinforced.

SITE PREPARATION RECOMMENDATIONS

General

Upon completion of the standard clearing and grubbing, the proposed building sites shall be excavated to Elevation 14.50. This excavation should extend outside the building foundation lines by 5 feet at the bottom of the excavations.



4/2
Additional excavation shall be done in the area of the Southeast corner of the Proposed Service Center Building. Boring No. 3 indicated a layer of concrete and/or rock and concrete was encountered 3 to 4 feet below the existing ground surface in this area. This material shall be further investigated and removed during the excavation and densification operation. The exact limits to be excavated are not known at this time. This material shall be removed in its' entirety and an inspection shall be made prior to backfilling.

Upon completion of the excavations, compaction of the subgrade soils should commence. At that time, Testing Lab should be allowed the opportunity to inspect the bottom of the excavation during the compacting operation.

We recommend the compaction be performed with a vibratory roller which exerts a minimum dynamic load of 15 tons. Any observed soft or yielding areas should be excavated and replaced with clean, compacted backfill soils.

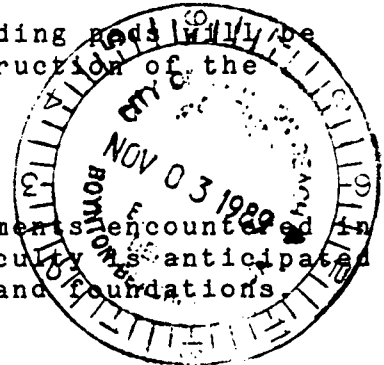
We recommend sufficient passes be made during the compacting/proof-rolling to produce dry densities not less than 98% of the Modified Proctor (ASTM D 1557) maximum value to a depth of 2 feet below the bottom of the excavation. In the area of Static Cone No. 1 (the Northeast corner of the Proposed Tank Farm Buildings), additional depth shall be checked due to the very loose material encountered to a depth of about 6 feet below the existing ground surface. In any case, the building areas shall receive not less than 8 overlapping passes, half of them in each of two perpendicular directions. The bottom of the excavation shall be inspected, tested and approved by our representative prior to the commencement of the backfilling operations.

The backfill materials required to achieve the desired finish pad elevation should be a clean granular material with a maximum of 8 percent passing the Number 200 sieve, placed in compacted lift thickness not exceeding 12 inches, and compacted uniformly to the minimum degree of density as previously specified. A sufficient number of field density tests should be taken on each lift to monitor proper compaction.

Upon completion of these operations, the building pads will be considered satisfactory to commence the construction of the proposed foundation systems.

Water Level Control

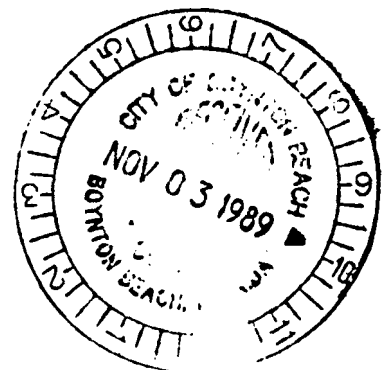
Due to the relatively low water level measurements encountered in the test boring locations, little to no difficulty was anticipated during the construction of the building pads and foundations.



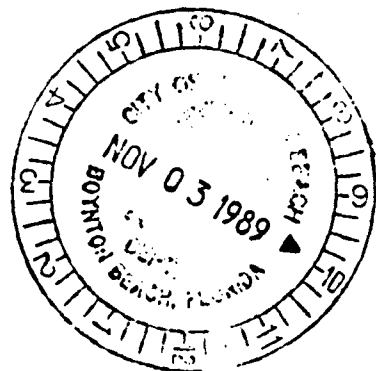
However, since these foundation materials generally tend to soften or become "loose" when exposed to free water, the excavations should be kept dry if water is encountered. It is anticipated that a gravity drainage system, sump pumps, etc. should be sufficient for this purpose.

SUMMARY

It is recommended that the soil engineer be retained to provide additional geotechnical engineering and testing services, as needed, during construction of the excavation and foundation phases of the work. This is to observe compliance with the design concepts, specifications or recommendations and to allow design changes in the event that subsurface conditions differ from that anticipated prior to the start of construction.



APPENDIX



N

SCALE 1" - 30'

S 88° 50' 54" E

DRY RETENTION

SC-1

2436 S.F.
TANK FARM
BLDG.
F.F. ELEV.
17.20'

B-1

PIPE BRIDGE

B-2

F.F. ELEV. 17.50' F.F. ELEV. 20.00'

▲ SC-3

SERVICE CENTER

16,400 S.F.

▲SC-2

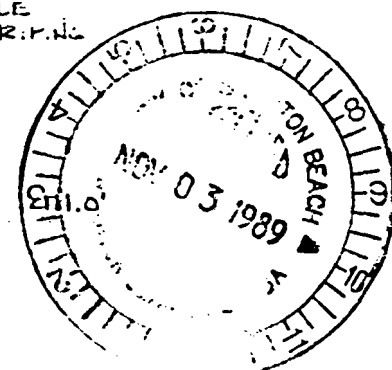
TYP DOUBLE
WHITT. : TR: F. NG

SC-4

B-3

LOADING DOCK
528 S.F.

BORING LOCATION PLAN



TESTING LAB OF THE PALM BEACHES, INC.

P.O. BOX 211
LAKE WORTH, FLORIDA

585-7515

ASPHALT . . . CONCRETE . . . MATERIALS

TEST BORING: Proposed Tank Farm Building - Southwest corner

BORING No. B-1

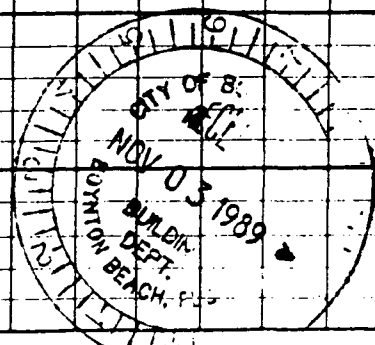
ELEV. FT. MBL.	DEPTH FT.	DESCRIPTION OF MATERIAL	PENETRATION BLOWS PER FOOT										Sampler Blows		
			10	20	30	40	50	60	70	80	90	6"	8"		
	1	0'-2' Light brown medium fine sand (SP) 2'-4' Dark brown medium fine sand (SP)											1	1	
	2													3	5
	3													4	5
	4													9	10
	5													8	8
	6	4'-10' Brownish yellow medium fine sand with trace of roots (SP)												6	6
	7													3	4
	8													3	3
	9													2	3
	10													3	3
	11	10'-15' Brownish yellow medium fine sand (SP)													
	12														
	13														
	14													3	5
	15													8	11
	16	15' End of Boring													
	17														
	18														
	19														
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NOV 03 1989

CITY OF BIRMINGHAM

BUILDING DEPT.

LABORATORY



PROJECT LOCATION Safety Kleen - Quantum Park, Alpha Drive - Boynton Beach
 CLIENT M.S.M. Design Group JOB NO. 89/305
 TECHNICIAN LL DRILL NO. 101 DATE 10/30/89
 CASING DATA 3 1/2" I.D. hollow stem auger
 SAMPLER DATA 2" split spoon, 2" O.D. in general accordance with ASTM-D 1586
 TYPE OF TERRAIN Flat SURFACE MATERIAL Sand with sparse weeds

Water table = 9'5" @ 0 hours

REMARKS: These standard penetration tests are representative of and apply only to the particular and exact location of the borings.

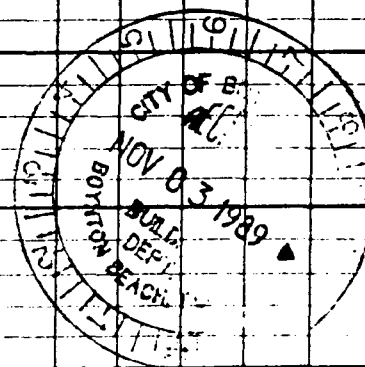
ASPHALT ... CONCRETE ... MATERIALS

TEST BORING: Proposed Service Center - Northwest corner

BORING No. B-2

ELEV. FT. MSL.	DEPTH FT.	DESCRIPTION OF MATERIAL	PENETRATION BLOWS PER FOOT										Sampler Blows		
			10	20	30	40	50	60	70	80	90	6"	8"		
	1	0'-4' Light brown medium fine sand (SP)											1	1	
	2													1	3
	3													3	5
	4													6	9
	5	4'-6' Dark brown											6	15	
	6	medium fine sand(SP)											14	12	
	7	6'-16' Brownish yellow medium fine sand (SP)											8	8	
	8												7	6	
	9												4	6	
	10												6	7	
	11														
	12														
	13														
	14												5	8	
	15												10	14	
	16	16'-17' Dark brown medium fine sand (SP) 17'-20' Light brown medium fine sand (SP)													
	17														
	18														
	19												5	6	
	20	20' End of Boring											8	11	
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CITY OF BOSTON
NOV 03 1989
BUREAU OF PUBLIC WORKS
DEPT. OF PUBLIC WORKS
BOSTON BEACH



PROJECT LOCATION Safety Kleen - Quantum Park, Alpha Drive - Boynton Beach
 CLIENT M.S.M. Design Group JOB NO. 89/305
 TECHNICIAN JL DRILL NO. 101 DATE 10/30/89
 CASING DATA 3 1/2" I.D. hollow stem auger
 SAMPLER DATA 2' split spoon, 2" O.D. in general accordance with ASTM-D 1586
 TYPE OF TERRAIN Flat SURFACE MATERIAL Sand with sparse weeds

REMARKS: Water table = 9'7" @ 0 hours
 These standard penetration tests are representative of and apply only to the particular and exact location of the borings.

TESTING LAB OF THE PALM BEACHES, INC.

P.O. BOX 211
LAKE WORTH, FLORIDA

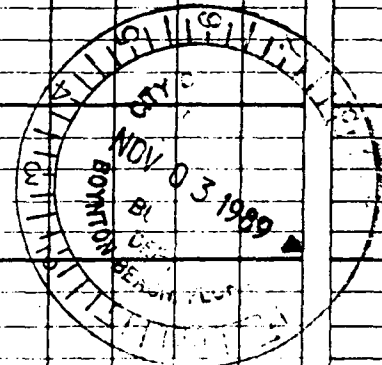
585-7515

ASPHALT . . . CONCRETE . . . MATERIALS

TEST BORING: Proposed Service Center - Southeast corner

BORING No. B-3

ELEV. FT. MSL.	DEPTH FT.	DESCRIPTION OF MATERIAL	PENETRATION BLOWS PER FOOT										Sampler Blows		
			10	20	30	40	50	60	70	80	90	6"	6"		
	1	0'-2' Brown medium fine											1	1	
	2	sand with trace of roots (SP)											3	5	
	3	2'-3' Dark brown medium fine sand (SP)											5	6	
	4	3'-4'3" Concrete and/or rock and concrete											26	44	
	5												50/3"		
	6	4'3"-15' Brownish yellow medium fine sand (SP)											4	6	
	7												8	9	
	8												5	6	
	9												8	9	
	10														
	11												4	7	
	12												10	11	
	13														
	14														
	15														
	16	15' End of Boring													
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PROJECT LOCATION Safety Kleen - Quantum Park, Alpha Drive - Boynton Beach

CLIENT M.S.M. Design Group

JOB NO. 89/305

TECHNICIAN LL

DRILL NO. 101

DATE 10/30/89

CASING DATA 3 1/2" I.D. hollow stem auger

SAMPLER DATA 2' split spoon, 2" O.D. in general accordance with ASTM-D 1586

TYPE OF TERRAIN Flat

SURFACE MATERIAL Sand with sparse weeds

Water table = 9'11" @ 0 hours

REMARKS: These standard penetration tests are representative of and apply only to the particular and exact location of the borings.

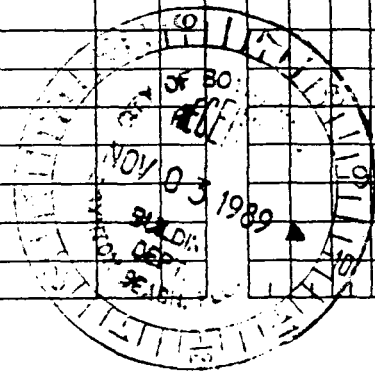
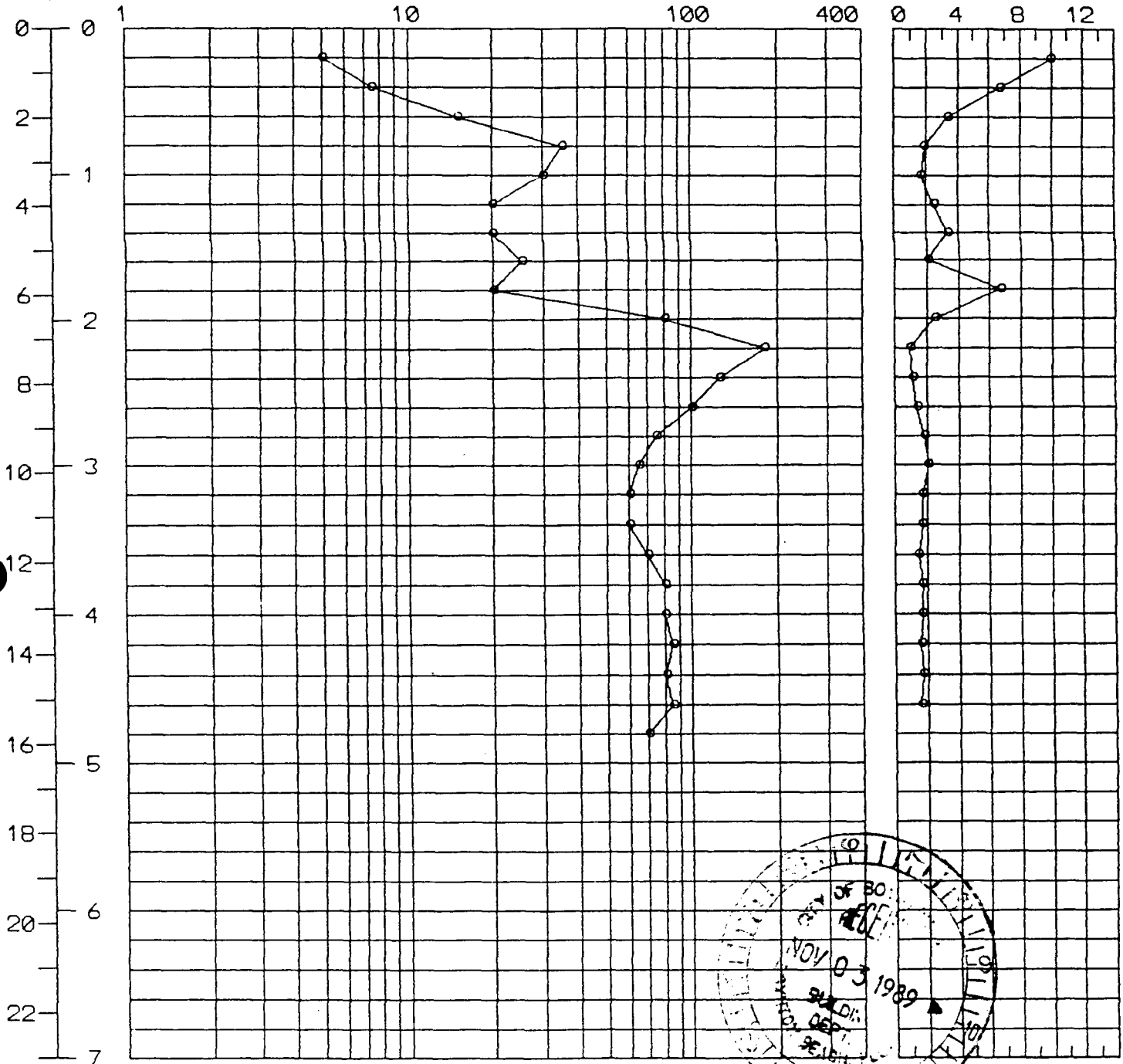
TESTING LAB OF THE PALM BEACHES, INC., Lake Worth, Florida

DUTCH CONE PENETROMETER

CONE PENETRATION RESISTANCE
(KG/CM²)

FRICTION
RATIO %

DEPTH
FEET METERS



Date: 10-30-89

Job No. 89/305

File: SAFES1.CNE

Project: SAFETY KLEEN, QUANTUM PARK, BOYNTON BEACH

Test # SC-1

Technician: LL

Remarks: NORTHEAST CORNER/TANK FARM BUILDING

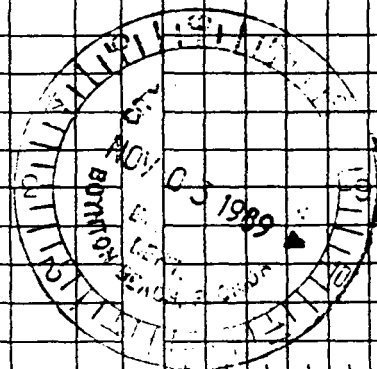
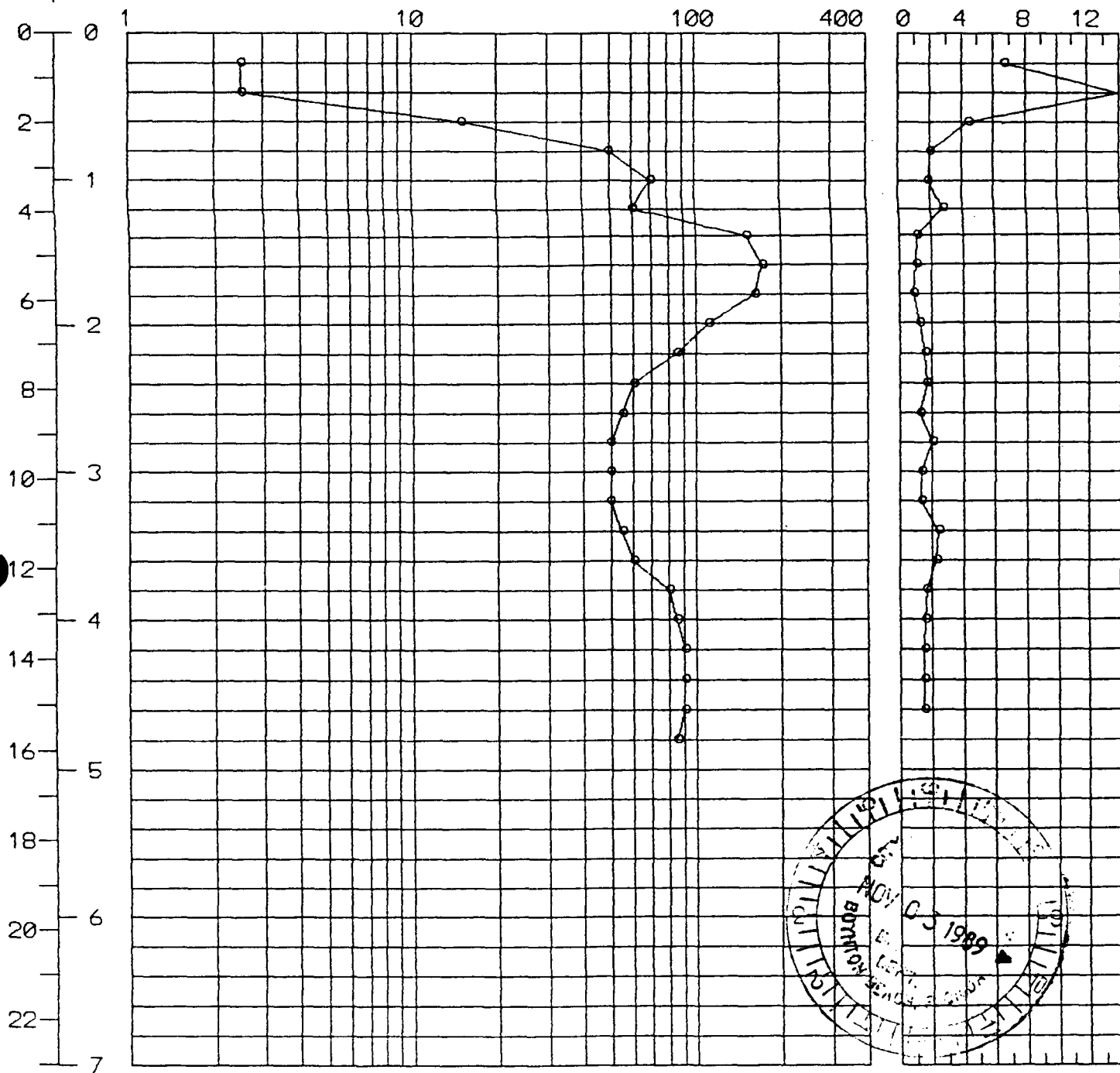
TESTING LAB OF THE PALM BEACHES, INC., Lake Worth, Florida

DUTCH CONE PENETROMETER

CONE PENETRATION RESISTANCE
(KG/CM²)

FRICTION
RATIO %

DEPTH
FEET/METERS



Date: 10-30-89

Job No. 89/305

File: SAFESC2.CNE

Project: SAFETY KLEEN, QUANTUM PARK, BOYNTON BEACH

Test # SC-2

Technician: LL

Remarks: NORTHEAST CORNER/SERVICE CENTER

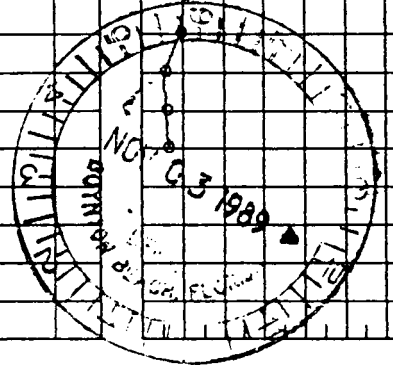
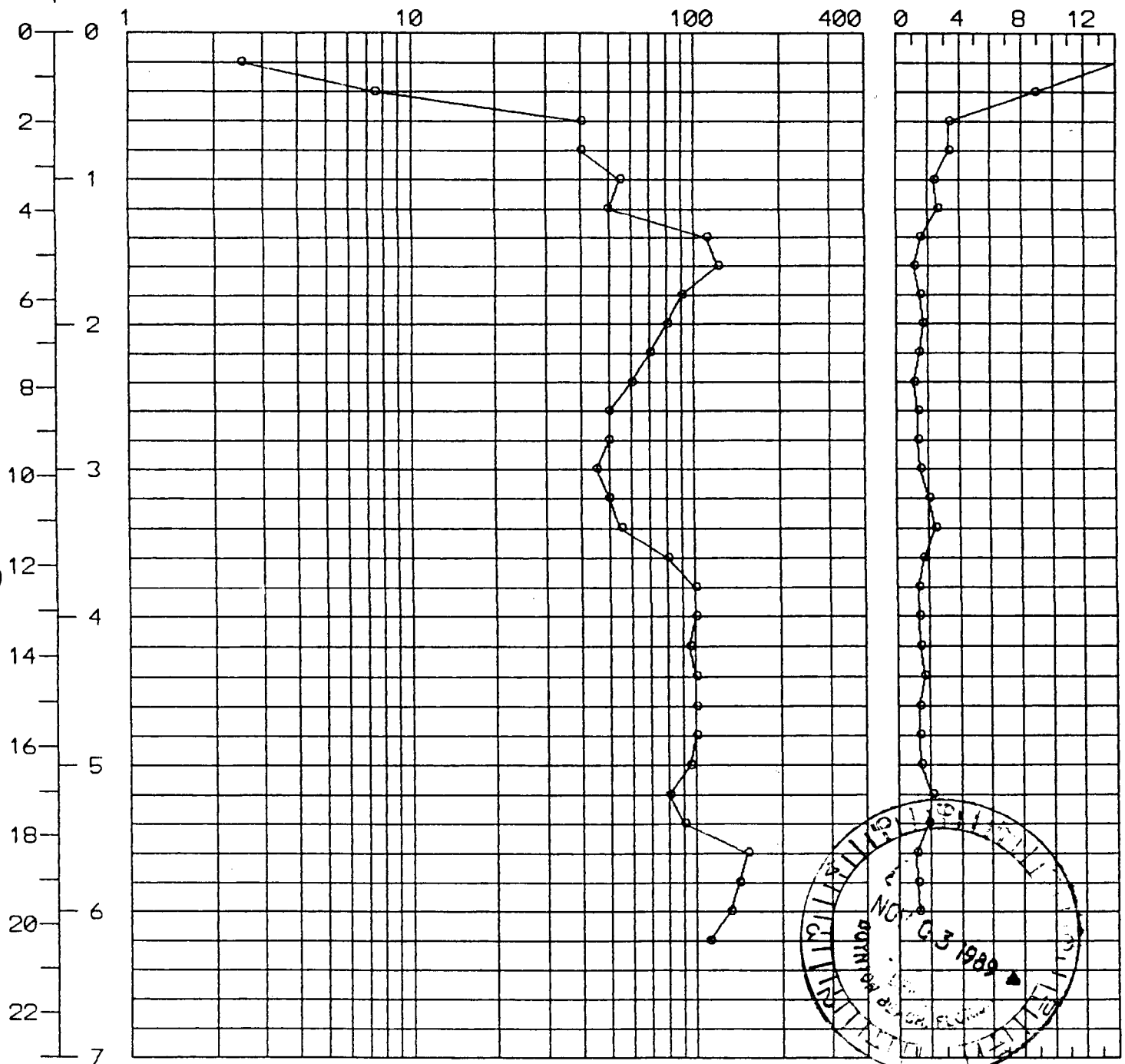
TESTING LAB OF THE PALM BEACHES, INC., Lake Worth, Florida

DUTCH CONE PENETROMETER

CONE PENETRATION RESISTANCE
(KG/CM²)

FRICTION
RATIO %

DEPTH
FEET METERS



Date: 10-30-89

Job No. 89/305

File: SAFES3.CNE

Project: SAFETY KLEEN, QUANTUM PARK, BOYNTON BEACH

Test # SC-3

Technician: LL

Remarks: CENTER/SERVICE CENTER

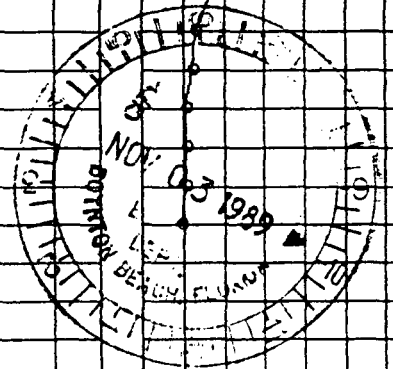
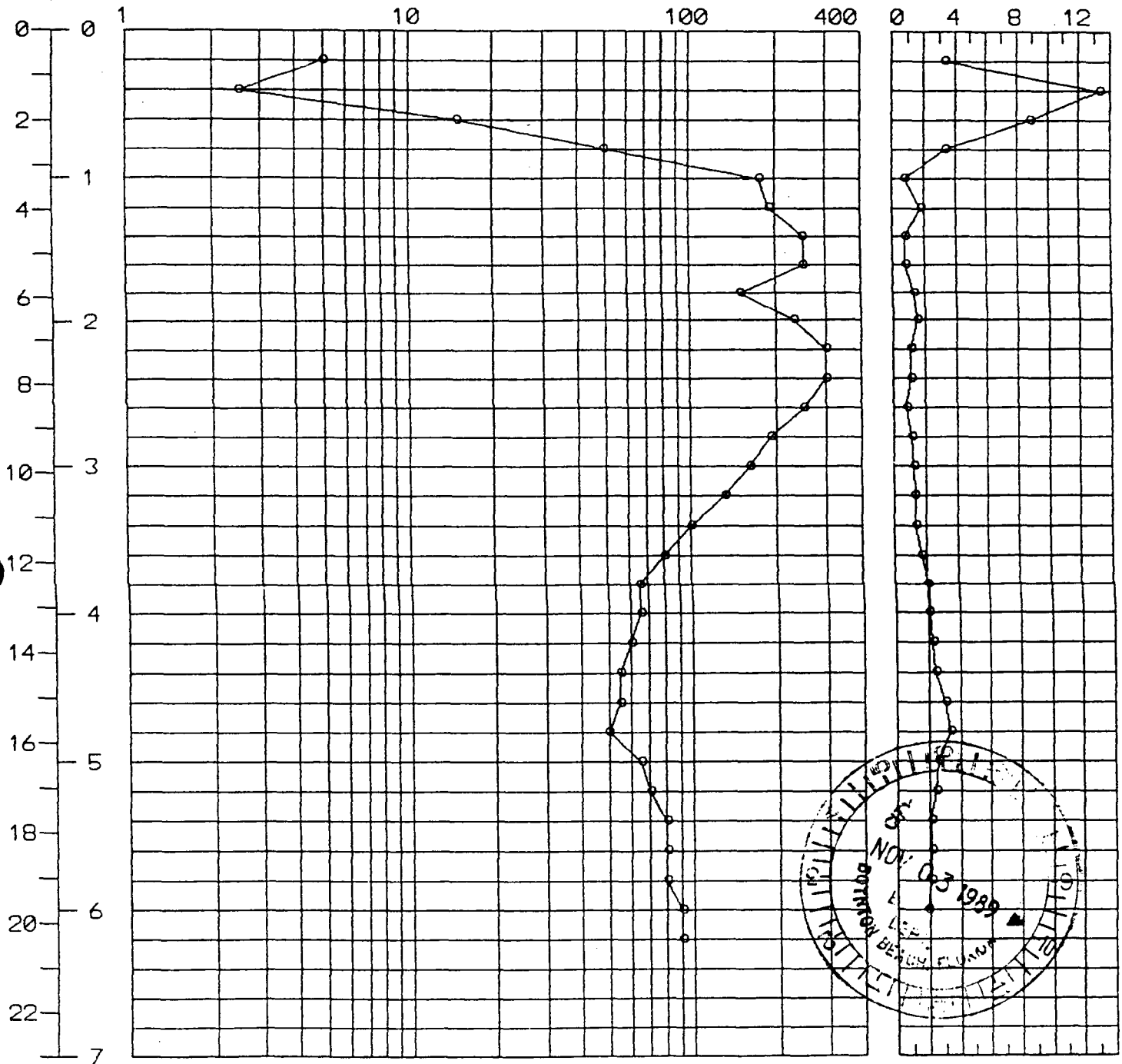
TESTING LAB OF THE PALM BEACHES, INC., Lake Worth, Florida

DUTCH CONE PENETROMETER

CONE PENETRATION RESISTANCE
(KG/CM²)

FRICTION
RATIO %

DEPTH
FEET METERS



Date: 10-30-89

Job No. 89/305

File: SAFES4.CNE

Project: SAFETY KLEEN, QUANTUM PARK, BOYNTON BEACH

Test # SC-4

Technician: LL

Remarks: SOUTHWEST CORNER/SERVICE CENTER

ATTACHMENT II.B.2
WASTE COMPATIBILITY



ATTACHMENT II.B.2

WASTE COMPATIBILITY

The solvents stored at this facility are compatible with each other and with other materials handled at this facility with respect to reactivity and therefore do not require special segregation procedures. However, the wastes are the primary source of feed stock for regenerating the clean solvents. For ease of inventory control and product integrity, separation and grouping of both used and unused solvents is a standard practice at the service center.

All material at the facility is managed in accordance with local fire protection code and fire department recommendation.



ATTACHMENT II.B.3
WASTE SEGREGATION



ATTACHMENT II.B.3

WASTE SEGREGATION

PROCEDURE FOR SEGREGATING WASTE TYPES

The used solvents are compatible with each other and with other materials handled at this facility with respect to reactivity and therefore do not require special segregation procedures. However, the wastes are the primary source of feed stock for regenerating the clean solvents. For ease of inventory control and product integrity, separation and grouping of both used and unused solvents is a standard practice at the facility.

All materials are managed in accordance with the local fire protection code and fire department recommendations.

The immersion cleaner is always contained in partially filled, 16-gallon, covered drums before, during, and after its use. Immersion cleaner 609 is in gray steel drums. Immersion cleaner 699 is in gray steel drums with a red band. Until received at the recycle facility, the immersion cleaner is never transferred to another container. The drums containing the used immersion cleaner are returned to the facility and stored in the designated drum storage areas before shipment to the recycle center.

The dry cleaning wastes are contained in 16-, 20-, and 30-gallon drums. The liquids are in black polyethylene drums. Filters are in blue steel drums. These containers are managed similar to the used immersion cleaner drums and contents within the drums will not be removed or processed at the facility.

The mineral spirits are collected in 16- and 30-gallon red steel drums. These drums are then emptied into the dumpsters in the return/fill shelter. Spent antifreeze is packaged in 30-gallon black steel drums and the drums are not opened at the facility.



Paint wastes are stored in five-gallon pails and 16-gallon drums. The contents within these containers will not be transferred or processed at the service center. The paint waste is not removed from the containers until receipt by a reclaimer.

The drums are designed and constructed to be compatible with the stored material and to minimize the possibility of breakage and leaking, in accordance with DOT shipping container specifications. Figures II.B.3-1 through II.B.3-4 show typical detailed construction specifications of the 16-gallon immersion cleaner drums. The containers used to store cleaning wastes are shown in Figures II.B.3-5 through II.B.3-7. Paint containers are shown in Figure II.B.3-8.

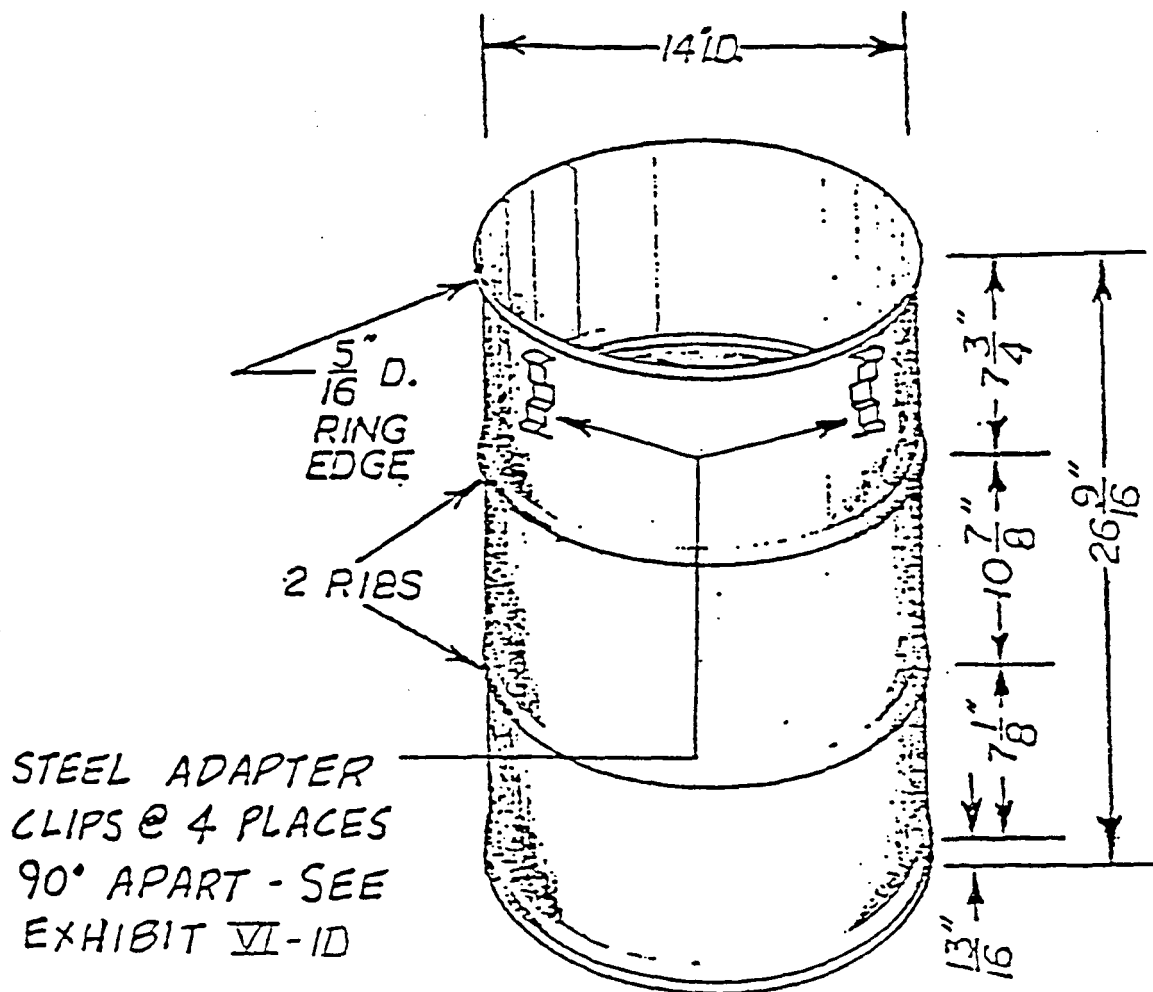
Wastes are stored in polyethylene and steel containers. Since none of the waste handled by Safety-Kleen reacts with metal or polyethylene, compatibility is assured. Immersion cleaner and dry cleaning waste drums are never opened at the branch, and none of the wastes are incompatible.

POTENTIAL FIRE SOURCES

The following is a list of fire prevention and minimization measures:

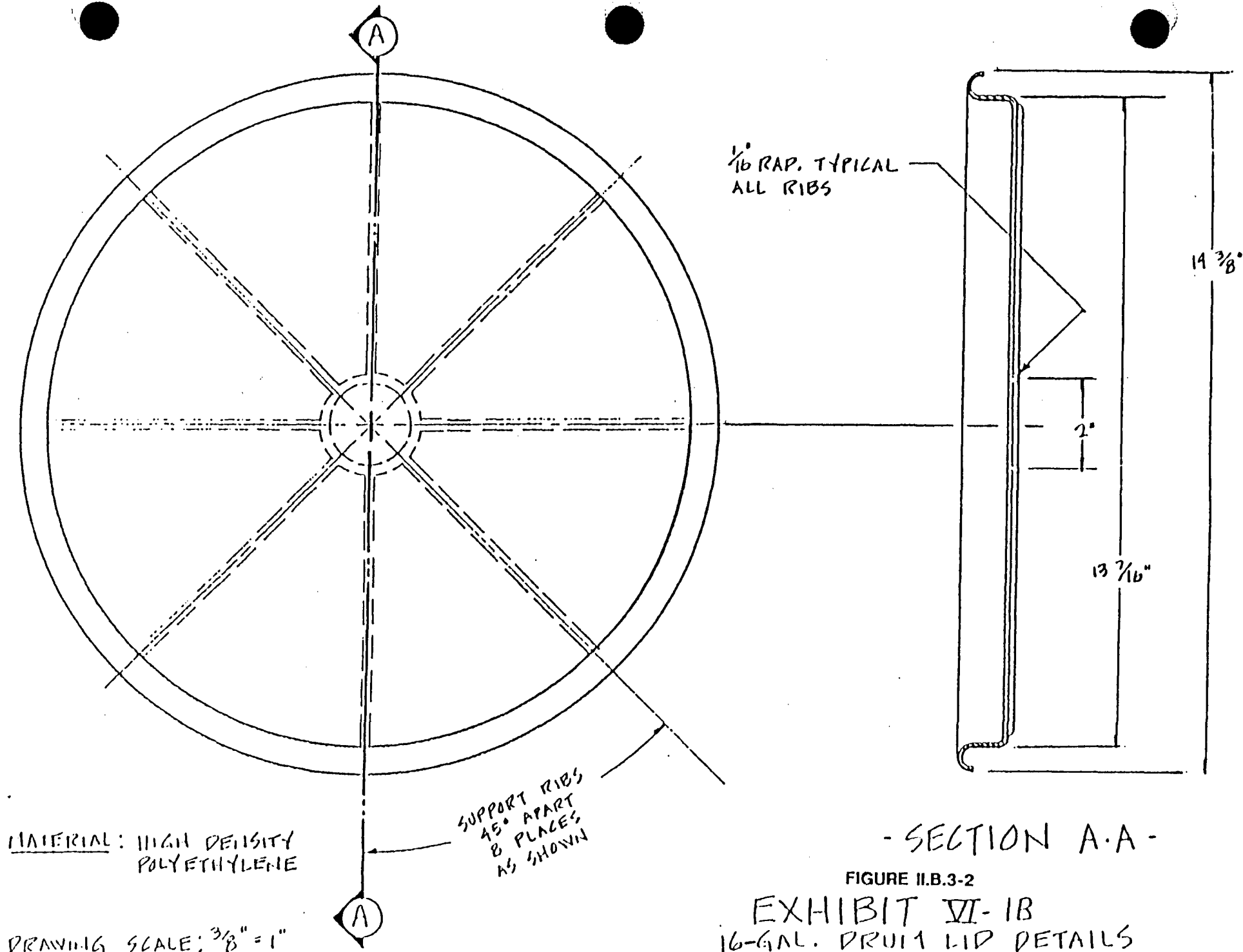
1. All wastes and products are kept away from ignitable sources--Personnel must confine smoking and open flames to remote areas (e.g., the office or locker room), separate from any solvent. The mineral spirits handling area and the aboveground storage tanks are separate from the warehouse building area to minimize the potential for a fire to spread or injury to personnel to occur.
2. Ignitable wastes are handled so that they do not:
 - a. become subject to extreme heat or pressure, fire or explosion, or a violent reaction--The mineral spirits waste is stored in a tank or in drums, none of which are near sources of extreme heat, fire, potential explosion

EXHIBIT VI-1A
 CONSTRUCTION SPECIFICATIONS
 16-GALLON STEEL BARREL
 PART NO. 3347



ADDITIONAL SPECIFICATIONS

1. No Bungs or Bungholes
2. Rust Preventive Coating Interior
3. Without Top Cover or Locking Ring (at Manufacturer)
4. Open Head Top
5. Structural Leak Proof - Airtest (7 lbs. Pressure)
6. 20 Gauge Steel



MATERIAL: HIGH DENSITY
POLYETHYLENE

DRAWING SCALE: $\frac{3}{8}" = 1"$

SUPPORT RIBS
45° APART
8 PLACES
AS SHOWN

$\frac{1}{16}"$ RAP. TYPICAL
ALL RIBS

$14 \frac{3}{8}"$

$13 \frac{7}{16}"$

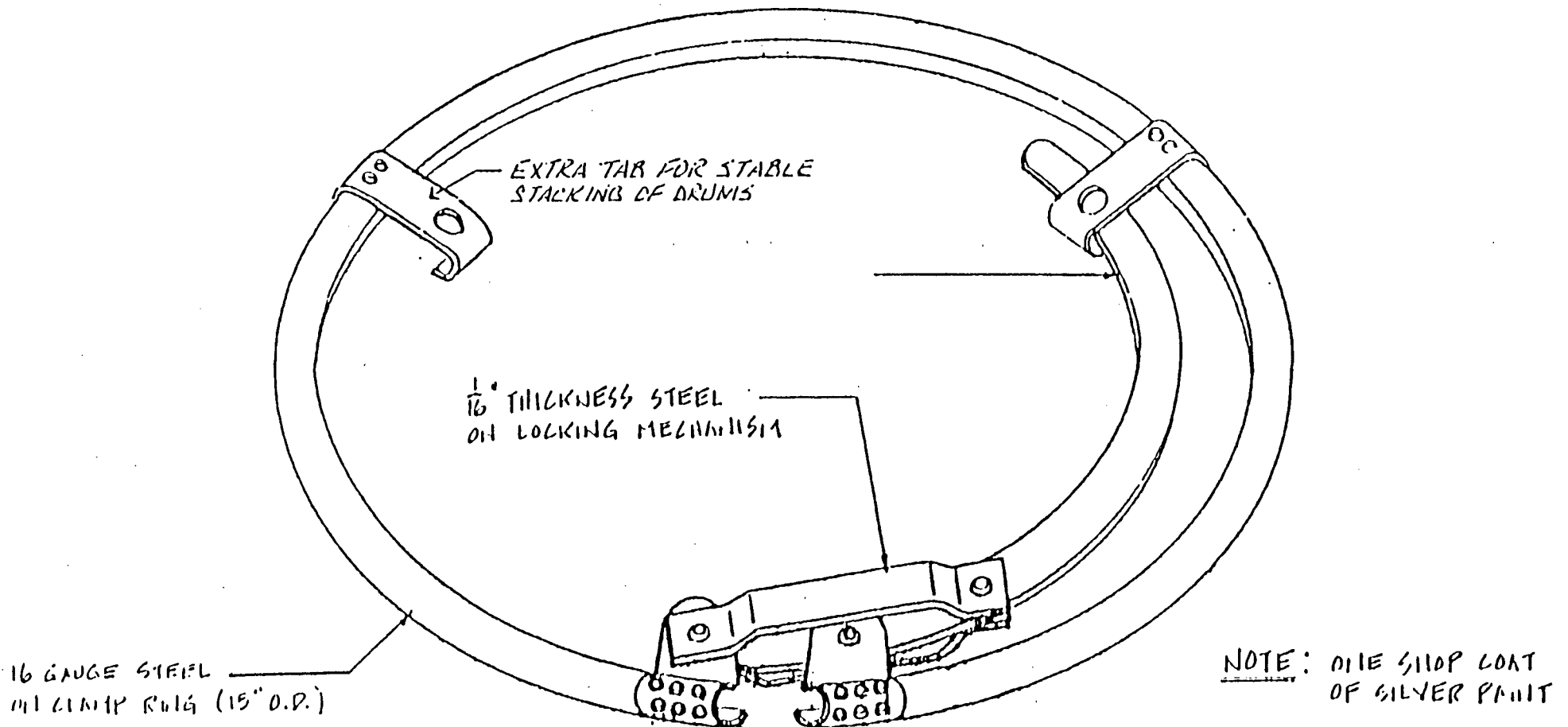
2"

- SECTION A-A -

FIGURE II.B.3-2

EXHIBIT VI-1B
16-GAL. DRUM LID DETAILS
SAFETY-KLEEN PART 110.3344

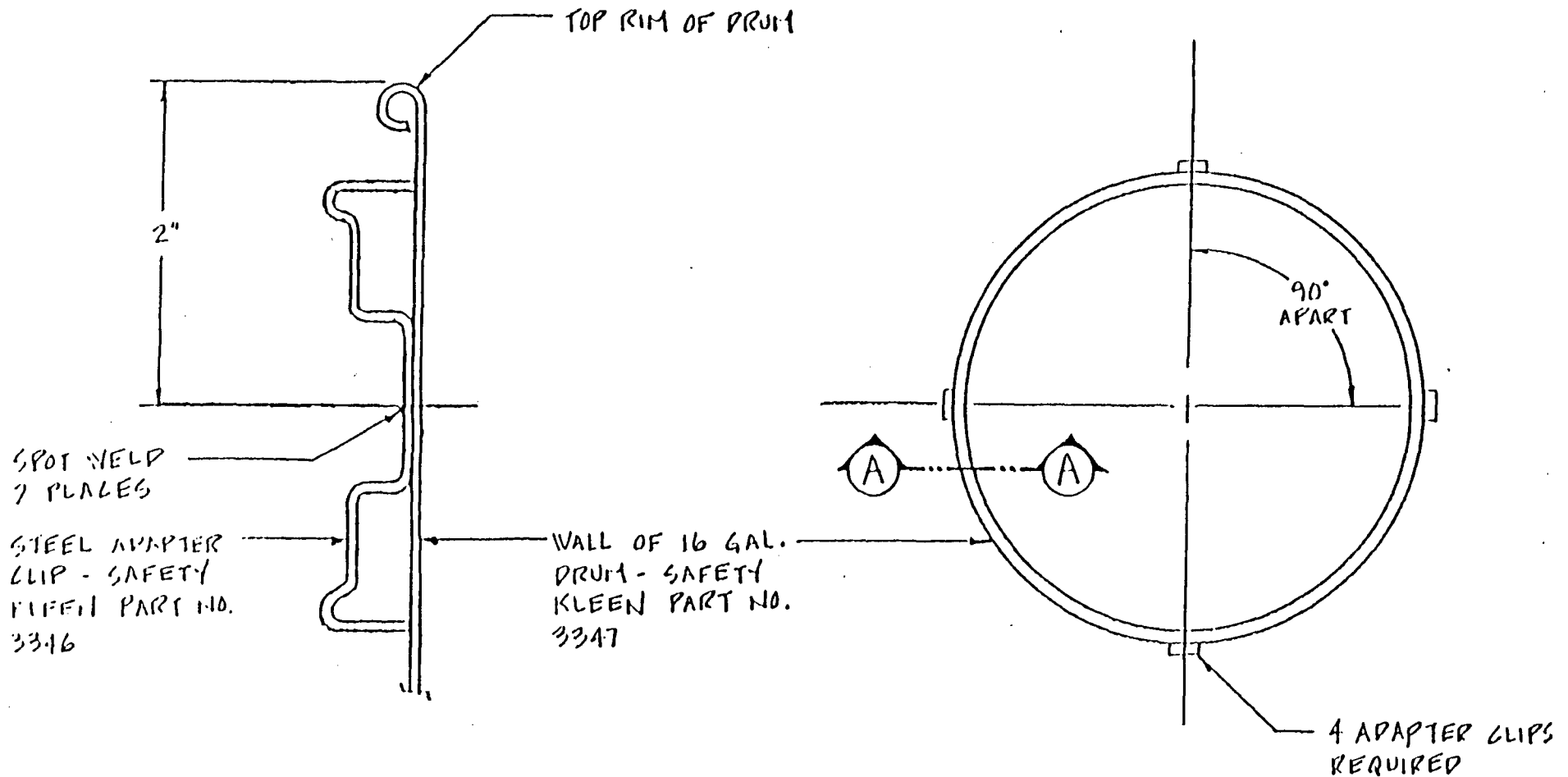
FIGURE II.B.3-3



• CLAMP RING FOR 16-GALLON DRUM DETAILS
SAFETY-KLEEN PART NO. 3319

— EXHIBIT VI-1C —

Figure II. 4



- SECTION A-A -
FULL SCALE

- TOP VIEW OF DRUM -

— EXHIBIT VI 10 —
ADAPTER CLIP DETAILS
FOR 16-GALLON DRUM

II.B.3-2D

Date	Symbol	Description	Drawn	Checked
2/1/87	-	RELEASED ECO 425	T.D	

RELEASED

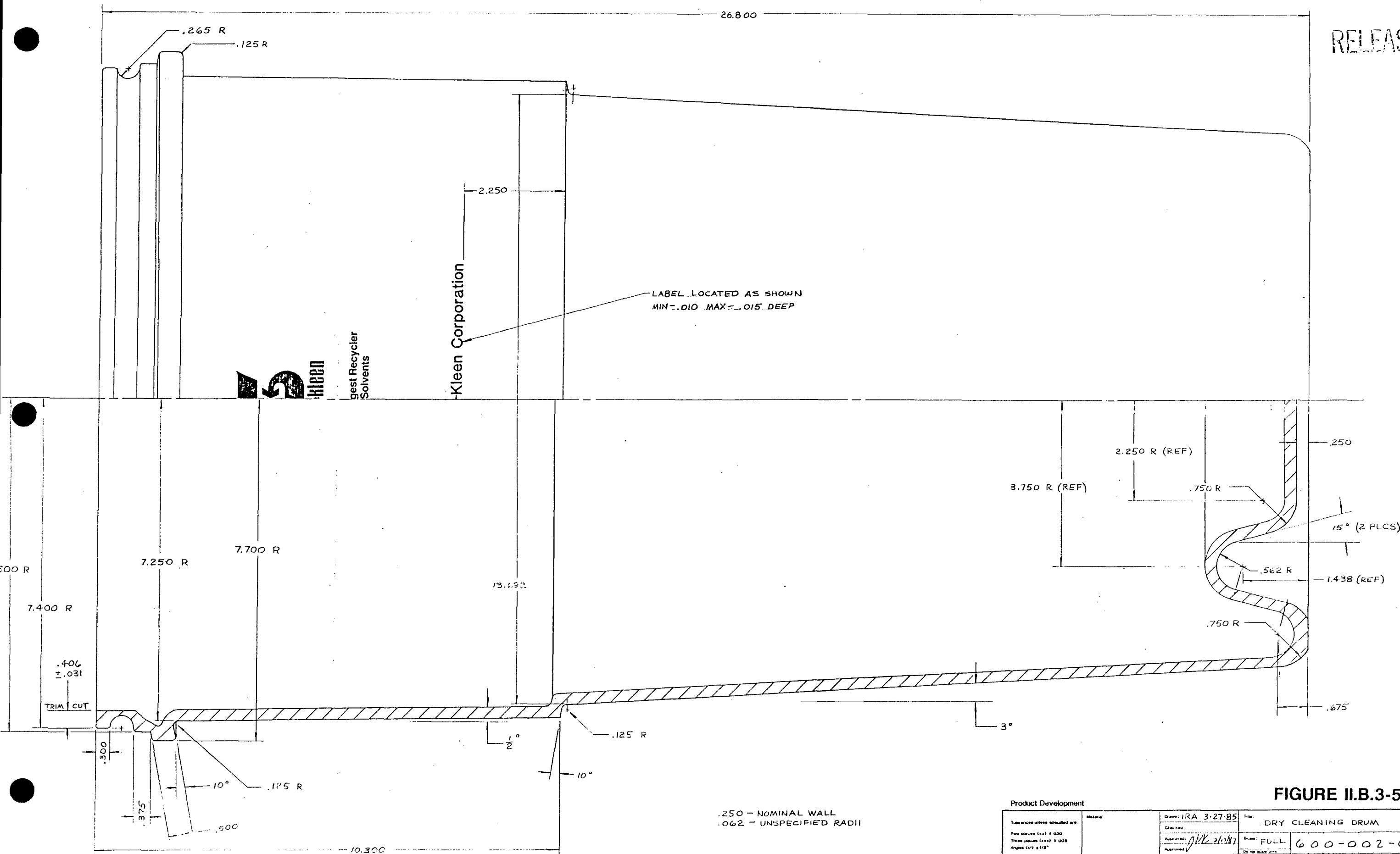


FIGURE II.B.3-5

Product Development		Drawn: IRA 3-27-85	Title: DRY CLEANING DRUM
Tolerances unless specified are:	Materials:	Checked:	Scale: FULL
Two places (ex) & Q20		Assured: JMK 2/1/87	600-002-000-41
Three places (ex) & Q20		Assured:	SK 3356
Angles (ex) & 1/16"		Do not scale	

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Safety-Kleen Corporation, 777 Big Timber Road, Elgin, Illinois 60120

II.B.3-2E

14-000-200-009

Date	Symbol	Description	Drawn	Checked
2-18-87	-	RELEASED ECO 425		

RELEASED

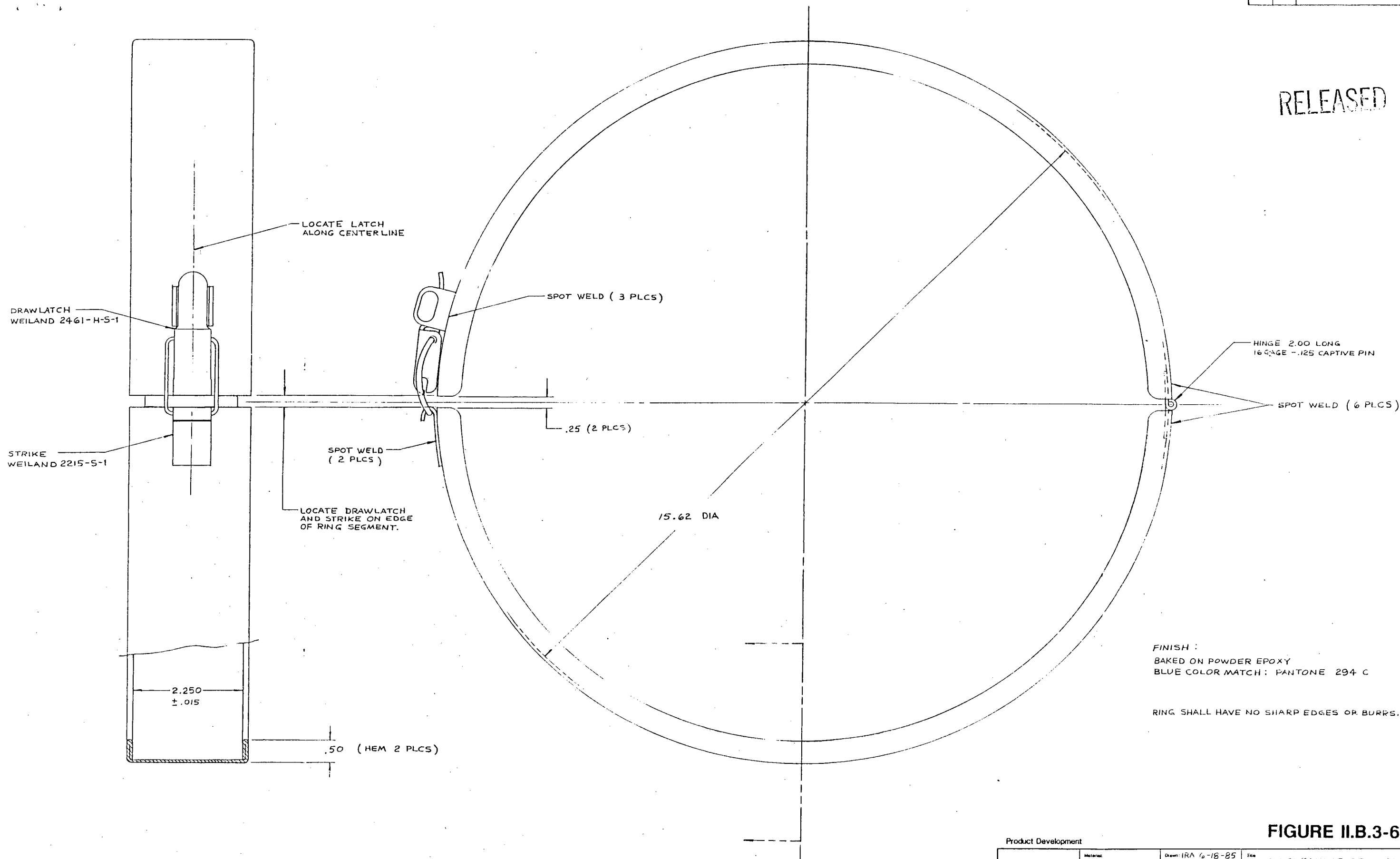


FIGURE II.B.3-6

Product Development		Title	
Tolerances unless specified are: Two places (xx) ± .020 Three places (xxx) ± .008 Angles (x°) ± 1/2°	Material: 16 GAGE CR STEEL	Drawn: IRA 6-18-85 Checked: T.D. 6-18-85 Approved: <i>[Signature]</i> Asst. used	DRY CLEANING DRUM RING
Scale: FULL		600-004-200-41	
This drawing contains information proprietary to Safety-Kleen Corporation. Any disclosure or reproduction in part or in whole is expressly prohibited unless by a written agreement from Safety-Kleen.		Drawn: J.H.I.	3258

Date	Symbol	Description	Drawn	Checked
2-13-87	-	RELEASED ECO 425	TD	

RELEASED

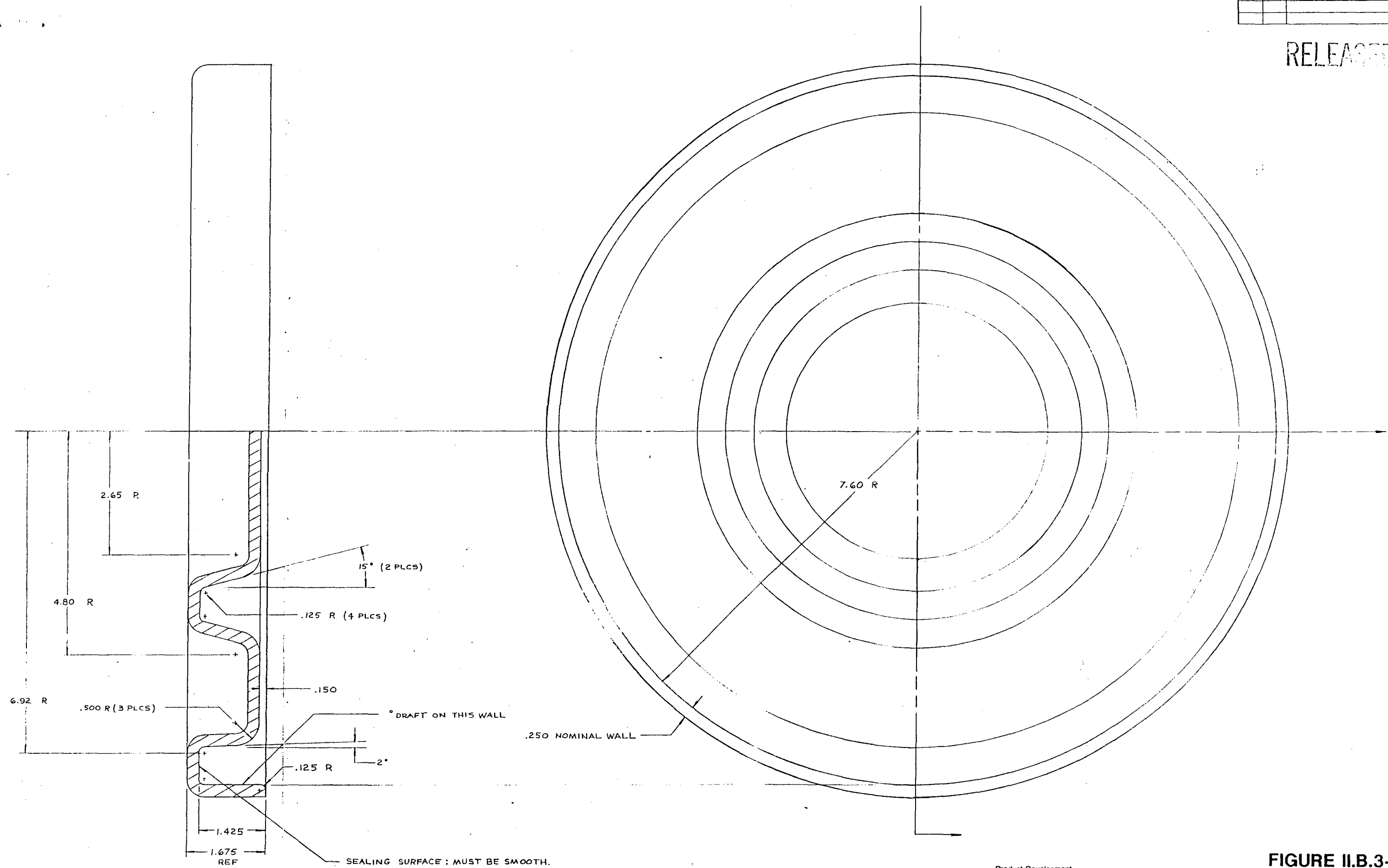


FIGURE II.B.3-7

Product Development		Draw: RA 6-18-85		Title: DRY CLEANING DRUM COVER	
Tolerances unless specified are: Two places (xx) ± .020 Three places (xxx) ± .005 Angles (°) ± 1/2°		Material: HIGH DENSITY POLYETHYLENE BLACK SMOOTH FINISH		Check: JDC-1885 Approved: JPL 2/17/87 Reviewed: V	
This drawing contains information proprietary to Safety-Kleen Corporation. Any disclosure or reproduction in part or in whole is expressly prohibited without the written agreement from Safety-Kleen.		Scale: FULL		Part: 600-005-101-41	
Safety-Kleen Corporation, 777 Big Timber Road, Elgin, Illinois 60120		Sheet: 1 of 1		Revision: SK 8357	

600-005-101-41

Figure II.B.3-8

PAINT WASTE CONTAINER

SPECIFICATIONS

The empty 5 gallon pail is ordered under Safety-Kleen part number 9986, per the following specification:

5 gallon, 24 gage steel tighthead pail, black exterior, rust inhibited interior, DOT17E, with handle and 2" flange and plug.

11" outer diameter x 13-19/32" high

The current empty 16 gallon drum is ordered under Safety-Kleen part number 3362, per the following specification:

16 gallon, 19 gage steel closed head drum, with 2" bung and 3/4" bung, per DOT17E

14-7/8" outer diameter x 26-7/8" high

sources, or subject to violent reactions. The tanks are vented and the drums kept at room temperature to minimize the potential for pressure build-up.

- b. produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health--The vapor pressure of mineral spirits is low (2 mm) and it is reactive with strong oxidizers only. Toxic mists, fumes, dusts, or gases will not form in quantities sufficient to threaten human health since strong oxidizers are not handled at this facility and the solvent vaporization will be minimal under normal working conditions.
 - c. produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion--See "a" above and "d" below.
 - d. damage the structural integrity of the Safety-Kleen facility--The solvents stored at this facility will not cause deterioration of the tank, drums, or other structural components of the facility.
- 3. Adequate aisle space is maintained to allow the unobstructed movement of personnel, fire protection equipment, and decontamination equipment to any area of the facility operation in an emergency.
 - 4. "NO SMOKING" signs are posted in areas where solvents are handled or stored.
 - 5. Fire extinguishers must be checked once per week and tested by the fire extinguisher company once per year.

EXTERNAL FACTORS

The design of the installation is such that a harmful spill is highly unlikely to occur from most external factors. The storage tanks are inaccessible to non-Safety-Kleen personnel and the pump switches are located inside. Also, the drum storage area is in a building which is inaccessible to unauthorized personnel.

1. Vandalism--Only extreme vandalism would result in a solvent spill or fire. Responses to spills and fires are described in the contingency plan.
2. Strikes--A strike would not result in a solvent spill or fire.
3. Power failure--A power failure would not result in a spill or fire. Should a power failure occur, all activities requiring electricity will cease.
4. Flooding--The site elevation is above the projected 100-year floodplain.
5. Storms or Cold Weather--The solvent return and fill station is roofed to eliminate the possibility of rain or snow entering the dumpsters. No opportunity is foreseen to affect the facility with snow, cold weather, or stormwater.

ATTACHMENT II.B.4
CONTAINER MANAGEMENT

ATTACHMENT II.B.4

CONTAINER MANAGEMENT

The immersion cleaner is always contained in partially filled, 16-gallon, covered drums before, during, and after it use. The #609 immersion cleaner is housed in 16-gallon gray steel drums. A 16-gallon gray steel drum with a red band is used for #699 immersion cleaner. Until received at the recycle facility, the immersion cleaner is never transferred to another container. The drums containing the used immersion cleaner are returned to the facility and stored in the designated drum storage areas before shipment to the recycle facility.

The dry cleaning wastes are contained in 16-, 20-, and 30-gallon drums. The perchloroethylene from dry cleaning operations is collected in 16-gallon black polyethylene drums. The dry cleaning filters are in 20- or 30-gallon blue steel drums. These containers are managed similarly to the used immersion cleaner drums, and contents within the drums will not be removed or processed at the facility.

The spent antifreeze is packaged in 30-gallon black steel drums and the drums are not opened at the facility. The mineral spirits are collected in 16- and 30-gallon red steel drums which are poured into the dumpsters. Paint wastes are stored in five-gallon and 16-gallon drums. The contents within these containers will not be transferred or processed at the service center. The paint waste is not removed from the containers until receipt by an offsite reclaimer.

The drums are designed and constructed to be compatible with the stored material and to minimize the possibility of breakage and leaking, in accordance with DOT shipping container specifications. Figures II.B.3-1 through II.B.3-4 showed typical detailed construction specifications of the 16-gallon immersion cleaner drums. The containers

used to store dry cleaning wastes were shown in Figures II.B.3-5 through II.B.3-7. Paint waste containers were shown in Figure II.B.3-8.

Wastes are stored in polyethylene and steel containers. Since none of the wastes handled by Safety-Kleen react with metal or polyethylene, compatibility is assured. Immersion cleaner and dry cleaning waste drums are never opened at the branch, and none of the wastes are incompatible.

Containers will be double-stacked. Wastes will not remain onsite for more than 30 days. The drums will be arranged so that a two-foot aisle space exists between all rows of pallets such that all containers can be readily visible for inspection and handling. Since all materials handled by Safety-Kleen are compatible with one another, no specific areas have been designated for specific wastes. Wastes will be grouped by type and are distinguishable by the color of the drum; however, since the actual volume present of any product at a given time varies greatly, it is not practical to assign specific locations to given wastes.

ATTACHMENT II.B.5
CONTAINER INSPECTION



ATTACHMENT II.B.5

CONTAINER INSPECTION

The purpose of the inspection plan is to establish a procedure and schedule for the systematic monitoring and inspection of hazardous waste management and other material management facilities to ensure proper operation and maintain compliance.

The Branch Manager or his designee is responsible for carrying out the inspections of all hazardous waste management facilities in accordance with the following procedure and schedule.

The Branch Manager, using the inspection log (Figure II.B.5-1), inspects the facility daily for security (gates and locks) and any evidence of sticking, corrosion, or uncommon activity. The facility fence is checked weekly for deterioration, gaps under the fence, and broken wire ties. The weekly inspection log is shown in Figure II.B.5-2.

Figure II.B.5-3 presents the Daily Inspection Log for the drum storage area. Daily inspections of containers consist of the following:

- Physically examine the container (drum) storage area to verify that leaks have not occurred since the last inspection.
- Verify that drums have not been damaged or rusted to the point of near leakage.
- Replace or adjust damaged, missing, or loose fasteners.
- Examine and verify that all container identification, dates, loading data, and hazardous waste labels are attached and current.

[illegible]

Figure II.B.5-2

INSPECTION LOG SHEET FOR: Weekly Inspection of SAFETY AND EMERGENCY EQUIPMENT,
SECURITY DEVICES AND MISCELLANEOUS EQUIPMENT

INSPECTOR'S NAME/TITLE: _____

INSPECTOR'S SIGNATURE: _____

DATE OF INSPECTION (Month/Day/Year): _____

TIME OF INSPECTION: _____

SAFETY AND EMERGENCY EQUIPMENT

Fire Extinguishers: _____ A N

If 'N', circle appropriate problem: overdue inspection, inadequately charged, inaccessible, other: _____

Eyewash and Shower: _____ A N

If 'N', circle appropriate problem: disconnected malfunctioning valves, inadequate pressure, inaccessible, malfunctioning drain leaking, other: _____

First Aid Kit: _____ A N

If 'N', circle appropriate problem: inadequate inventory, other: _____

Spill Cleanup Equipment: _____ A N

If 'N', circle appropriate problem: inadequate supply of sorbent, towels and/or clay, inadequate supply of shovels, mops, empty drums, wet/dry vacuum, other: _____

Personal Protection Equipment: _____ A N

If 'N', circle appropriate problem: inadequate supply of aprons, gloves, glasses, respirator, other: _____

SECURITY DEVICES:

Gates and Locks: _____ A N

If 'N', circle appropriate problem: sticking, corrosion, lack of warning signs, fit, other: _____

Fence: _____ A N

If 'N', circle appropriate problem: broken ties, corrosion, holes, distortion, other: _____

MISCELLANEOUS EQUIPMENT:

Dry Dumpster: _____ A N

If 'N', circle appropriate problem: rust, corrosion, split seams, distortion, deterioration, excess debris, liquids in unit, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF ANY REPAIRS: _____

*A = ACCEPTABLE

II.B.5-1B

N = NOT ACCEPTABLE

(IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT

Figure II.B.5-3

INSPECTION LOG SHEET FOR: Daily Inspection of DRUM STORAGE AREA - A log must be completed for each storage area.

DESCRIPTION OF AREA (e.g., metal shelter, northeast corner of warehouse, etc.): _____

PERMITTED STORAGE VOLUME: _____

INSPECTOR'S NAME/TITLE: _____

INSPECTOR'S SIGNATURE: _____

	MON	TUES	WED	THURS	FRI
DATE: (M/D/Y)	_____	_____	_____	_____	_____
TIME:	_____	_____	_____	_____	_____

CONTAINERS:

Number/Volume* of M.S. Waste Drums:

Number/Volume of I.C. Waste Drums:

Number/Volume of Dry Cleaning Waste Drums:

Number/Volume of Dry Cleaning Waste Boxes:

Number/Volume of Paint Waste Drums:

Number/Volume of Paint Waste Pails:

TOTAL VOLUME (IN GALLONS):

A**N	A N	A N	A N	A N

If 'N', circle appropriate problem: Total volume exceeds the amount for which the facility is permitted, other: _____

Condition of Drums/Boxes A N A N A N A N A N

If 'N', circle appropriate problem: missing or loose lids, missing, incorrect or incomplete labels, rust, leaks, distortion, other: _____

Stacking/Placement/Aisle Space A N A N A N A N A N

If 'N', circle appropriate problem: different from Part B Floor Plan, containers not on pallets, unstable stacks, other: _____

CONTAINMENT:

Curbing, Floor and Sump(s) A N A N A N A N A N

If 'N', circle appropriate problem: ponding/wet spots, deterioration (cracks, gaps, etc.), displacement, leaks, other: _____

Loading/Unloading Area A N A N A N A N A N

If 'N', circle appropriate problem: cracks, deterioration, ponding/wet spots, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF ANY REPAIRS: _____

* To calculate total volumes, use the following: M.S., I.C., D.C. and paint waste drums hold 16 gallons; D.C. boxes hold 10 gallons and paint waste pails hold 5 gallons.

**A = ACCEPTABLE

II.B.5-1C

N = NOT ACCEPTABLE

(IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT ACCEPTABLE' ROW)

Daily inspection of containment consist of the following:

- Inspect containment areas to detect signs of deterioration and failure of the containment system such as cracks, breakage, settlement, and spillage.
- Check container placement and stacking for appropriate aisle space, height, and stability of stacks.
- Inspection of the solvent return receptacle (wet dumpster) for leaks and excess dumpster mud build-up.



ATTACHMENT II.B.6
CONTAINER CLOSURE PLAN

ATTACHMENT II.B.6

CONTAINER CLOSURE PLAN

The Safety-Kleen Corp. has constructed each service center with the intent that each will be a long-term facility for the distribution of Safety-Kleen products. Onsite disposal does not occur at any plant and hence there is no disposal capacity to be exhausted that will necessitate closure of a facility. Based on current business and facility conditions, this facility is expected to remain in operation beyond the year 2000.

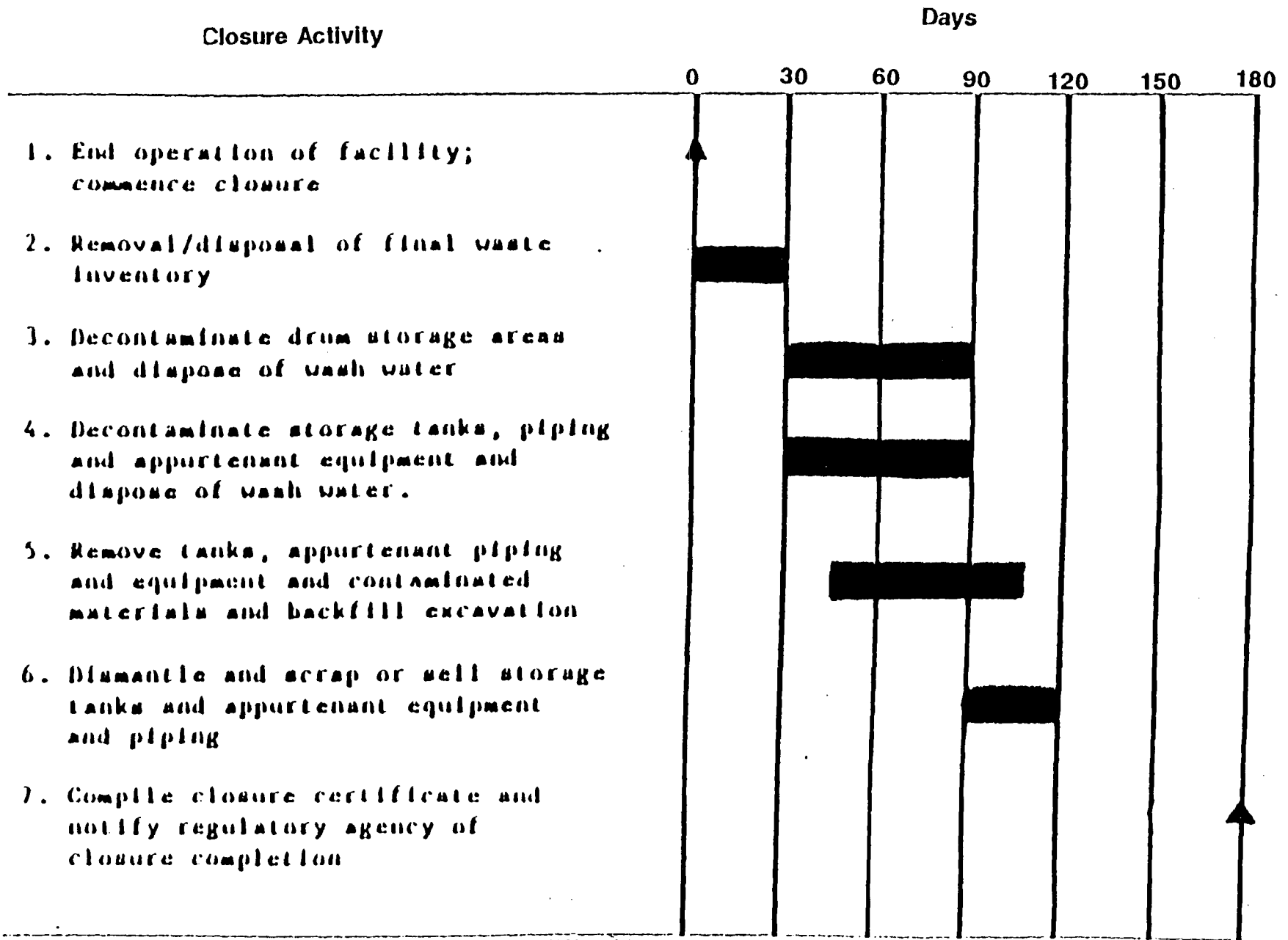
In the event that some presently unforeseen circumstance(s) would result in the discontinuance of operations and permanent closure or sale of the facility, the following closure plan is designed to identify the steps necessary to completely close the facility at any point during its intended life, and should be used for tanks, drum storage area, and equipment.

It is intended that all closures will be complete and final with removal of waste and decontamination of the facility and associated equipment, in order to eliminate need for maintenance after closure and chance of escape of hazardous waste constituents into the environment.

Procedures described in this closure plan are also applicable to cleaning up of spills and repairing/decontamination of facility or equipment.

An anticipated closure schedule can be seen in Figure II.B.6-1. An anticipated maximum waste inventory for the drum storage portion of the facility is presented in the following section.

Figure B.6-1
Typical Closure Schedule



FACILITY DATA

Drum Storage Area:

The drum storage area has a 48' x 78' area with a sloped floor and collection sump. The maximum total volume of product and waste stored is 29,720 gallons with 6,912 gallons anticipated to be drums of waste mineral spirits dumpster mud, dry cleaner wastes, antifreeze, paint waste, and/or immersion cleaner.

MAXIMUM INVENTORY OF WASTE

Drummed Waste: Anticipated maximum of 6,912 gallons of waste.

This amount includes any combination of 16-, 20-, and 30-gallon drums.

CLOSURE PROCEDURE

Drum Storage Areas

The drum storage area contains drums of used immersion cleaner, mineral spirits dumpster mud, dry cleaning wastes, antifreeze, and paint waste.

- At closure all drums will be removed and transported to the recycle center with proper packaging, labeling, and manifesting where the contents in the drums will be reclaimed and the drums will be cleaned for reuse.
- The concrete floor and spill containment areas will be cleaned with detergent solution and the rinsate will be analyzed for mineral spirits, volatile organic compounds, lead, and cadmium using SW-846 methods to determine the effectiveness of decontamination. The area will continue to be washed and rinsed until levels are below maximum contaminant levels (MCLs), or if MCLs are not available, practical quantitation limits (PQLs) as specified in Appendix IX of 40 CFR 264.

- If the wash water or other wastes generated in the closure process are determined to be hazardous, they will be properly disposed of as a hazardous waste; otherwise the material will be disposed of as an industrial waste. It should be noted that wash water and rinsate will not be allowed to drain to the waterway. It is anticipated that approximately 350 gallons of rinsate will require RCRA disposal.
- The equipment used to clean this area includes mops, pails, scrub brushes, a wet/dry vacuum, and drums. The mops, pails, and scrub brushes will be drummed and disposed of as hazardous waste. The wet/dry vacuum hose will be washed with a detergent solution to decontaminate it. The drums will be used to store the wastewater.

FACILITY CLOSURE SCHEDULE AND CERTIFICATION

- Safety-Kleen may amend the closure plan at any time during the active life of the facility. (The active life of the facility is that period during which wastes are periodically received.) Safety-Kleen shall amend the plan any time changes in operating plans or facility design affect the closure plan or whenever there is a change in the expected year of closure of the facility. The plan must be amended within 60 days of the changes.
- Safety-Kleen shall notify the state authority at least 180 days prior to the date closure is expected to begin, except in cases where the facility's permit is terminated or if the facility is otherwise ordered by judicial decree or compliance order to cease receiving wastes or to close. The date when Safety-Kleen "expects to begin closure" should be within 90 days after the date on which Safety-Kleen expects to receive the final volume of wastes.
- Within 90 days of receiving the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, Safety-Kleen shall remove from the site



all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if Safety-Kleen demonstrates that:

The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

The following requirements are met:

- ▶ The facility has the capacity to receive additional wastes;
 - ▶ There is a reasonable likelihood that a person other than Safety-Kleen will recommence operation of the site;
 - ▶ Closure of the facility would be incompatible with continued operation of the site; and Safety-Kleen has taken and will continue to take all steps to prevent threats to human health and the environment.
-
- Safety-Kleen shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, whichever is later.
 - When closure is completed, all facility equipment and structures will be properly disposed of, or decontaminated by removing all hazardous waste and residues.
 - When closure is completed, Safety-Kleen shall submit to the Regional Administrator a certification by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

PART II C
TANK SYSTEMS



ATTACHMENT II.C.1
ENGINEERING ASSESSMENT OF TANK SYSTEM

WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601
(219) 234-3433

February 28, 1991

Mr. Paul Pederson
Safety-Kleen Corporation
777 Big Timber Rd.
Elgin, IL 60123

Re: Boynton Beach, Florida
Hazardous Waste Storage
Used Mineral Spirits

Charles Keith Wishmeier


Dear Mr. Pederson:

Wishmeier and Associates, Consulting Engineers, has been contracted by Safety-Kleen Corporation to certify that the installation of Safety-Kleen Corporation's new aboveground hazardous waste storage tanks and auxiliary equipment at the Boynton Beach, Florida Service Center are in full compliance with Federal Regulation 40 CFR 264.192 and 40 CFR 264.193.

This letter will present those aspects of the installation of the tank system which are necessary to determine compliance with 40 CFR 264.192 and 40 CFR 264.193, and which the firm has assessed and reviewed.

The following is a discussion of each item as it occurs in the regulation:

40 CFR 264.192 (a)

An assessment that the foundation, structural support, seams, and connections are adequately designed and that the tank system will have sufficient structural strength, compatibility with the waste to be stored, and corrosion protection to ensure that it will not collapse, rupture or fail.

- (1) The tank has been designed and constructed in accordance with National Fire Protection Agency Standards, and Underwriters, Laboratories, Inc., "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids," UL 142-1972.
- (2) i. The hazardous characteristics of the used mineral spirits waste, as defined by 40 CFR 261, are the following:
 - A. Ignitability (D001) - A waste is considered ignitable, and therefore hazardous, if its flash point is below 140 Degrees F.

The used mineral spirits to be stored in this tank has a typical flash point in the range of 100 Degrees F. to 110 Degrees F., and therefore is ignitable (D001).

- B. Toxicity characteristic due to various heavy metal and solvent contaminants (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042 and D043).

A waste is considered to be toxic characteristic if the contaminants levels listed in 40 CFR 261.24 are exceeded. Safety-Kleen's used mineral spirits may contain these contaminants at or above the low concentrations at which they are regulated because they are solvents and metals which are commonly found in the industries served by Safety-Kleen.

Of these hazardous waste characteristics, none would affect the compatibility of the mineral spirits waste with the carbon steel tank material. The ignitability quality on its own would not affect the steel tank. The presence of cadmium and lead under normal conditions would also not have an adverse effect on the tank material. Mineral spirits is often used as a light hydro-carbon coating to prevent rusting of metal parts, and therefore acts to preserve the carbon steel.

- ii. The National Fire Protection Agency identifies three types of fire hazards by degree. These ratings for the spent mineral spirits are provided below.

- A. Health Hazards - 0. Includes "materials which on exposure under fire conditions would offer no hazard beyond that of normal combustible material."
- B. Flammability Hazards - 2. Includes "materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur... (and) should include liquids having a flash point above 100 Degrees F., but not exceeding 200 Degrees F." It can be pointed out that, although the flash point falls in this category, the vapor pressure, which reflects the amount of ignitable gases given off by the liquid, of mineral spirits is very low (2mm). Ignitability is therefore not nearly as great as that of other liquids with similar flash points.
- C. Reactivity (Instability) Hazards - 0. Includes "materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water".

- iii. Finally, the Material Safety Data Sheet for fresh mineral spirits, which has mostly the same characteristics as spent mineral spirits, describes the material as stable and combustible, and incompatible only with strong oxidizing agents. Warnings include avoiding heat, sparks and flame. Oxidizers are not handled at the Boynton Beach, Florida Service Center, and operating procedures are such that they minimize the possibility of ignition sources near the tank farm.

It therefore can be concluded that there is no apparent incompatibility of the tank with the hazardous waste contents.

- (3) This section of the regulations addresses tank systems for which the external shell or any external metal component will be in contact with soil or water and, therefore, pertains primarily to underground or submerged tank systems. Since the tank and all components will be above ground, there will be no contact with the soil, and the only contact with water will be from precipitation.

Protection from precipitation is achieved by rust-resistant coatings. The tank surface has been prepared in compliance with the Steel Structure Painting Code SSPC - SP3-63T, and then painted with one coat of red oxide paint and two coats of alkyd base gloss white structural enamel to insure proper sealing. All piping is specified Schedule 40 galvanized (a non-rusting material), and all exposed threads and joints will be painted with a rust-resistant exterior grade paint. Piping not located within the secondary containment areas is black iron, welded and will be painted with two coats of rust-resistant exterior grade paint.

- (4) This section of the regulations applies to underground tank systems only.

- (5) Designs have been analyzed to ensure the following:

- i. Tank foundations will maintain the load of the full tanks. An analysis of this design (a copy of which is attached) was performed, resulting in the following comparisons of maximum stress versus allowable stress in the materials:

	<u>MAXIMUM STRESS</u>	<u>ALLOWABLE STRESS</u>
a. Concrete Slab	81 psi	750 psi
b. Underlying Soil	2365 psf	3000 psf

ii. The tank system need not be anchored since it will not be placed in a saturated zone, (i.e., this applies to underground tanks only), and it will not be located in a seismic fault zone.

iii. The tank system will not be installed on soils susceptible to frost heave. This should not be a problem in Boynton Beach, Florida given its geographical location.

40 CFR 264.192 (b)

Safety-Kleen Corporation ensures that proper handling procedures were used during installation, with continuous inspection by the installers and experienced Safety-Kleen personnel, and final inspection by Charles Keith Wishmeier, P.E. of Wishmeier and Associates, with specific attention paid to:

- (1) Weld breaks
- (2) Punctures
- (3) Scrapes of protective coatings
- (4) Cracks
- (5) Corrosion
- (6) Other structural damage or inadequate construction/installation

All discrepancies were remedied before the tanks were authorized to be placed in use.

40 CFR 264.192 (c)

This section applies only to underground tanks.

40 CFR 264.192 (d)

The tanks and ancillary equipment were tested by Charles Keith Wishmeier, P.E. of Wishmeier and Associates. All repairs necessary to remedy any leaks discovered were performed before the tanks were authorized to be placed in use. (Our testing reports are attached.)

Testing of the two barrel washers (dumpsters) in the Return/Fill Building was furnished by The Environmental Resources Management Group. Their report and certification of said equipment are attached.

Secondary Containment has been provided for the barrel washers within the Return/Fill Area.

The containment system has been designed and will be operated as follows:

- (1) The barrel washers (dumpsters) will rest on an impervious base slab which is free of cracks and gaps, that will contain leaks, spills and accumulated precipitation until the collected material has been detected and removed. The container area is enclosed from the outside elements and will collect minimal amounts of precipitation.

Construction consists of a 6" reinforced concrete slab designed and constructed to support the barrel washers (dumpsters) in a fully loaded condition.

The concrete slab has been coated with two coats of Sikagard 62, manufactured by Sika Corporation of Lyndhurst, N.J. This material is resistant to physical contact with the waste liquids being stored, to climatic conditions and to traffic abrasion. This material provides an impervious surface.

- (2) The concrete slab is gently sloped to a central collection sump pit. No drain is provided out of this pit. Liquids resulting from leaks or spills are, therefore, drained off and the barrel washers (dumpsters) are protected from contact with accumulated liquids.
- (3) The containment system has sufficient capacity to contain considerably more than the total volume of the barrel washers (dumpsters). The central collection sump pit will contain 716 gallons. The sloped floor area will contain an additional 2910 gallons for a total of 3626 gallons. Containment calculations are included with this report.
- (4) Run-on into the container storage area from rain water or others sources will be minimal, the Return/Fill Area being inside an enclosed structure. Therefore, no additional capacity is required.
- (5) In the event of a waste spill or rainwater accumulation, this material will be removed from the Secondary Containment area and placed in Primary Containment for future handling in a timely manner.

40 CFR 264.192 (e)

Ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction. Lengths of piping are supported no less than every eight running feet.

Daily inspections by Safety-Kleen personnel after being placed in use will ensure the integrity of the tank system, and the absence of leaks. Two specific checks will be made of the high level alarms, and of the volume of liquid held in the tanks. Should sudden deviations in solvent volume occur, an investigation to determine the cause will be made immediately, and repairs initiated.

40 CFR 264.192 (f)

This section deals with information provided under paragraph (a)(3). As mentioned above, this paragraph concerns itself primarily with corrosion and corrosion protection of underground or submerged tanks. To recap what has already been presented regarding corrosion protection, three points are mentioned here.

- (1) The storage tanks and all ancillary equipment are above ground and, therefore, are not in contact with the soil. The only water contact will be with precipitation.
- (2) All exterior surfaces of the tanks are sealed and painted; all piping is either galvanized material or painted blackiron; and all exposed threads, joints and welds will be painted with a rust-resistant exterior grade paint.
- (3) The used mineral spirits is not corrosive, and, in fact, mineral spirits itself is often used on metal parts to protect against rusting.

40 CFR 264.192 (g)

Safety-Kleen Corporation will keep on file at the facility this written statement certifying the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of 40 CFR 264.192 that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) were performed. These written statements also include the certification statement as required in 270.11 (d) of Chapter 40 of the code of Federal Regulations.

40 CFR 264.193 (a)

This section deals with the requirement for secondary containment with the installation of new and existing tank systems. This report deals with a new tank system.

- (1) Secondary Containment in the form of an open concrete dike vault has been provided prior to this new tank system being put into use.
- (2) Existing tank system: Not Applicable.
- (3) Existing tank system: Not Applicable.
- (4) Existing tank system: Not Applicable.
- (5) Not Applicable.

40 CFR 264.193 (b)

- (1) This Secondary Containment system has been designed, installed and is operated in a manner which will prevent the migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the system.
- (2) This Secondary Containment system is capable of detecting and collecting releases and accumulated liquids until the collected material can be removed.

40 CFR 264.193 (c)

To meet the requirements of paragraph (b) of this section, this Secondary Containment system has been designed and constructed as follows:

- (1) Construction consists of 8" thick reinforced concrete walls designed and constructed to withstand the internal static head pressure gradient created by a liquid full dike vault condition, 8" reinforced concrete slab designed and constructed to support all tanks in a fully loaded condition and to resist soil pressures from beneath. (A copy of the wall and slab design is attached.)

The interior of the dike walls and the concrete slab have been coated with two coats of Sikagard 62, manufactured by Sika Corporation of Lyndhurst, N.J. This material is resistant to physical contact with the waste liquids being stored, to climatic conditions and to traffic abrasion.

- (2) The dike vault is constructed on a reinforced concrete foundation system designed and built to support the Secondary Containment system, resistant to pressures from above and from below and resistant to settlement, compression or uplift failures.
- (3) The leak detection method for this Secondary Containment system consists of daily inspections of the dike containment vault. All elements of this vault are open and plainly visible. This will meet the 24 hour leak-detection requirement.
- (4) The concrete slab is gently sloped to a central collection sump pit. No drain is provided out of this pit. In the event of a waste spill or rainwater accumulation, this material will be removed from the Secondary Containment area and placed in Primary Containment for future handling within the required 24 hour period using portable pumps.

40 CFR 264.193 (d)(e)

This section deals specifically with the Secondary Containment method chosen.

- (1) A liner (external to the tank): Not Applicable.
- (2) A vault: This was the method chosen.
- (3) A double-walled tank: Not Applicable.
- (4) An equivalent device approved by the Regional Administrator: Not Applicable.

The following discussion will deal solely with the Secondary Containment chosen, the concrete dike vault:

- (2) The vault system:
 - (i) Has been designed and constructed to contain 100% of the contents of the largest tank within the dike vault system.
 - (ii) Has been designed and constructed with sufficient additional capacity to contain precipitation from a 25-year, 24-hour rainfall event. This requirement is not applicable as this is a covered vault.
 - (iii) Has been designed and constructed with chemical resistant water stops at the only joint in the construction, the joint separating the dike wall from the monolithically poured concrete curb upon which the dike wall rests.

- (iv) Has been provided with two coats of Sikagard 62 on the interior dike walls and concrete slab as explained earlier under 40 CFR 264.193 (c) (1).
- (v) Has been provided with means to protect against the formation of and ignition of vapors within the dike vault. The concrete dike vault is fully open to the atmosphere and thus well ventilated. The vault is inspected by Safety-Kleen personnel on a daily basis. All electrical systems have been designed and constructed Class I, Division 2 Explosion-Proof.
- (vi) This concrete dike vault system is not subject to hydraulic pressure as it is constructed above ground.

40 CFR 264.193 (f)

This section deals with Secondary Containment requirements for ancilliary equipment.

- (1) All above ground piping within the concrete dike vault area will be inspected for leaks by Safety-Kleen personnel on a daily basis. This piping is provide with the Secondary Containment of the concrete dike vault itself.
- (2) All above ground piping outside of the concrete dike vault will be inspected for leaks by Safety-Kleen personnel on a daily basis. This piping has fully welded connections and, therefore, does not require Secondary Containment.
- (3) All pumps will be inspected by Safety-Kleen personnel on a daily basis. All pumps are installed within the Secondary Containment areas.
- (4) This item covered by items (1), (2) and (3) above.

40 CFR 264.193 (g)

This section is Not Applicable as a variance from these requirements is not being applied for.

40 CFR 264.193 (h)

This section is Not Applicable as a variance from these requirements is not being applied for.

CONCLUSION

In view of all the topics discussed above, it is concluded that the installation of Safety-Kleen Corporation's new aboveground hazardous waste storage tank system for used mineral spirits at the Boynton Beach, Florida Service Center is in full compliance with Chapter 40 of the Code of Federal Regulations, Section 264.192 and Section 264.193.

Respectfully submitted,

Wishmeier and Associates.

Charles Keith Wishmeier

Charles Keith Wishmeier, P.E.

Florida Professional Engineer License Number PE-0037694

CKW/mw



WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601

(219) 234-3433

LETTER OF CERTIFICATION

February 28, 1991

To Whom It May Concern:

I, Charles Keith Wishmeier, P.E., have supervised the installation of Safety-Kleen Corporation's new above ground hazardous waste storage tank for used mineral spirits and auxiliary equipment at the Boynton Beach, Florida Service Center. My duties were the design and installation, inspection, testing for tightness and checking for corrosion protection for the following tank system components: the tank farm dike walls and concrete slab, the tanks, tank vent piping, tank fill and drain piping and pumps, as required by the Resource Conservation and Recovery Act (RCRA) regulations, 40 CFR 264.192, applicable paragraphs (a-g) and 40 CFR 264.193, applicable paragraphs (a-f).

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments. 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.



Charles Keith Wishmeier, P.E.

Principal

Title

Florida Professional Engineer PE-0037694

Registration Number

119 N. Taylor St., South Bend, IN 46601

Address



WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601
(219) 234-3433

TANK TESTING REPORT NO. 1

Project: Safety-Kleen Corp.,
----- Boynton Beach, FL
Used Mineral Spirits Tank Test.

Date: February 26, 1991

Time: 8:15 a.m.

Weather & Temperature: Cloudy & light rain with temperature of
----- 70 degrees F.

Persons on Site: Keith Wishmeier, Jack Krivec and plumbing
----- contractor.

Discussion:

The Used Mineral Spirits tank was tested while filled with water as per State of Florida requirements. All openings had been sealed. The two manhole covers on both tanks had been fully bolted with short bolts and gaskets. A warped upper manhole flange had been corrected for proper sealing. The plug used to replace the 3" vent was also soap tested and tightened.

TANK TESTS

Used Mineral Spirits Tank #493832 was pressurized to 4.0 psi at 9:55 a.m. By 10:25 a.m. the pressure was holding at 4.0 psi. The Used Mineral Spirits Tank passes the pressure test.

Comments: The Used Mineral Spirits Tank will be approved for use after the following items have been completed:

1. All piping to be connected to the tank.
2. The 3" vent is to be installed in the top of the tank.
3. The Moormann Tank Gauge and The High Level Alarm Probe and related High Level Alarm System are to be re-installed.
4. The top manhole cover is to be reinstalled loosely with long bolts and double nuts or locking nuts in every third hole around the flange such that the lids can raise 4" to 5" in the event of a sudden pressure increase within the tank. Make sure NO short bolts remain.
5. The tank is to be properly grounded and anchored. This has been done.
6. The tank is to be painted for corrosion protection. This has been done.
7. The tank is to receive permanently mounted metal Manufacturer Identification Plates with specific tank numbers. The tank must also be supplied with permanently mounted metal "Hazardous Waste Storage" tags. This has been done.

Submitted by,

Charles Keith Wishmeier

Charles Keith Wishmeier, P.E.
WISHMEIER & ASSOCIATES

cc: Mr. Jack Krivec of Safety-Kleen Corp.
Mr. Dan Dowling of Safety-Kleen
file

P.S. For the record, Oil Tank #1 is #493830, Oil Tank #2 is #493833,
Clean Mineral Spirits Tank is #493831.

WISHMEIER & ASSOCIATES

ARCHITECTS • ENGINEERS

119 N. TAYLOR STREET • SOUTH BEND, INDIANA 46601
(219) 234-3433

PIPING TEST REPORT NO. 1

=====

Project: Safety-Kleen Corp.
----- Boynton Beach, FL.
Clean and Used Mineral Spirits Piping Test.

Date: February 26, 1991

Time: 8:15 a.m.

Weather & Temperature: Cloudy with light rain, temperature
----- of 70 degrees F.

Persons on Site: Keith Wishmeier, Jack Krivec and plumbing
----- contractor.

Discussion:

Piping Tests:

Clean Mineral Spirits to fill point and to Return/Fill Shelter.
System is threaded galvanized. The 2" piping was pressurized to 86.5
psi at 8:25 a.m. By 9:10 a.m. the pressure had dropped to 84.5 psi.
This line passes the pressure test as it is within allowable
tolerance.

Used Mineral Spirits from fill point to Tank. The 2" piping was
pressurized to 86 psi at 8:25 a.m. By 9:10 a.m. the pressure had
dropped to 84.5 psi. This line passes the pressure test as it is
within allowable tolerance.

Used Mineral Spirits from Barrel Washers in Return/Fill Bldg. to end
of pipe in Tank Farm at top of Tank. The 2" piping was pressurized to
86 psi at 8:40 a.m. By 9:25 a.m. the pressure had not dropped and was
holding at 86 psi. This line passes the pressure test.

Comments:

These Mineral Spirit lines will be approved for use after the following items have been completed:

1. All piping to be reconnected to all valves and pumps to be reinstalled.
2. All piping is to have at least two coats of paint applied for corrosion protection. This has been done.

Submitted by,

Charles Keith Wishmeier

Charles Keith Wishmeier, P.E., R.A.
WISHMEIER & ASSOCIATES

cc: Mr. Jack Krivec of Safety-Kleen Corp.
Mr. Dan Dowling of Safety-Kleen Corp.
file

DETERMINE FULL TANK LOAD ON SLAB & SOIL.

GIVEN: MAX ALLOW. BEARING PRESSURE: CONC = 750 PSI
SOIL = 3000 PSI

1/4" PL STEEL = 10 PSF
CONCRETE WT = 150 PCF

15000 GAL STORAGE TANK:
18' LONG
12' DIAMETER

A. TANK & FLUID WEIGHT

1. EMPTY TANK -

$$\text{WALL} = \pi DH = (\pi)(12)(18) = 679 \text{ SF}$$
$$679 \times 10 \text{ PSF} = 6790 \#$$

$$\text{TOP + BOTTOM} = 2\pi R^2 = (2)(\pi)(6 \times 6) = 226 \text{ SF}$$
$$226 \times 10 \text{ PSF} = 2260 \#$$

$$\text{TOTAL TANK WT} = 6790 + 2260 = 9050$$
$$\text{ADD 10\% FOR SADDLES} = 9050 + 905 = 9955 \#$$

2. WEIGHT OF MINERAL SPIRITS -

$$\text{USED MIN. SPIRITS} = 6.64 \#/\text{GAL}$$
$$15000 \text{ GAL} \times 6.64 = 99600 \#$$

3. TOTAL TANK + MIN. SPIRITS = 9955 + 99600

$$= 109555 \#$$

B. LOAD DISTRIBUTION

EACH SADDLE APPROX $12' \times 12'$

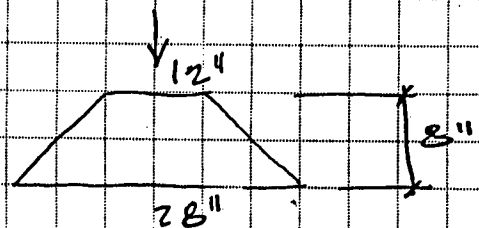
BEARING AREA WITH 3 SADDLES:

$$3 \times 12' \times 1' = 36 \text{ SF}$$

$$\text{PRESSURE ON CONCRETE} = \frac{109555}{36} \times \frac{1}{144} = 21.13 \text{ PSI}$$

$$\underline{21.13 \ll 150 \text{ PSI OK}}$$

PRESSURE ON SOIL:



SOIL BEARING AREA:

$$3 \times 12 \times \frac{28}{12} = 84 \text{ SF}$$

$$\text{SO PRESSURE ON SOIL} = \frac{109555}{84} = 1304 \text{ PSF}$$

$$\underline{1304 \ll 3000 \text{ PSF}}$$

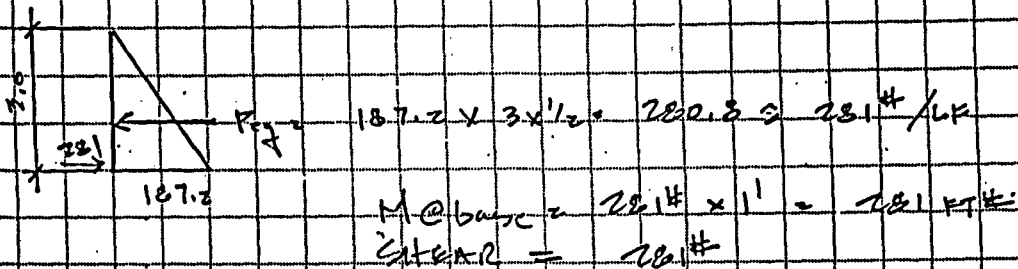
8" CONCRETE SLAB & SOIL
BEARING CAPACITY ARE
ADEQUATE TO SUPPORT
1500 GAL. TANKS OR
SMALLER.

I DIKE RETAINING WALL DESIGN (3'-0" WALL) (2'-6" WALL) (SIMILAR)

A. LOADING CRITERIA

USE WATER @ 62.4 PCF. WATER IS HEAVIER THAN S-X CHEMICALS.

B. LOADING DIAGRAM



C. CONCRETE DIKE WALL DESIGN (SEE PRINTOUT)

WALL IS TO BE 8" THICK,
REBAR IN CENTER OF WALL,
THEREFORE $d = 8/2 = 4"$

USE 3000 PSI CONCRETE: ($\rho = 2.4$, $j = .87$,
 $f_c = 3000$, $d = 4"$)

$$d_{min} = 1.12 \text{ in} < 4 \text{ in} \rightarrow \text{OK}$$

$$A_s req'd = .048 \text{ in}^2$$

$$\rightarrow \text{USE } 1 \# \text{ } 4 @ 2" \text{ oc.}$$

$$A_s = 0.20 \text{ in}^2$$

$$SHEAR: S_v = 281 \#, V_u = 5.85 \text{ psi} < 40 \text{ psi} \rightarrow \text{OK}$$

$$BENDING: B_u = 281 \#, M_u = 51.75 \text{ psi} < 500 \text{ psi} \rightarrow \text{OK}$$

USE #4 BARS @ 2" oc. VERT.
#5 BARS @ 6" oc. HORIZ.

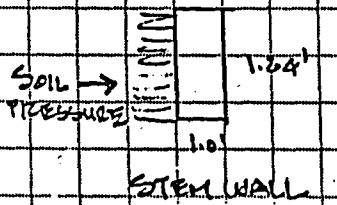
$$AT .005 \times 8 \times 12 \times 1/2 = .24 \text{ in}^2$$

$$A_s = 0.42 \text{ in}^2$$

II. CHECK CONCRETE FOOTING STEM WALL

A. DESIGN CRITERIA

M DIKE WALL = 281 FT# ; STEM WALL MUST RESIST THIS MOMENT.



$$M = \frac{WL^2}{2}, \quad W = \frac{M \times 2}{L^2} = \frac{281 \times 2}{1.64^2}$$

$$W = 1066 \text{ \#/LF} < 3000 \text{ \#/LF CAPACITY OF}$$

B. CONCRETE STEM WALL DESIGN (SEE PRINTOUT)

WALL IS TO BE 12" THICK
REBAR 4" FROM FACE
THEREFORE $d = 4"$

USE 3000 PSI CONCRETE : ($\phi = 220$, $j = 0.872$,
 $f_s = 20000$, $d = 4"$)

SINCE MOMENT IS THE SAME, CONCRETE & d ARE THE SAME, THE STEM WALL WORKS AS PROPOSED. PRINTOUT SAME FOR BOTH WALLS.

SAFETY - KLEEN CORP.

BOYNTON BEACH, FL.

WISHMEYER & ASSOCIATES
119 N. TAYLOR ST.
SOUTH BEND, IN 46801

RUN

* * * * * CONCRETE SLAB & BEAM DESIGN * * * * *

THIS PROGRAM WILL DETERMINE MINIMUM DEPTH, SHEAR, &
AND REQUIREMENTS FOR THE CHOSEN CONCRETE SECTION.

ENTER CONCRETE FACTORS R, J, FS AND D, WHERE R AND J
VARY WITH CONCRETE STRENGTH, FS=ALLOWABLE STEEL
STRESS (#/IN²), AND D=DEPTH OF FOOTING STEEL (IN)
? 226, .872, 20000, 4

FIRST CONSIDER PRIMARY STEEL (LABLE #1):
ENTER MOMENT M1 (#FT) & WIDTH W1 (IN)? 281, 12
D1(MIN STEEL DEPTH)=SQRT((M1*12)/(R*W1)):
M1= 281 #FT. D1= 1.115062 IN

A1(REQUIRED AREA STEEL)=(M1*12)/(FS*J*D):
A1= 4.833716E-02 IN²
SELECT STEEL. ENTER NUMBER OF BARS N1 AND AREA/BAR
? 1, .2
TOTAL BAR AREA SELECTED= .2 IN²

TEST SELECTED SECTION FOR SHEAR. V1 <= 60 #/IN²:
ENTER MAXIMUM END SHEAR S1 (#)? 281
V1=S1/(W1*D):
S1= 281 # V1= 5.854167 #/IN²

TEST PRIMARY STEEL FOR BOND. U1 <= BOND STRESS:
ENTER BAR PERIMETER P1(IN) AND BOND STRESS X1(#/IN²)
? 1.571, 500
U1=S1/(N1*P1*J*D):
S1= 281 # U1= 51.28067 #/IN²

CONSIDER SECONDARY STEEL (LABLE #2):
ENTER MOMENT M2 (#FT) & WIDTH W2 (IN)? 0, 12

THE CONCRETE SECTION AND THE SELECTED
REINFORCING STEEL ARE ADEQUATE !

THE PRIMARY STEEL IS: 1 BARS @ .2 IN²/BAR

THE SECONDARY STEEL IS: 0 BARS @ 0 IN²/BAR

TO DESIGN ANOTHER SLAB OR BEAM, HIT ENTER?

3 of 3.

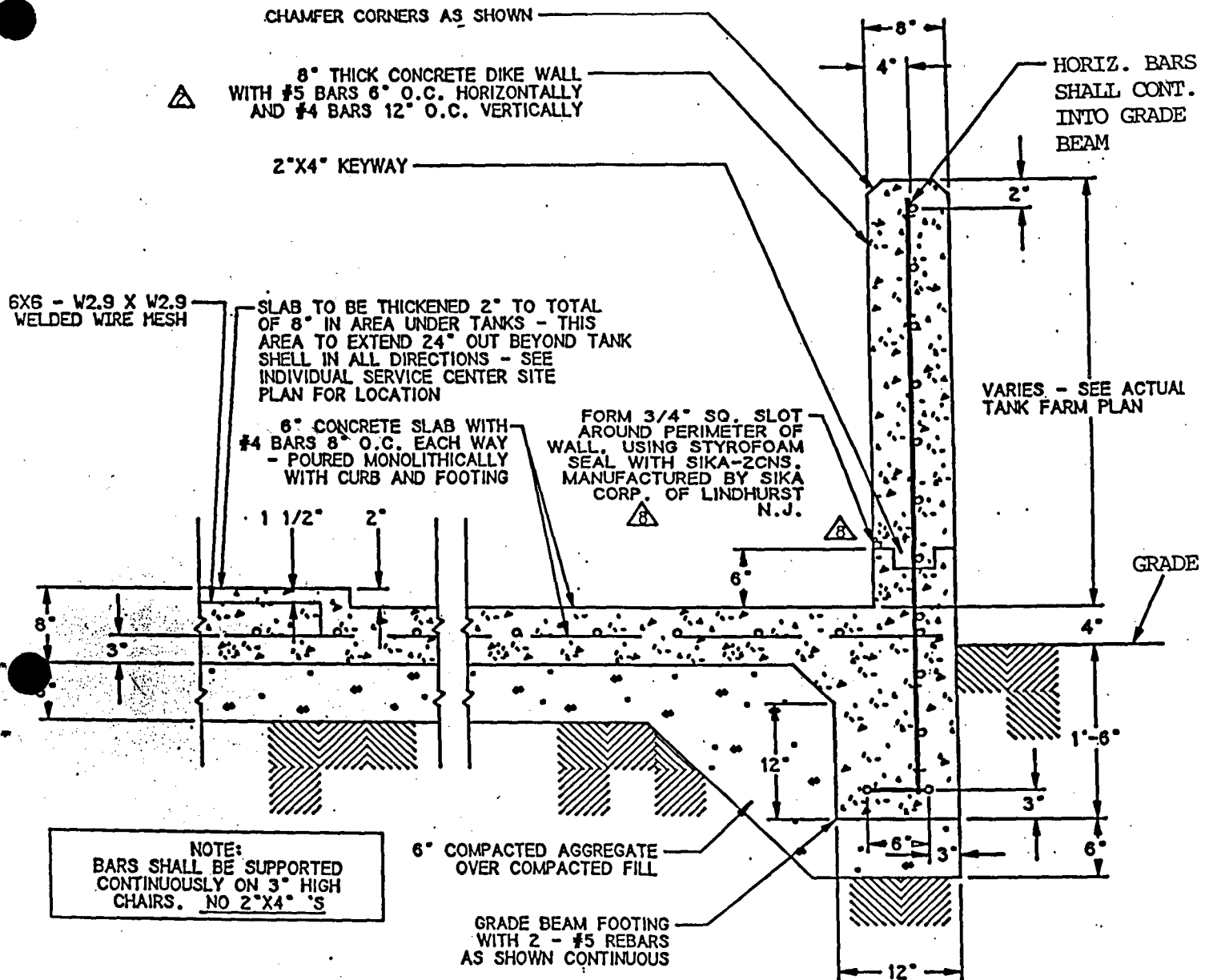
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2-26-91

SARREY - KLEEN CORP.
BOYNTON BEACH, FL.

WISHMEIER & ASSOCIATES
119 N. TAYLOR ST.
SOUTH BEND, IN 46601

2-24-91



C1

SECTION C-1: TANK SLAB & DIKE WALL

SCALE: 1"=1'-0"

CONSTRUCTION DETAIL

WISHMEIER & ASSOCIATES

Architects & Engineers

119 N. Taylor St.

SOUTH BEND, INDIANA 46601

(219) 234-3433

JOB SAFETY-KLEEN, BOYNTON BEACH, FL

SHEET NO. 1 OF

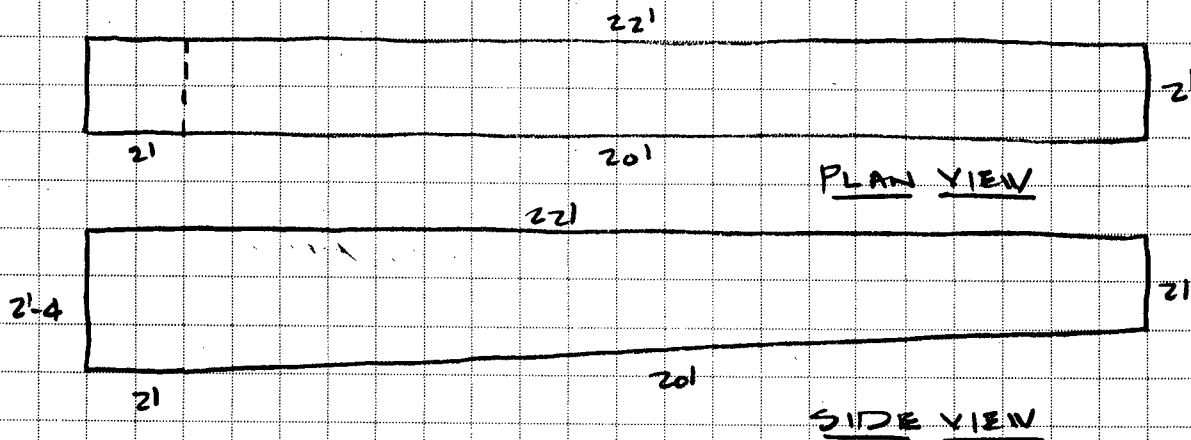
CALCULATED BY ckw DATE 2-26-91

CHECKED BY DATE

SCALE

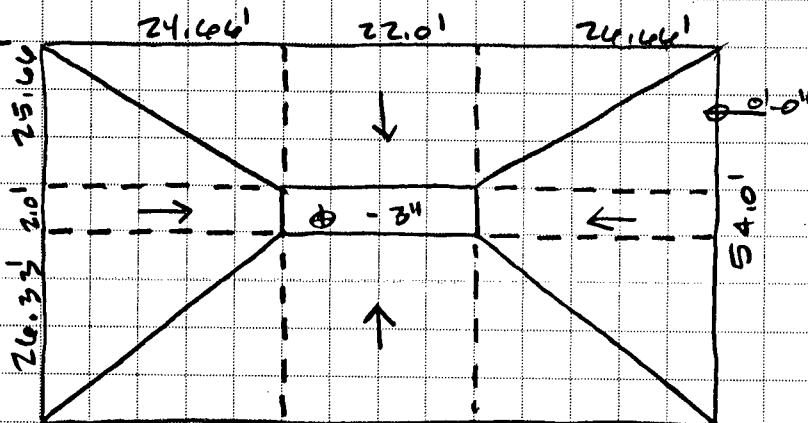
SECONDARY STORAGE CALCULATIONS - R/F AREA

COLLECTION TRENCH



$$VOL = (2' \times 2' \times 2.33' + 20' \times 2' \times 2.16') \times 7.48 \text{ GAL/CF} = [716 \text{ GAL}]$$

SLOPED FLOOR



$$\begin{aligned} VOL &= [22' \times 2' \times .25' + 25.66' \times 22.0' \times .25 \times \frac{1}{2} + 26.33' \times 22.0' \times .25 \times \frac{1}{2} \\ &+ 24.66' \times 2.0' \times .25 \times \frac{1}{2} + 24.33' \times 2' \times .25 \times \frac{1}{2} \\ &+ (24.66' + 24.66') (25.66' + 26.33') \times .25 \times \frac{1}{3}] \times 7.48 \text{ GAL/CF} \\ &= [2910 \text{ GAL}] \end{aligned}$$

$$\text{TOTAL CONTAINMENT VOL} = 716 + 2910 = [3626 \text{ GAL}]$$

ERM-South, inc.

9501 Princess Palm Avenue, Suite 100 • Tampa, Florida 33619 • (813) 622-8727 • Fax (813) 621-8504
8181 N. W. 36th Street, Suite 20 • Miami, Florida 33166 • (305) 591-3076
777 Yamato Road, Suite 130 • Boca Raton, Florida 33487 • (407) 241-1752

Reply To: Tampa Office

April 18, 1991

Project No. 13112.28

Mr. C.K. Wishmeier, P.E.
Wishmeier & Associates
Architects/Engineers
119 N. Taylor Street
South Bend, Indiana 46601

Dear Mr. Wishmeier:

Environmental Resources Management-South, Inc. (ERM) has been contracted by Safety-Kleen Corp. to certify that the installation of Safety-Kleen Corp.'s hazardous waste storage ancillary equipment at the Boynton Beach, Florida Service Center are in compliance with Federal Regulations 40 CFR 264.192(d) and (e).

This letter will present those aspects of the installation of the ancillary system necessary to determine compliance with 40 CFR.192(d) and (e) which the firm has assessed and reviewed.

The following is a discussion of the appropriate item as it occurs in the regulation.

40 CFR 264.192(d)

The two barrel washers (dumpsters) were hydraulically tested by Albert R. Capellini of ERM-South, Inc. The dumpsters were filled with water and observed for 30 minutes. No leaks were discovered, and repairs to the dumpster were not necessary (see attached report). Pictures of the dumpsters are attached.

40 CFR 264.192(e)

Ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction. A two-inch-diameter pipe thread at valve



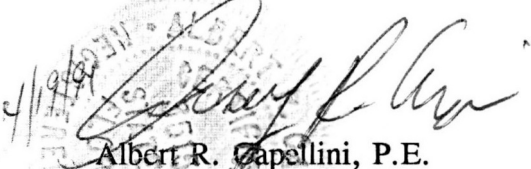
Mr. C.K. Wishmeier, P.E.
April 18, 1991
Page -2-

number 11 was painted during the inspection. Associated lengths of piping are supported no less than every eight running feet.

CONCLUSION

In view of all the topics discussed above, it is concluded that the installation of Safety-Kleen Corp.'s two barrel washers at the Boynton Beach, Florida Service Center are in compliance with Chapter 40 of the Code of Federal Regulations, Sections 264.192 (d) and (e).

Respectfully submitted,


Albert R. Capellini, P.E.
Engineer
FL PE #35158

ARC/da/bai



TANK TESTING

Project: Safety-Kleen Corp.
Boynton Beach, FL
Above Tank (Dumpsters) Test

Date: April 17, 1991

Time: 8:45 A.M.

Weather and Temperature: Sunny, with air temperature of 78 degrees F.

Persons Onsite: Albert R. Capellini (ERM-South, Inc.) and Mr. Al Crowley
(plumbing contractor)

Discussion: The two dumpsters were tested and observed for leaks while filled with water, as per State of Florida requirements.

Tank Tests: The dumpster tanks were filled with water on April 16, 1991 by Mr. Al Crowley. On April 17, 1991 at 8:45 a.m., Mr. Al Capellini, P.E. personally observed the dumpsters for leaks over a 30-minute period. No leaks were noticed. At 9:45 the tanks were pumped dry.

Comments: It was noticed that a two-inch-diameter pipe thread at the number 11 valve was not coated with rust-resistant paint. This was corrected, and the pipe thread passed reinspection.

LETTER OF CERTIFICATION

To Whom It May Concern:

I, Albert R. Capellini, P.E., have supervised the installation of Safety-Kleen Corp.'s new aboveground hazardous waste dumpsters at the Boynton Beach, Florida Service Center. My duties were to inspect and test the tank ancillary storage components (wet dumpsters) for tightness, as required by the Resource Conservations and Recovery Act (RCRA) regulations, 40 CFR 264.192 (d) and (e).

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments. 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.

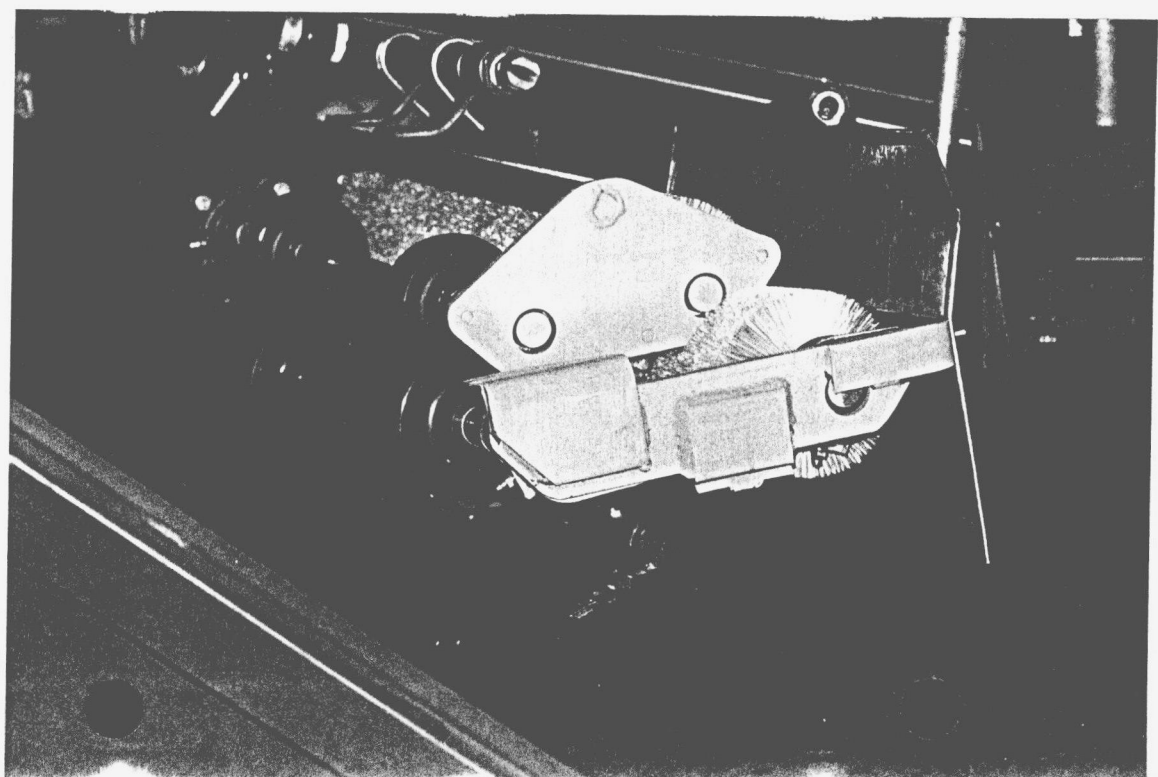
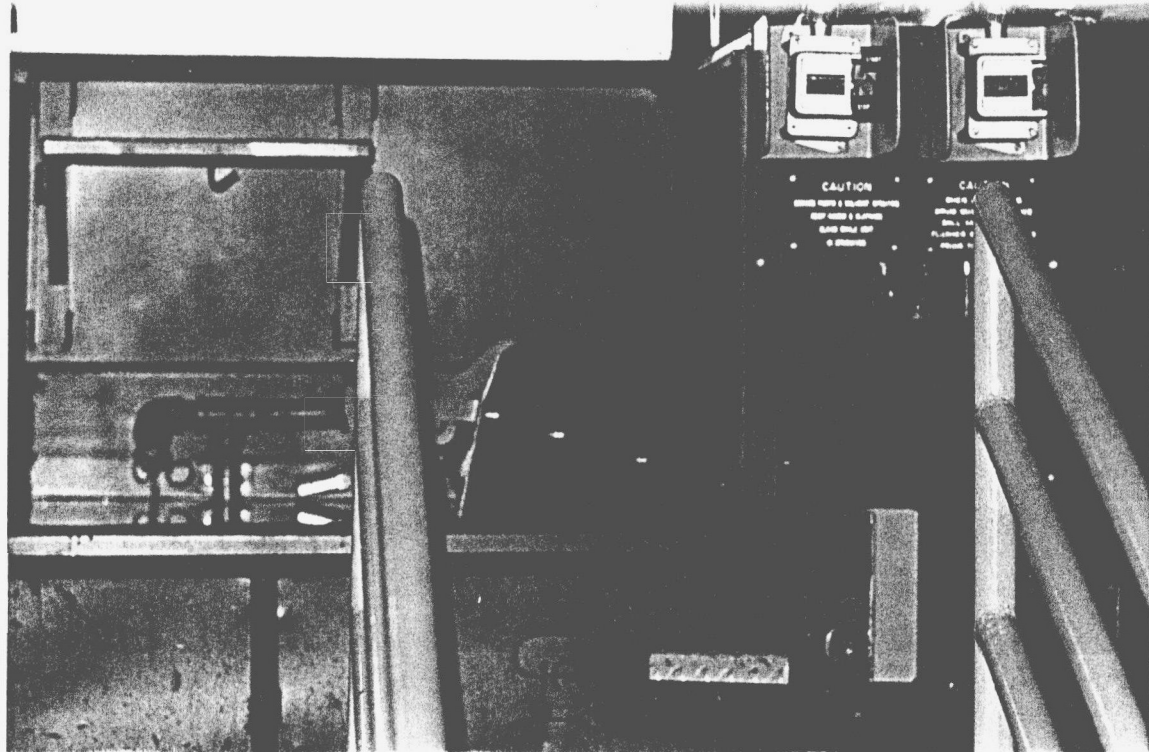
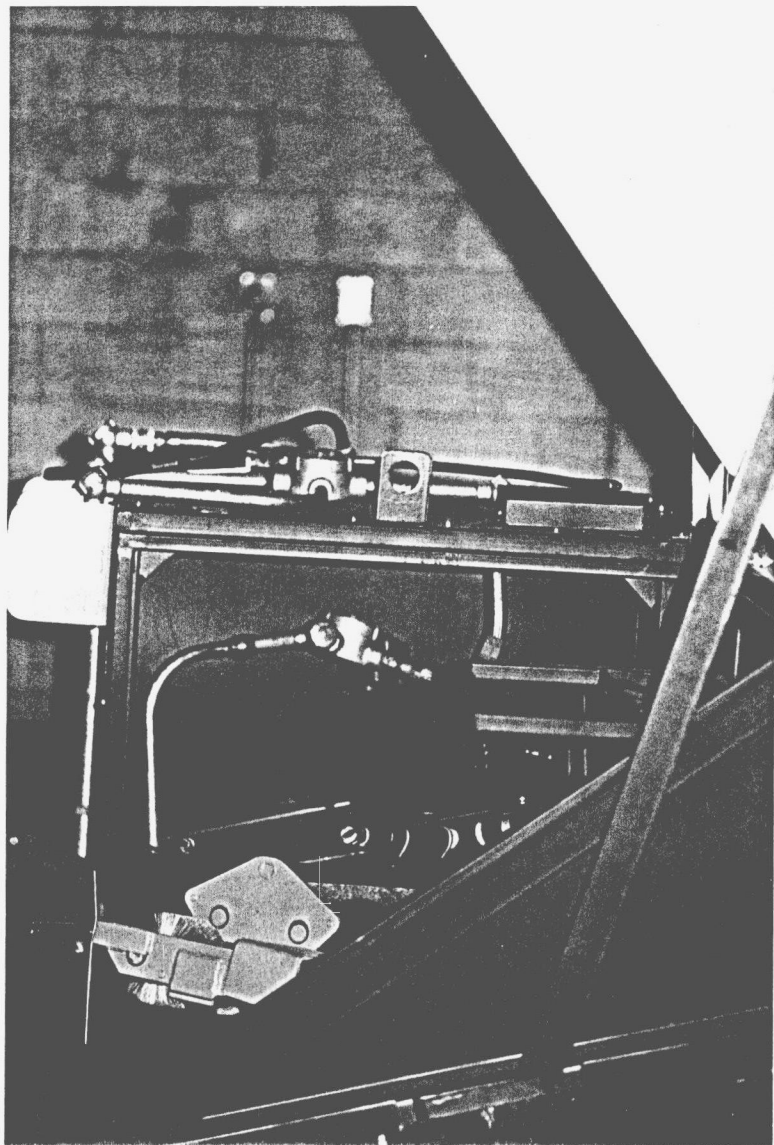


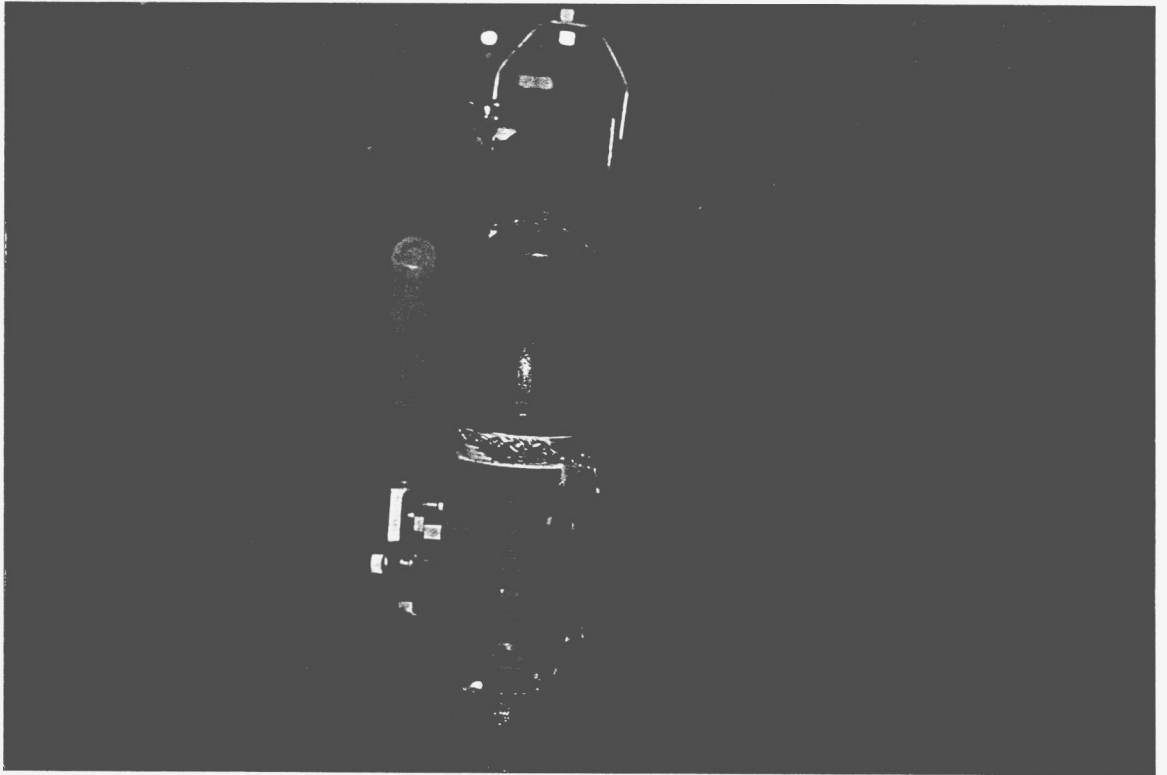
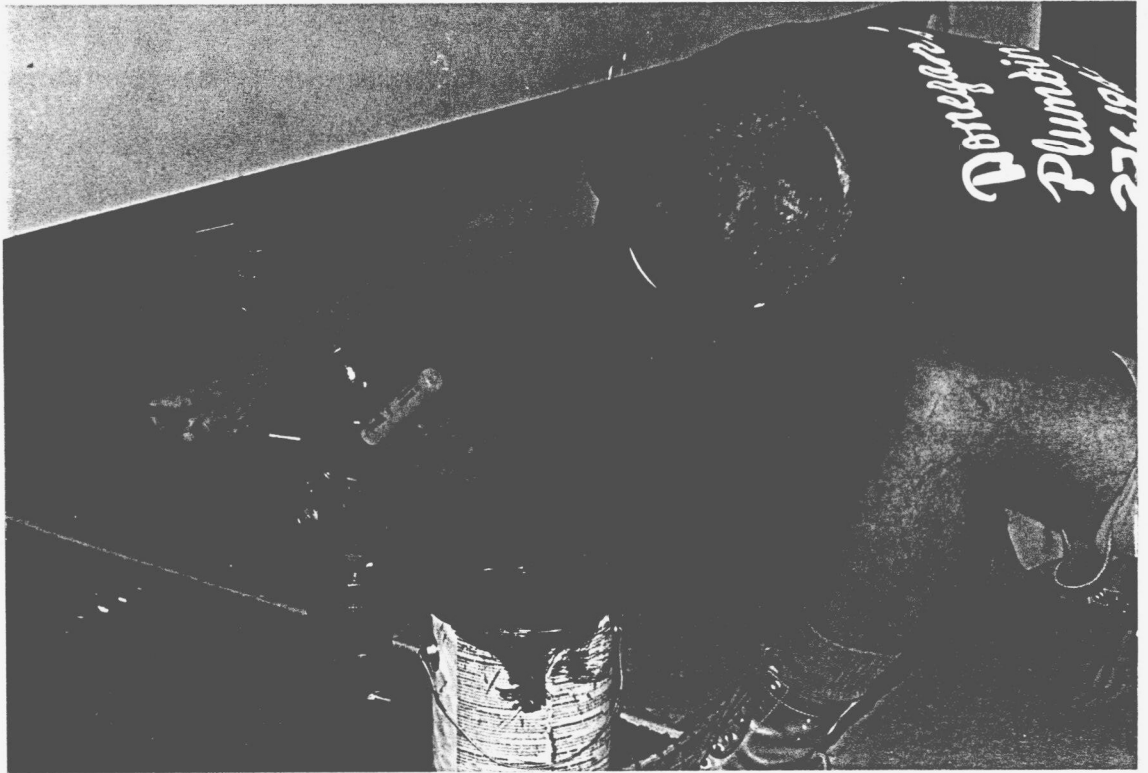

Albert R. Capellini


Title

Florida Professional Engineer, P.E. 35158
Registration Number

777 Yamato Rd Boca Raton FL
Address





ATTACHMENT II.C.2
TANK SYSTEM SPECIFICATIONS



ATTACHMENT II.C.2

TANK SYSTEM SPECIFICATIONS

The facility includes five aboveground steel tanks (Figure II.C.2-1). Used mineral spirits contained in drums returned by the customers are transferred via the wet dumpster into a 15,000-gallon tank, awaiting bulk shipment to the recycle center. The other four tanks consist of one 15,000-gallon mineral spirits product tank, two 20,000-gallon nonhazardous waste oil tanks, and one 5,000-gallon dry cleaning product tank. These four tanks are not considered RCRA tanks.

MATERIAL COMPATIBILITY

Mineral spirits (petroleum naphtha) is compatible with the mild steel tank structure; in fact, mineral spirits are often used as a light hydrocarbon coating to prevent rusting of metal parts. As with all petroleum storage vessels, water will accumulate over time due to condensation. The mineral spirits has a specific gravity less than water and the water will accumulate in the bottom of the tank. There is the potential for corrosion of the tank at the mineral spirits/water interface. Experience, however, has shown that the corrosion potential at the interface is minimal when compared to the potential for corrosion from soil conditions.

TANK DESIGN AND OPERATION PROCEDURES

Spent mineral spirits from parts washers is accumulated in the 15,000-gallon aboveground storage tank by transfer through the return and fill station. Sixteen- and thirty-gallon drums containing seven and twelve gallons of spent solvent, respectively, are poured into the dumpsters (barrel washers) in the return and fill station, and material in the dumpster is pumped into the storage tank for spent solvent. The return and fill station has secondary containment.



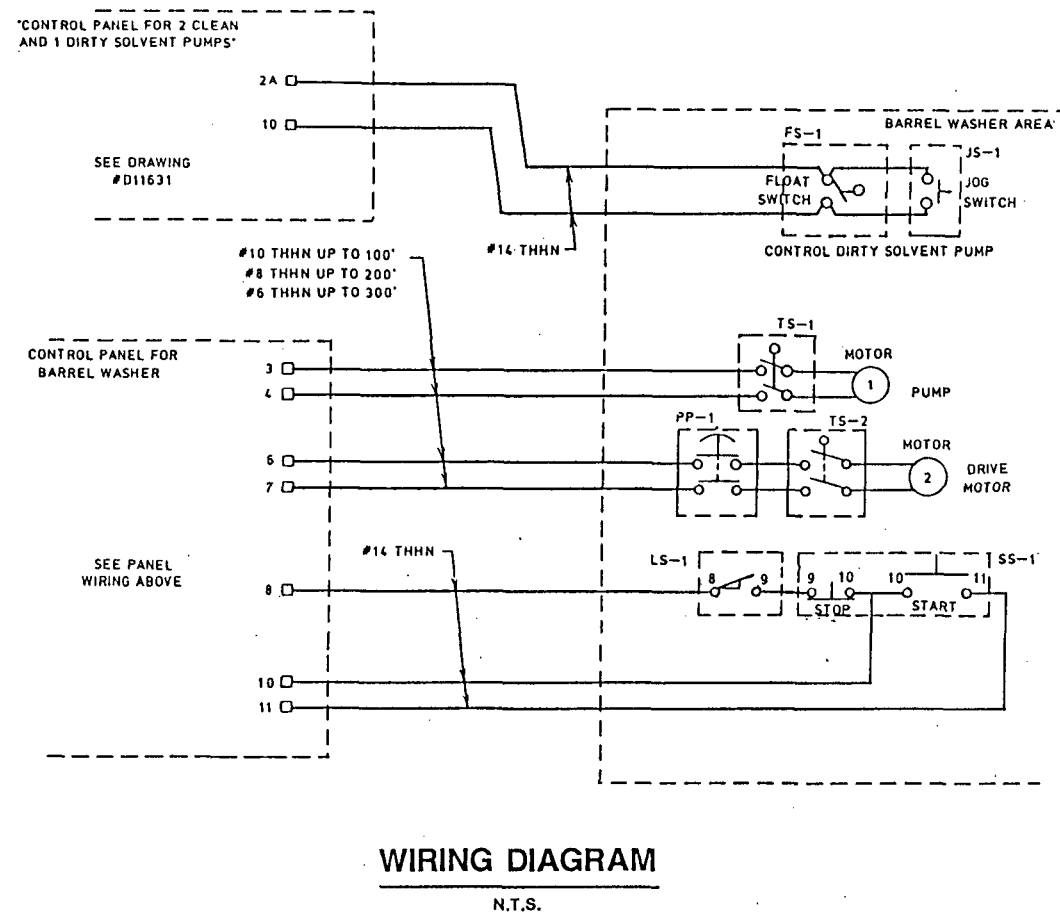
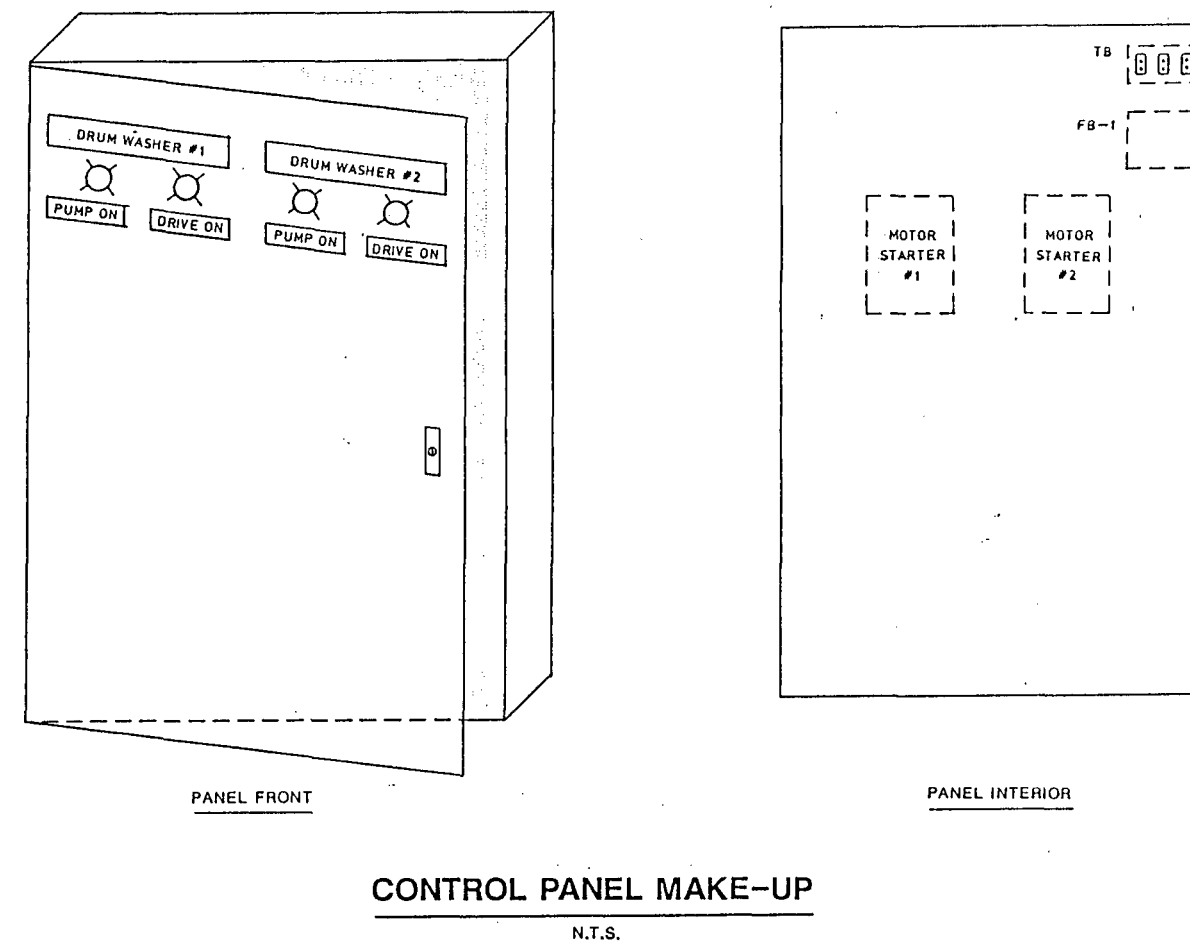
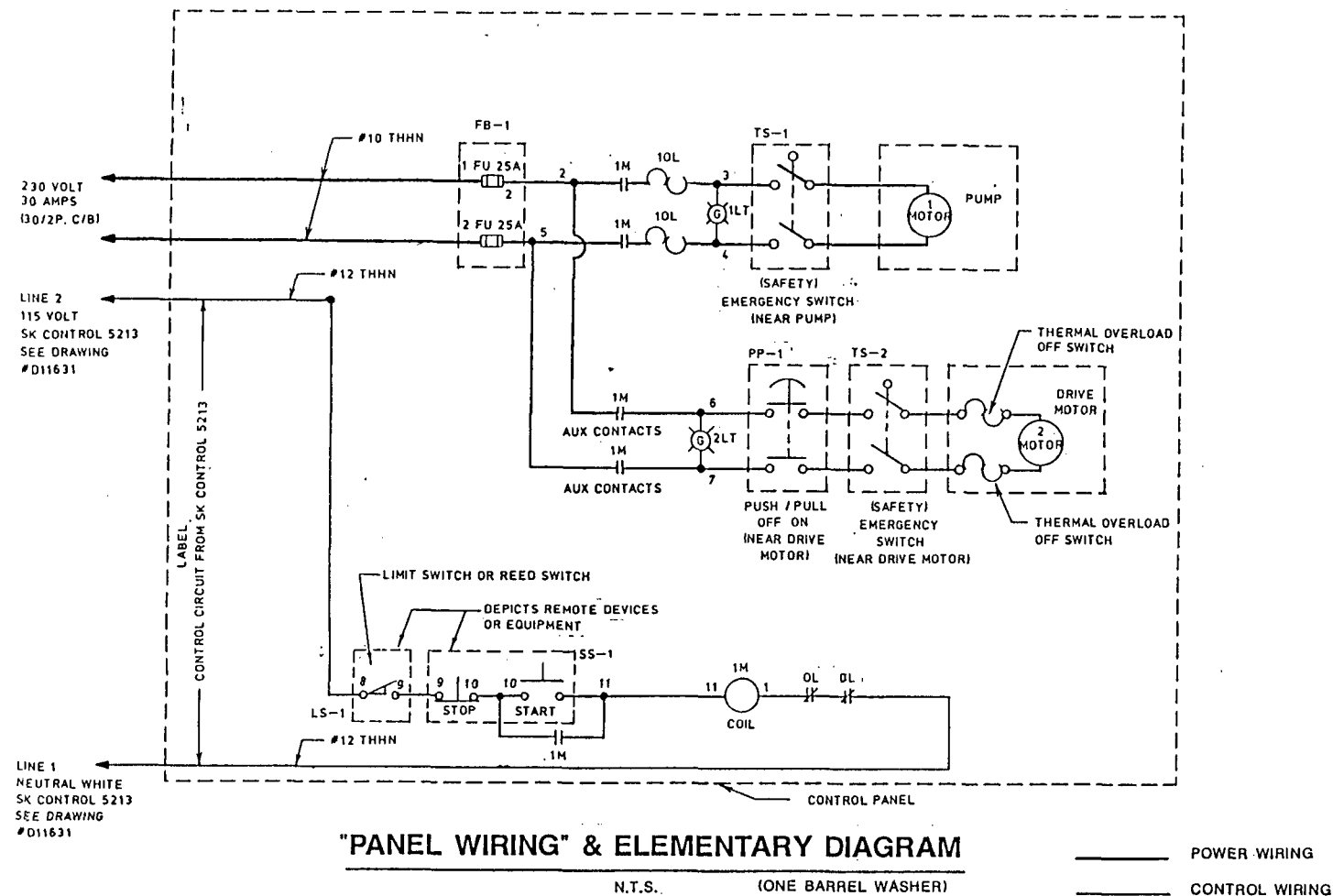
The barrel washers are located within the mineral spirits return and fill shelters. The drawings (Figures II.C.2-2(a) through II.C.2-2(j)) provide detail information on the barrel washers.

Used solvent is returned from customers via drums and poured into the barrel washers. The barrel is then placed on roller brushes contained within the barrel washer. As the machine is turned on, the barrel rotates on the brush and the outside of the barrel is cleaned. There is also a nozzle that sprays a stream of solvent into the bottom of the barrel to clean the inside of the barrel. The machine is turned off and the barrel is removed. The procedure takes approximately five seconds per barrel. The barrel is then refilled using a pump and nozzle (Figure II.C.2-3) similar to a gasoline pump.

The used solvent goes to a sump in the bottom of the barrel washer and is automatically pumped to the used mineral spirits storage tank. There is a basket in the sump that collects sludge. Approximately twice a day, this basket is removed and sludge is removed and placed into a sludge drum for recycle.

The barrel washer is a totally enclosed unit. A small amount of mist is generated while operating the unit. This is controlled by closing the lid of the unit.

The tanks are designed and constructed to be compatible with the materials stored in them. Typical construction and installation standards for the aboveground tanks are shown in Figures II.C.2-4(a) and II.C.2-4(b). All tanks are vented in accordance with National Fire Protection Association (NFPA) standards, and the tanks are equipped with high-level alarms. The design and installation of the tank alarm system is shown in Figures II.C.2-5(a) through II.C.2-5(d). The tank seams are lapped with full fillet welds. The weld is done with an E70 electrode and can withstand a 4-psi air pressure test (which is performed by the manufacturer). All tanks are new and unused.

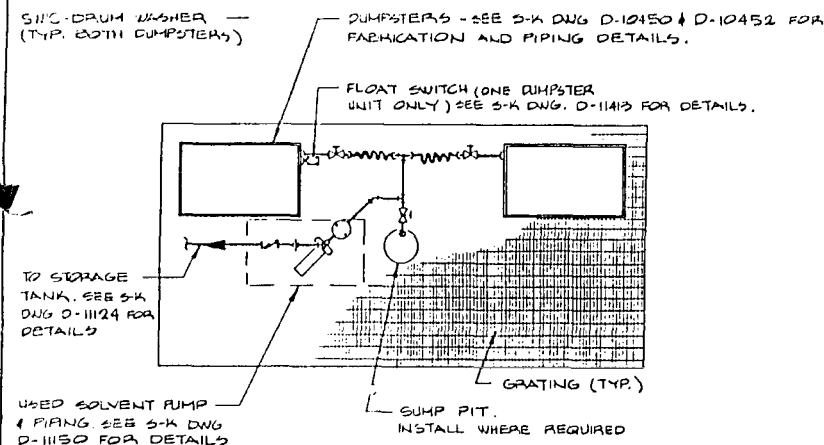


BILL OF MATERIAL		
TAG	QUANTITY	DESCRIPTION
FB-1	1	FUSE BLOCK WITH FRN FUSES LITTLE FUSE LH 250 30 2P EUSES.FLNR.25.
STARTER	2	NEMA SIZE #1 MAGNETIC STARTER SQ D 8536-S80.1S
1LT	2	PUMP PILOT LIGHT - GREEN - 240 VOLT SQ D 9001 KP7R9 W/TRANSFORMER
2LT	2	DRIVE MOTOR PILOT LIGHT-GREEN - 240 VOLT.SQ D 9001 KP7B9 WITH TRANSFORMER
PANEL	1	UNIVERSAL BOX WITH PIANO HINGE, SINGLE POINT L HANDLE. LOCK, 8" DEEP, 36" HIGH, 24" WIDE

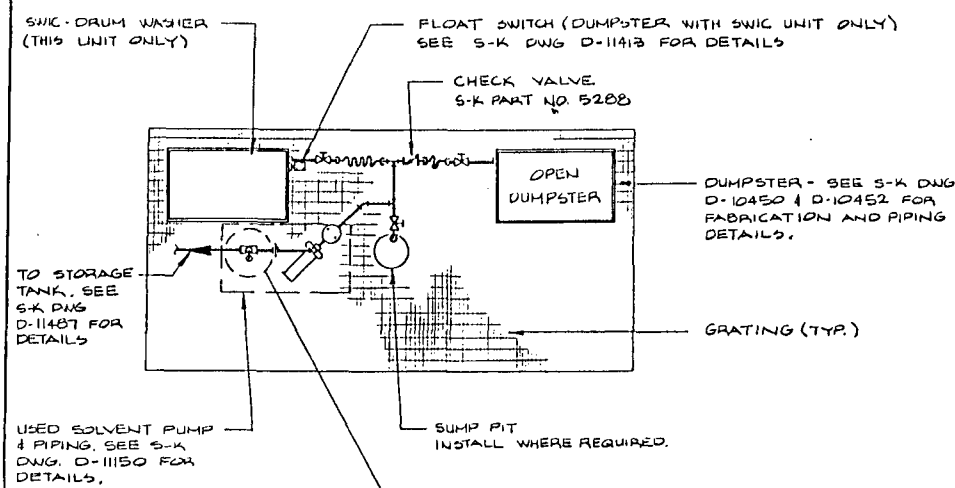
REMOTE ITEMS		
SS-1	1	START-STOP STATION 9001 BR205
TS-1,2	2	2-POLE TOGGLE SWITCH, 20A RATED SQ D 2510 KRL
JS-1	1	JOG SWITCH, 1-POLE, 20A RATED
FS-1	1	FLOAT SWITCH, 1-POLE, 10A RATED
LS-1	1	LIMIT SWITCH OR REED SWITCH MAKES WHEN BARREL IS IN PLACE 9007 CL61J
PP-1	1	2 POLE TOGGLE SWITCH, START STOP STATION 2HP CONTACT RATING

Figure II.C.2-2(a)

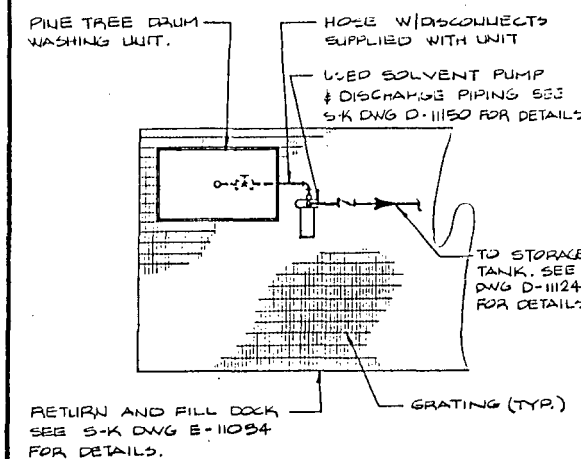
NO.	DESCRIPTION	BY	CHKD	APPR	DATE
REVISIONS					
TITLE ELECTRICAL CONTROL PANEL FOR DRUM WASHER '90'					
SAFETY-KLEEN CORP. <small>777 610 TURNER ROAD, ELLEN, ALABAMA 36020 PHONE 312/897-8440</small>					
PROJ. ENG. APPR.	OPERATIONS APPR.	SCALE	NONE	DRAWN	DATE
BRANCH	DRAWING NO.	D-14289		REV.	



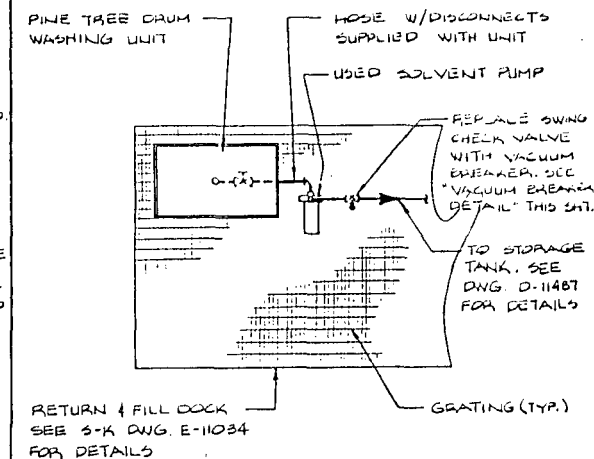
**DOUBLE SWIC INSTALLATION
W/ ABOVE GROUND STORAGE**



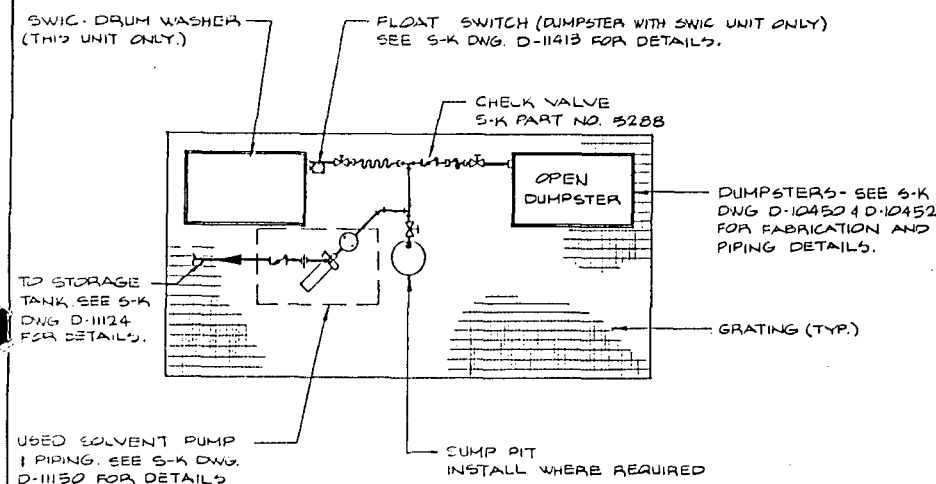
**SINGLE SWIC INSTALLATION
W/ UNDERGROUND STORAGE**



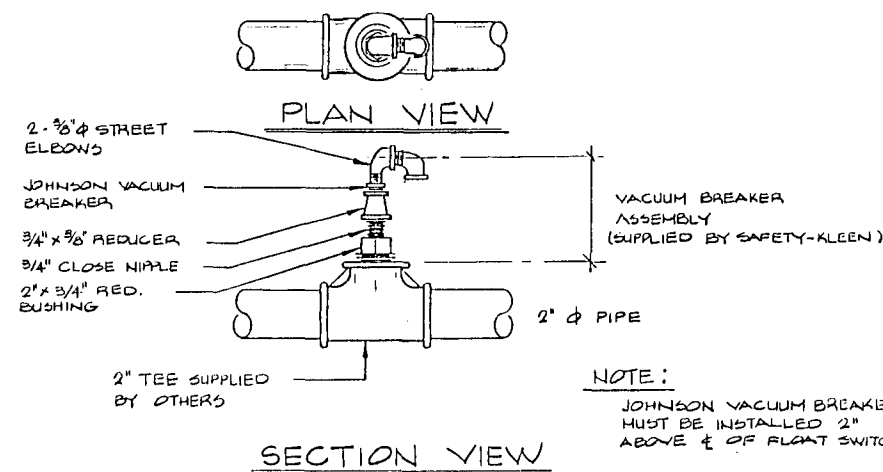
**PINE TREE INSTALLATION
W/ ABOVE GROUND STORAGE**



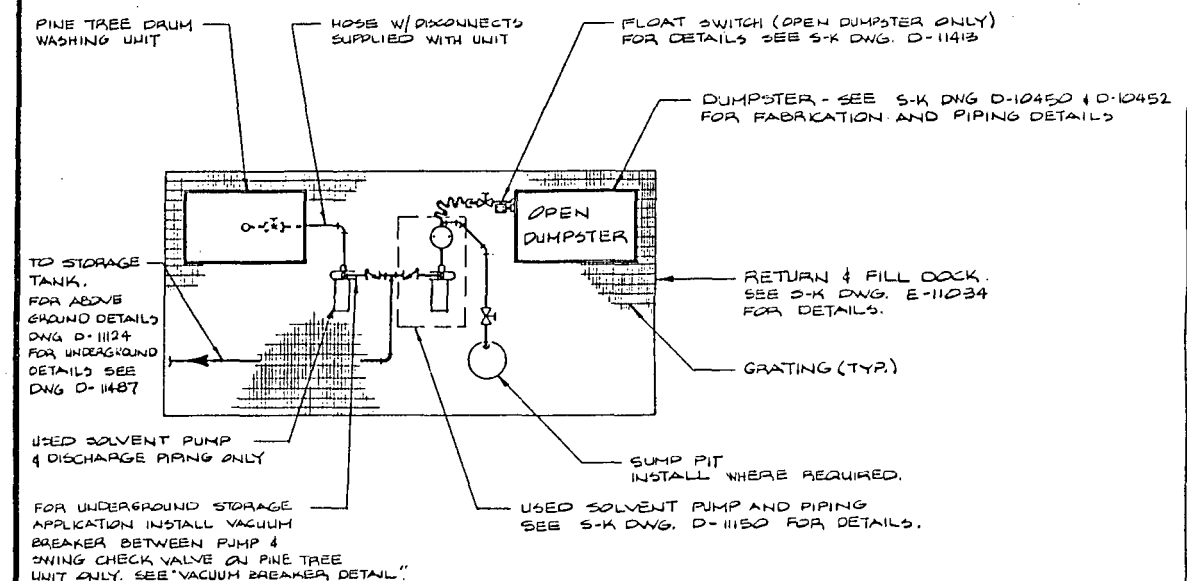
**PINE TREE INSTALLATION
W/ UNDERGROUND STORAGE**



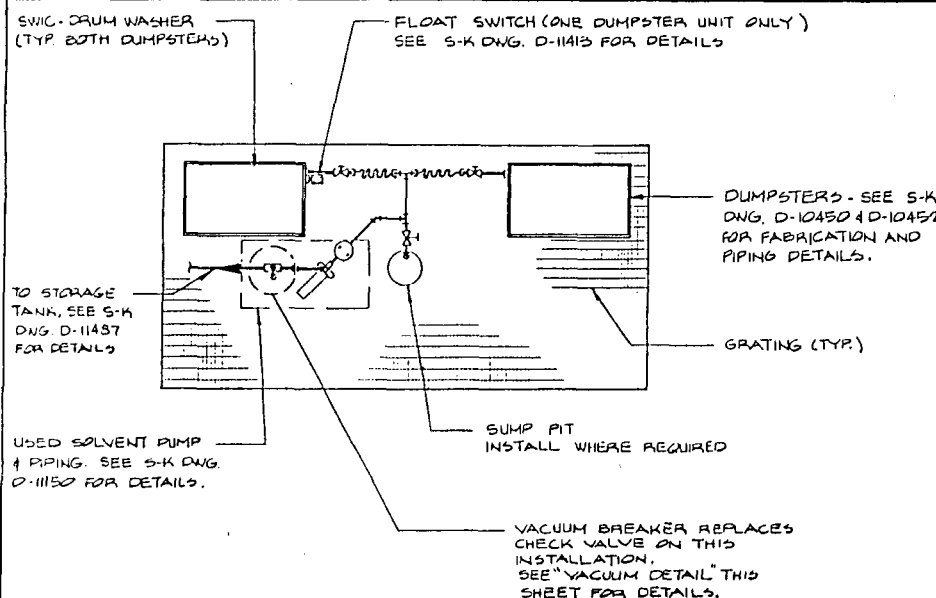
**SINGLE SWIC INSTALLATION
W/ ABOVE GROUND STORAGE**



VACUUM BREAKER DETAIL



**PINE TREE AND OPEN DUMPSTER INSTALLATION
FOR ABOVE GROUND & UNDERGROUND STORAGE**



**DOUBLE SWIC INSTALLATION
W/ UNDERGROUND STORAGE**

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Figure II.C.2-2(b)

TITLE TYPICAL DRUM WASHER SCHEMATICS									
SAFETY-KLEEN CORP. 777 BIG TIMBER ROAD • ELGIN, ILLINOIS 60123 PHONE 708-897-8400									
SCALE NONE	DRAWN DS	CHECKED	ENGINEERING APPR	OPERATION APPR	DATE 12-20-09				
FOR SERVICE CENTER BRANCH:						DRAWING NO. D-14288			
REVISIONS									

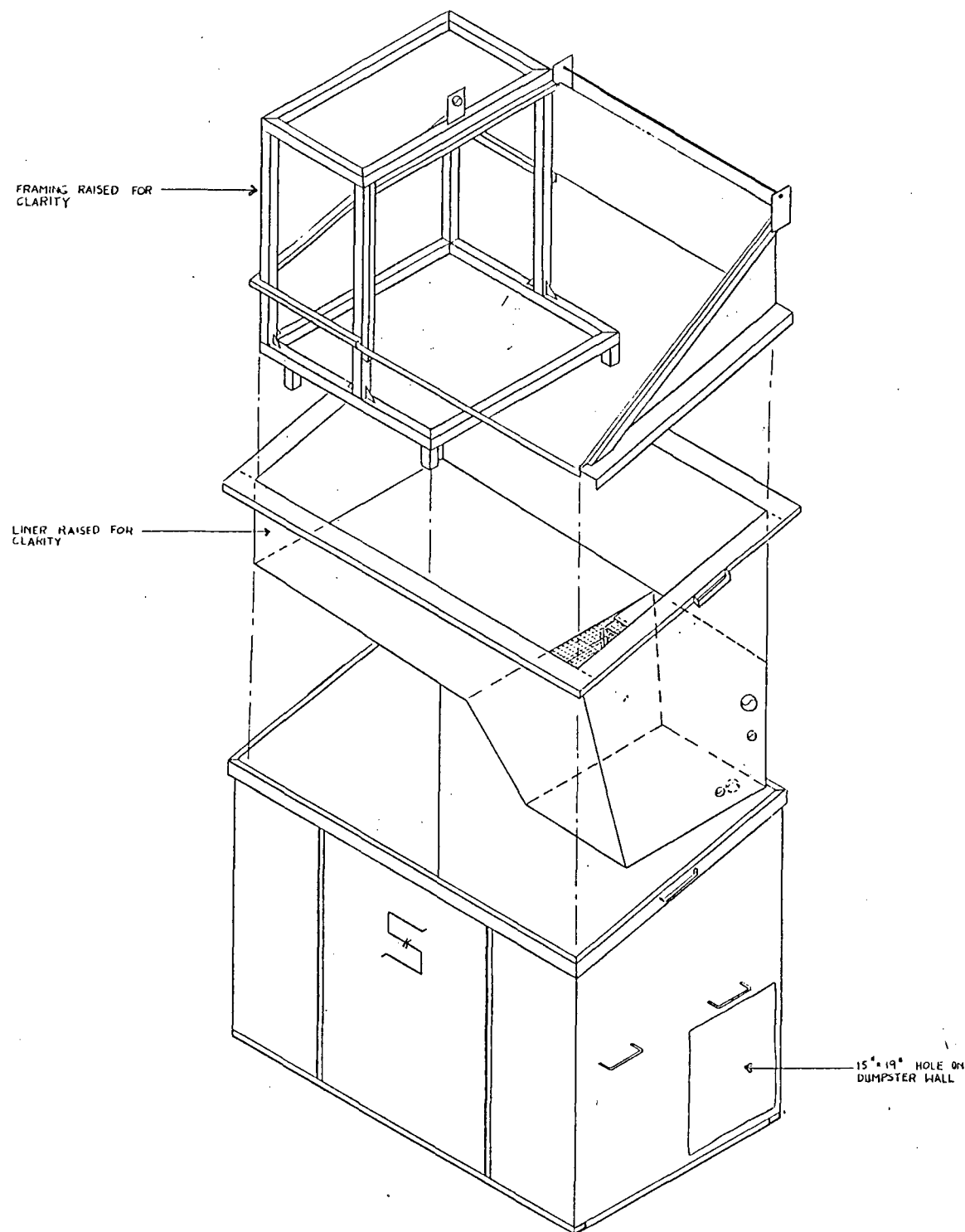


Figure II.C.2-2(c)

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SOUTHWEST INDUSTRIAL
CONSTRUCTORS, INC.

DATE: 1/19/90

JOB NO.

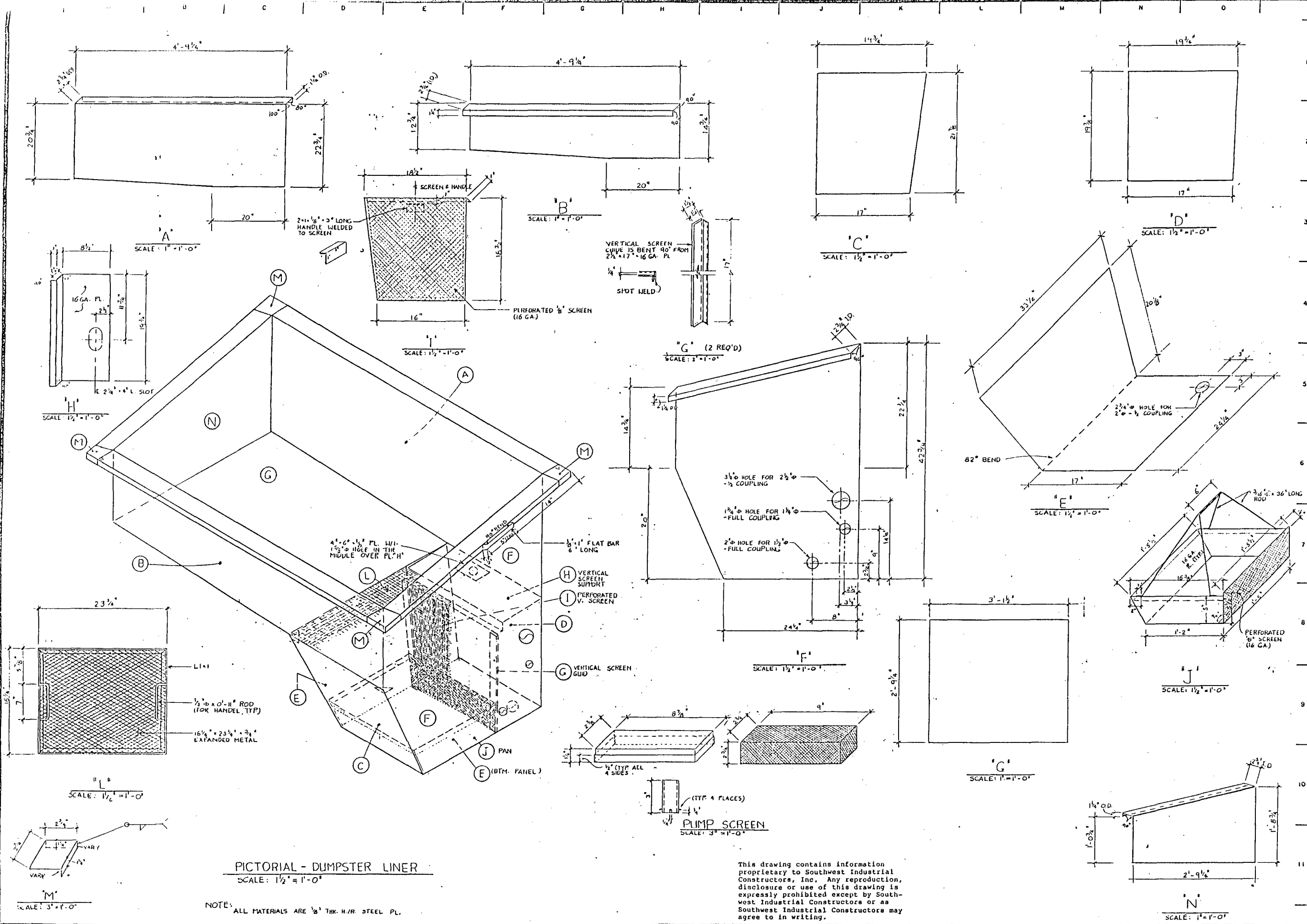
DWN: ALI

CHK:

SAFETY - KLEEN
DRUM WASHER

SHEET NO.

1



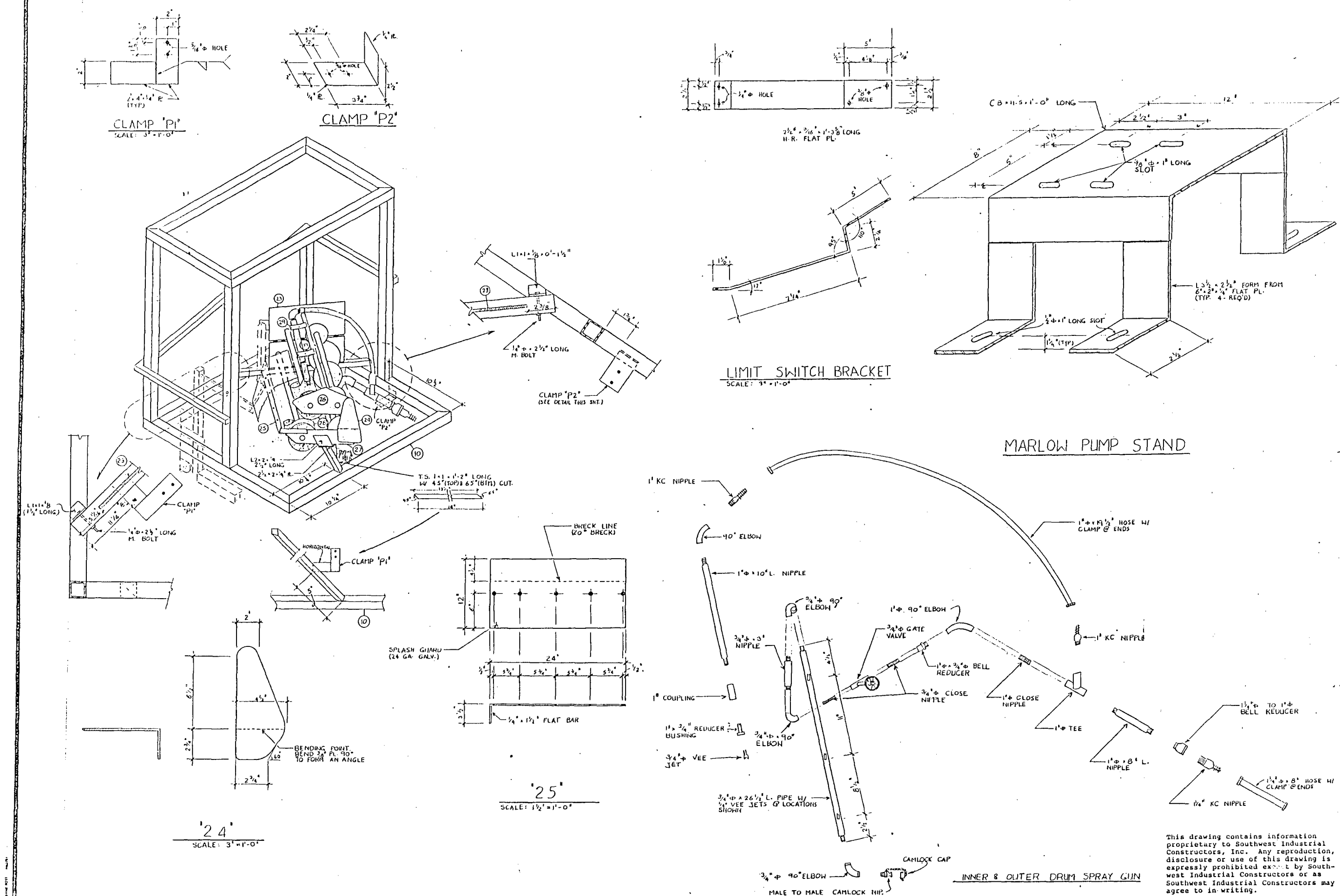
SOUTHWEST INDUSTRIAL
CONSTRUCTORS, INC.

DATE: 1/19/90
JOB NO:
DWN: ALI
CHK:

SAFETY - KLEEN
DRUM WASHER

SHEET NO.
12

Figure II.C.2-2(d)



SOUTHWEST INDUSTRIAL
CONSTRUCTORS INC.

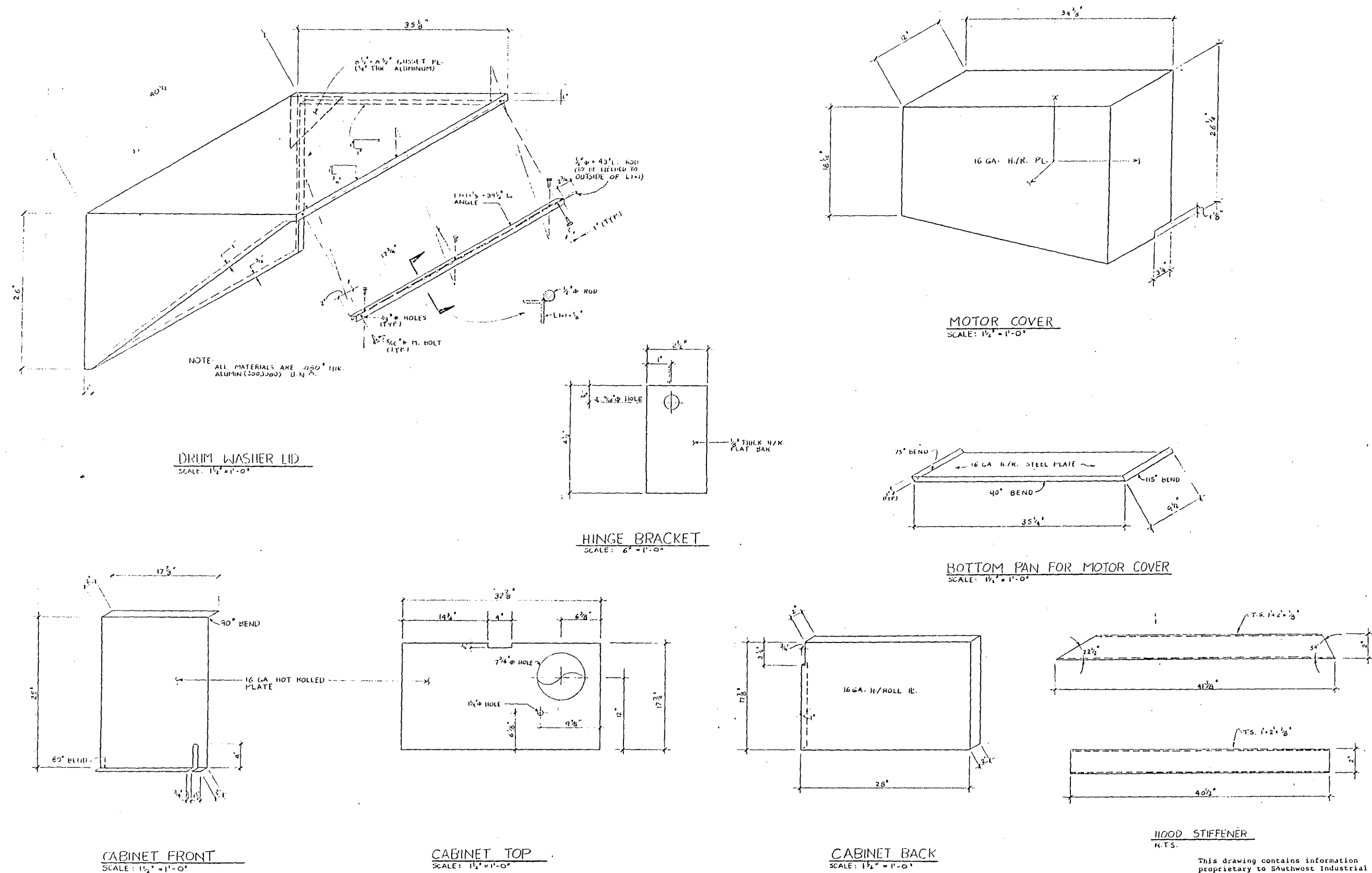
DATE: 1/19/90
JOB NO:
DWN: ALI
CHK:

SAFETY KLEAN
DRUM WASHER

SHEET NO.
5

Figure II.C.2-2(g)

II.C.2-2G



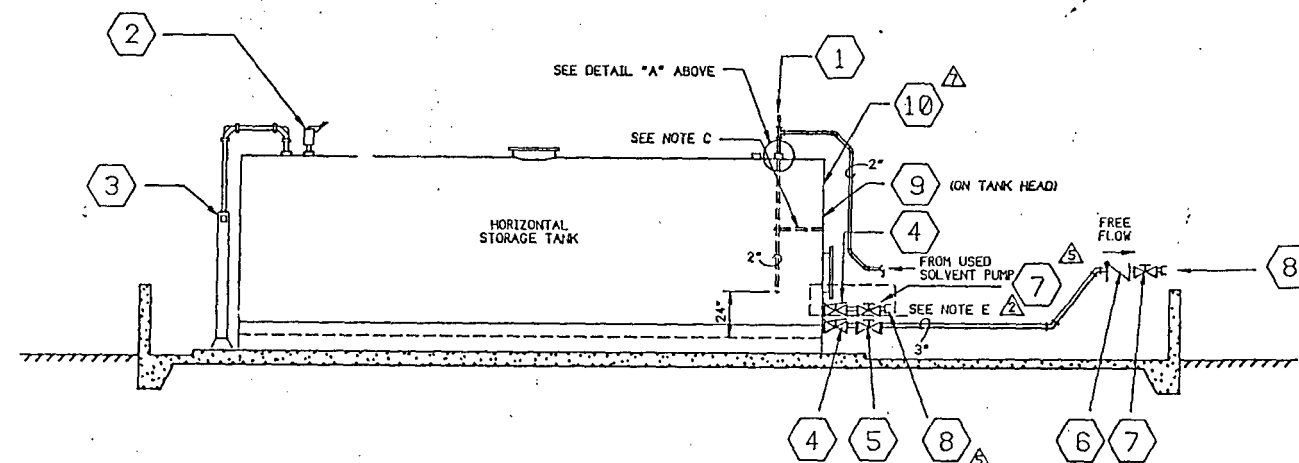
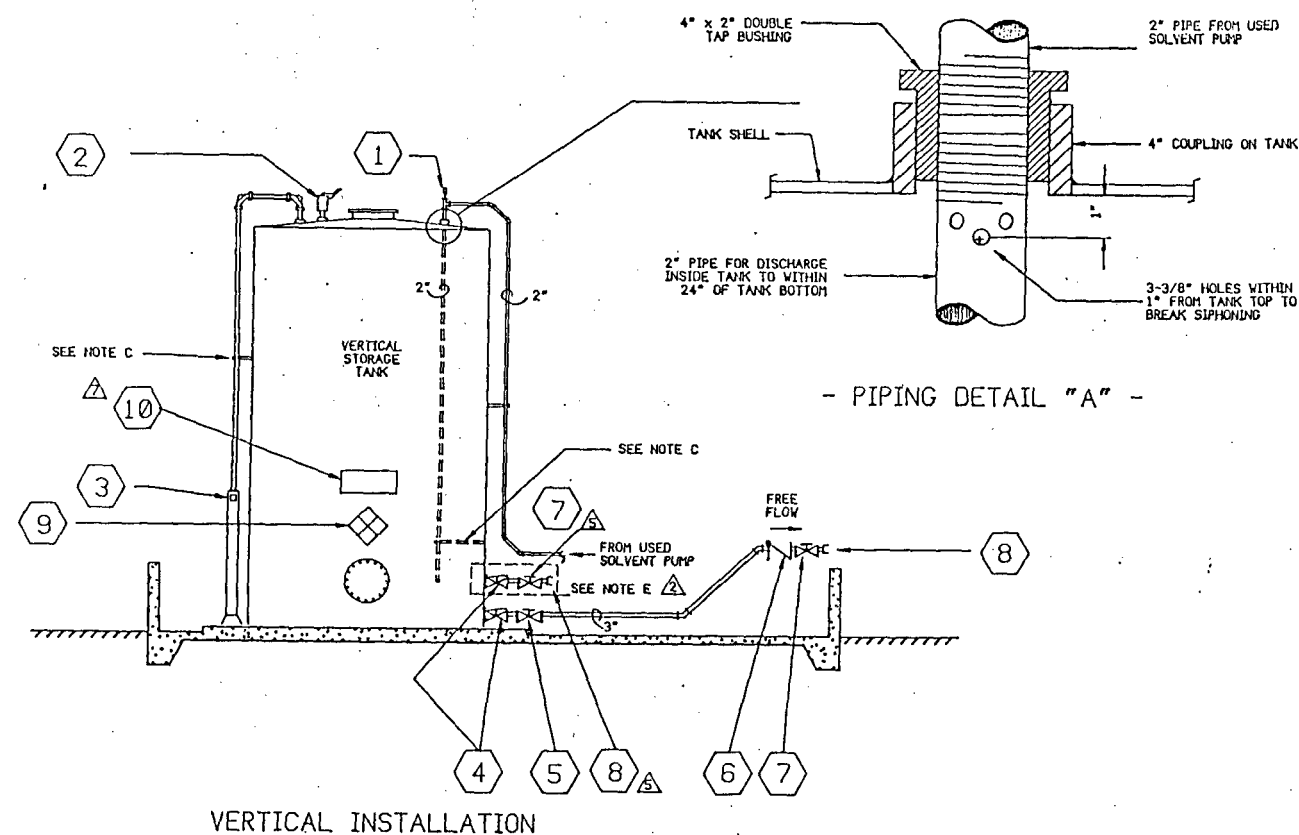
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Attachment II.C.1 provides an independent assessment of the tank system. This assessment by Wishmeier & Associates includes a detailed description of the tank system components and operation. The following is a concise description of the main features of the tank system.

All tanks are aboveground, underlain by a 71' x 32'4" x 6" concrete slab, surrounded by a 36" concrete dike and covered by a roof. The dike has been sealed with a Sikagard® 62 chemical resistant coating. Therefore, no surface run-on or precipitation would be in contact with the wastes stored in the tank farm and no run-off collection and management system is deemed necessary. Gauges are used to measure liquid levels in tanks and float switch-activated automatic high level alarms (which consist of a strobe light and siren) will signal the tank's being 95 percent full. This alarm allows an operator more than two minutes to stop operations and avoid overfilling the tank. In addition, the gauges of the tank must be read before filling and before and during the filling of a tanker truck (the available volume of which must be noted prior to emptying the tank) to prevent overfilling of the truck. A suction pump equipped with the tanker truck is used to withdraw used mineral spirits from the tank. No other equipment or standby equipment is used in the operation of the aboveground tanks. The secondary containment under the tanks and return/fill station must be cleaned within 24 hours of a spill. The used mineral spirits tank may be operated at a maximum volume of 14,250 gallons (95 percent).

Material which collects in the tank dike and return/fill station can be removed using a "wet/dry" vacuum, sorbents, or mop.

No smoking signs are posted on the entrance to the tank farm and return/fill station.



- HORIZONTAL INSTALLATION -

NOTE: WHEN HORIZONTAL TANKS ARE USED A 3" NIPPLE IS REQUIRED BETWEEN THE INTERNAL EMERGENCY & GATE VALVE

- EQUIPMENT/FIXTURE SCHEDULE -				
MARK	SIZE	DESCRIPTION	SK PART NO.	REMARKS
①	3/8"	3/8" AUTOMATIC VACUUM BREAKERS MORRISON BROS. FIG. 134-A	5274	—
②	3"	3" SCREWED PRESSURE/VACUUM VENT MORRISON BROS. FIG. 548 (2 OZ. PRESSURE - 1 OZ. VACUUM)	5339	—
③		TANK GAUGE - MORRISON BROS. MODEL NO. 7-S	5277	SEE INSTALLATION DETAILS ON SAFETY- KLEEN DWG. A10243
④	3"	3" INTERNAL EMERGENCY VALVE MORRISON BROS. FIG. 272-HD w/212°F FUSIBLE LINK	5267	SEE INSTALLATION DETAILS ON SAFETY- KLEEN DWG. C11302
⑤	3"	3" DUCTILE IRON GATE VALVE w/ROUND FLANGED ENDS - MORRISON BROS. FIG. 234-DI	5276	SEE INSTALLATION DETAILS ON SAFETY- KLEEN DWG. C11302
⑥	3"	3" BRONZE CHECK VALVE - MORRISON BROS. FIG. 245-A	5266	—
⑦	3"	3" BRONZE GATE VALVE - MORRISON BROS. FIG. 235-B LOCKING TYPE	5265	—
⑧	3"	3" ALUMINUM CAMLOCK QUICK COUPLING - MORRISON BROS. MALE ADAPTOR PART F w/DUST CAP & CHAIN	5264	COUPLING TO BE INSTALLED SIX (6) INCHES ABOVE DIKE WALL
⑨	—	NFPA MATERIAL IDENTIFICATION PLACARD	2452	DISPLAY IN PLAIN SIGHT ABOVE DIKE WALL
⑩	—	"COMBUSTIBLE-KEEP FIRE AWAY" SIGN	81207	DISPLAY IN PLAIN SIGHT ABOVE DIKE WALL

- GENERAL NOTES -

- (A) THIS DRAWING SUPERCEDES SAFETY-KLEEN CORP. DRAWINGS C10235 & C10236.
- (B) SEE INDIVIDUAL SERVICE CENTER SITE PLANS FOR DIKE DIMENSIONS AND RELATED INFORMATION AND ALSO LOCATION AND ARRANGEMENT OF THESE PIPING DETAILS.
- (C) ALL PIPING TO BE SCHEDULE 40 GALVANIZED AND BE SUPPORTED EVERY (8) RUNNING FEET - CONTRACTOR TO SUPPLY ALL BRACKETS, CLAMPS, ETC. AS REQUIRED FOR SUPPORTING PIPE - ALL EXPOSED THREADS AT JOINTS TO BE PAINTED WITH A RUST RESISTANT EXTERIOR GRADE PAINT. PIPING SUPPORT HARDWARE TO BE UNISTRUT BRAND OR APPROVED EQUIVALENT.
- (D) ALL DIRECTION CHANGES IN DIRTY SOLVENT LINES TO BE MADE USING A COMBINATION OF 45° ELBOWS OR LONG SWEEP 90° ELBOWS.
- (E) THIS INSTALLATION TO BE MADE WHERE NEW TANKS ARE TO BE INSTALLED AT ANY LOCATIONS PRONE TO FREEZING. SEE INSTALLATION DETAILS ON SAFETY-KLEEN DWG. C11302.
- (F) ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL BE SUPPLIED TO CONTRACTOR.

Figure II.C.2-4(a)

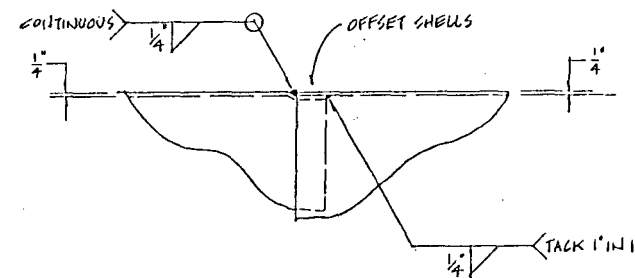
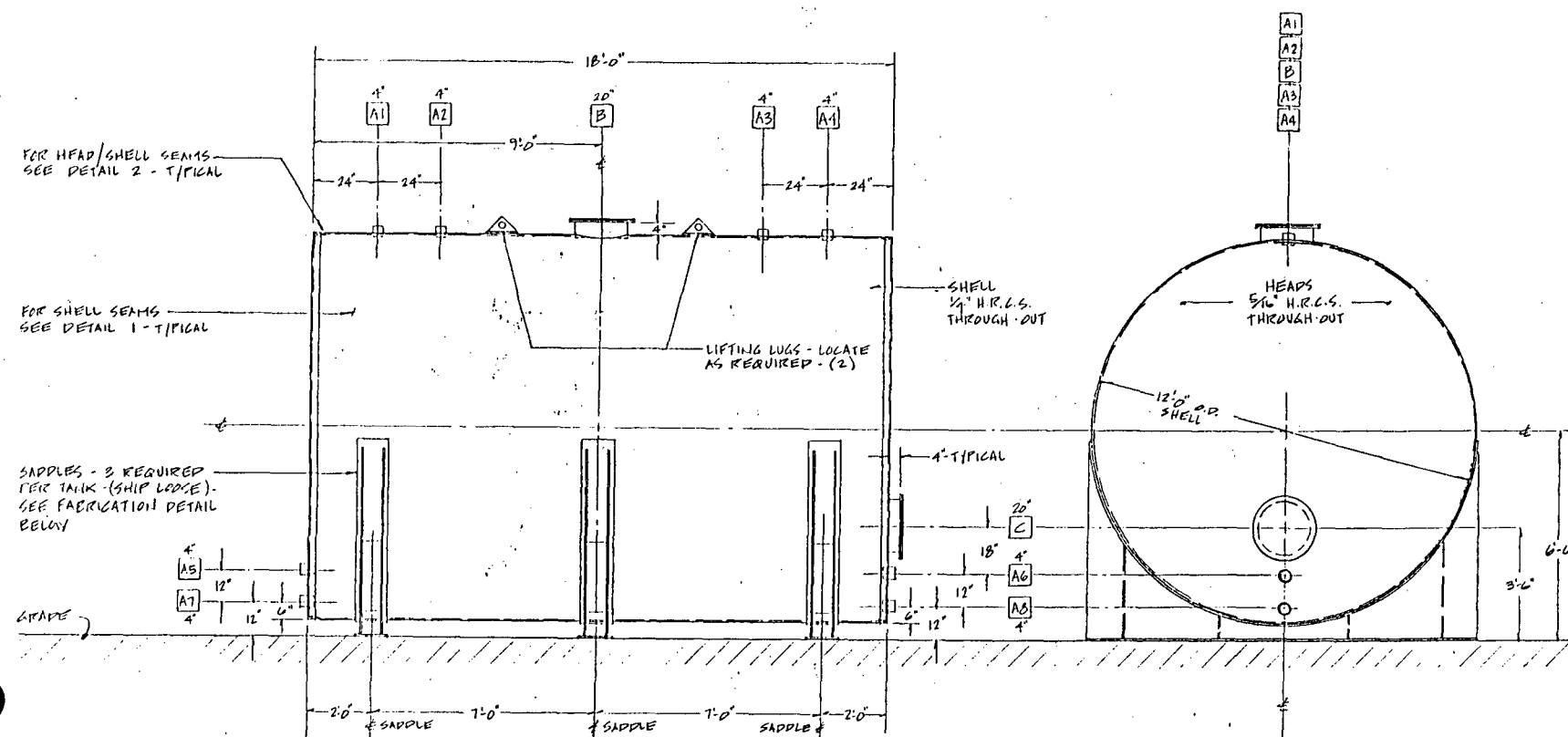
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ADDED NOTE		C.S.					6/13/88								
QUICKED PART NO. 5277 TO 5339		J.S.H.					5/4/88								
ADDED "COMBUSTIBLE" SIGN		R.D.					1/23/88								
REV. GEN. NOTES NO. SYSTEM TO LETTERS		C.S.					3/26/87								
REMOVED 3" PLUG-ADDED VALVE/CAMLOCK		V.L.J.					3/22/85								
ADDED ITEM 9 TO SCHEDULE & DWG.		V.L.J.					11/5/84								
ADDED NOTE F		V.L.J.					10/23/84								
REVISED DETAIL IN NOTE E SHOWN ON DWG.		V.L.J.					12/5/83								
FOR BRANCH SERVICE CENTER														D11124	

- SIDE ELEVATION -

SCALE: 3/8" = 1'-0"

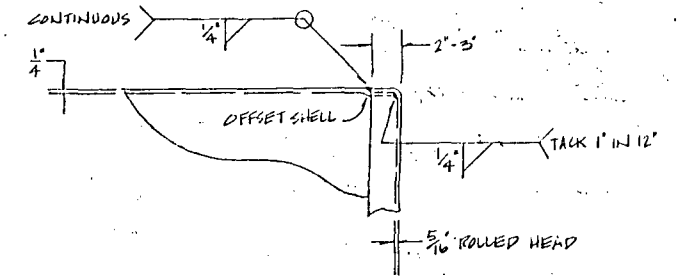
- END VIEW -

SCALE: 3/8" = 1'-0"



- DETAIL 1 -

NO SCALE



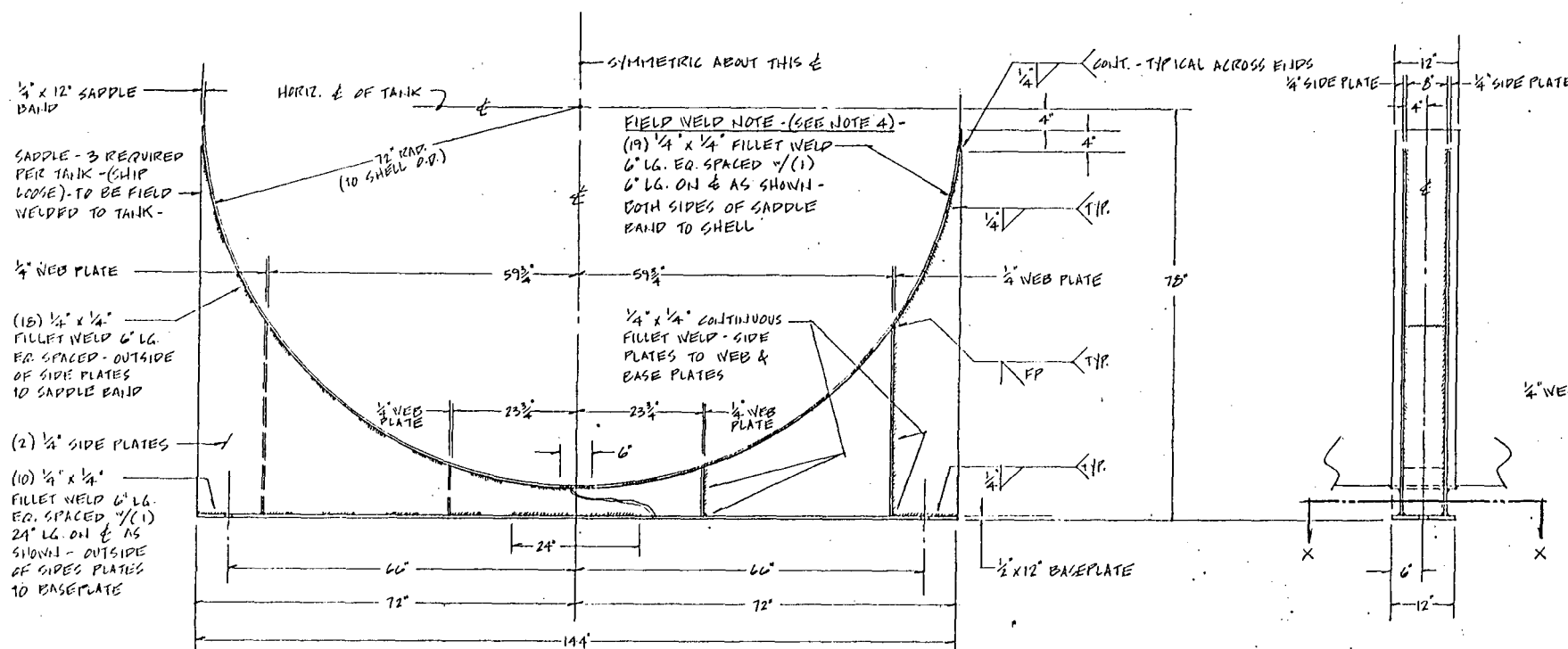
- DETAIL 2 -

NO SCALE

- FITTING & FIXTURE SCHEDULE -				
MARK	QUANTITY	SIZE/RATING	DESCRIPTION	REMARKS
A	8	4" XH	SCREENED FULL COUPLING	
B	1	20" STD.	20" MANWAY	CEMENT GASKET TO COVER. INSTALL (A) 4\"/>
C	1	20" STD.	20" MANWAY (COMPLETE)	INSTALL GASKET & STANDARD BOLTS - TIGHTEN ALL FULLY

- NOTES -

- DESIGN, FABRICATION, & TESTING SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS OF UNDERWRITERS LABORATORIES STANDARD UL 142 FOR CONSTRUCTION OF STEEL ABOVEGROUND ATMOSPHERIC STORAGE TANKS FOR FLAMMABLE & COMBUSTIBLE LIQUIDS -
- EXTERIOR SURFACE FINISH ONLY TO BE PREPARED IN ACCORDANCE WITH STEEL STRUCTURE PAINTING COUNCIL CODE #SSPC-SP3 (SURFACE PREPARATION SPECIFICATION NO. 3):
 - REMOVE LOOSE RUST & MILL SCALE BY POWER TOOL WIRE BRUSHING & ABRADING &/OR SANDBLASTING
- FOLLOWING SURFACE PREPARATION APPLY (1) COAT OF RED OXIDE PRIMER & (2) COATS ALKID BASE GLOSS WHITE STRUCTURAL ENAMEL MOBIL 12-V-4 OR EQUIVALENT - ALLOW 16-24 HOURS BETWEEN COATS TO INSURE PROPER SEALING -
- SADDLES WILL BE FIELD WELDED TO TANKS BY CONTRACTOR PER WELDING SPECS IN SADDLE ELEVATION AT LEFT. CONTRACTOR TO REPAIR TANK/SADDLE FINISH & WELD AREAS PER NOTES 2 & 3 ABOVE -



- SADDLE ELEVATION -

SCALE: 3/4" = 1'-0"

- R. SIDE -

- X.X -

SCALE: 1/2" = 1'-0"

Figure II.C.2-4(b)

Safety-Kleen corp.			
15,000 GAL. HORIZONTAL STEEL ABOVEGROUND STORAGE TANK			
SCALE SHOWN	DATE	REVISIONS	BY
10-1-84			
BY: [signature]			
TITLE	STANDARDIZED FABRICATION		
	D11605		

GENERAL NOTES

1. POWER REQUIREMENT 13 TO 28 VDC
2. OUTPUT 4 - 10 A (ALARM STATE)
15 - 25 A (NORMAL STATE)
3. OPERATING TEMP. -40°F TO +140°F
4. SHIELD-TO-GROUND LOADING:
25 ohm MIN. RESISTANCE
5. RFE EFFECT: LESS THAN 2 pf SHIFT
IN OPERATING POINT FOR UNIT IN
EXPLOSION-PROOF HOUSING FROM 5 M
FIELD @ 27, 150, OR 430 MHz AT A
DISTANCE OF 5 FT. FROM EXPOSED
CABLE OR SIGNAL WIRE.
6. FAIL-SAFE: SWITCHABLE ON EITHER
LOW-LEVEL FAIL-SAFE (LLFS) OR
HIGH-LEVEL FAIL-SAFE (HLFS).
7. HOUSING: NEMA 12-WATERPROOF
EXPLOSION PROOF FOR CLASS I GROUPS
A, B, C, D, AND CLASS II GROUPS E, F, G
DIV. 1 OR 2.
8. SEE INDIVIDUAL SERVICE CENTER SITE PLANS
FOR RELATIVE LOCATIONS OF THESE DETAILS.
9. CONTRACTOR TO SUPPLY & INSTALL CONDUIT
SUPPORTS & MOUNTS AS REQUIRED.
10. THIS DRAWING CONTAINS INFORMATION
PROPRIETARY TO SAFETY-KLEEN CORP. ANY
REPRODUCTION, DISCLOSURE OR USE OF THIS
DRAWING IS EXPRESSLY PROHIBITED BY
SAFETY-KLEEN
11. ALL ITEMS SHOWN WITH A SAFETY-KLEEN PART
NUMBER WILL BE SUPPLIED BY SAFETY-KLEEN
CORP. (S-K ---)
12. IF INDIVIDUAL SERVICE CENTER CONDITIONS
ARE NOT COVERED BY DETAILS SHOWN HERE,
PLEASE CONTACT TECHNICAL SERVICES AT THE
CORPORATE OFFICE FOR ASSISTANCE.
13. CALCULATIONS FOR LENGTH OF PULSE INSIDE
OF TANK ARE SET TO ACTIVATE THE ALARM
AT THE 95% VOLUME LEVEL.
14. ALL CALIBRATION OF UNIT SHALL BE DONE
IN ACCORDANCE WITH DREXELBROOK'S
RECOMMENDATIONS. CALIBRATION SHALL
BE DONE AFTER ALL COMPONENTS OF
SYSTEM ARE IN PLACE.
15. ALL TANKS SHALL BE GROUNDING PRIOR
TO INSTALLATION OF ALARM SYSTEM.

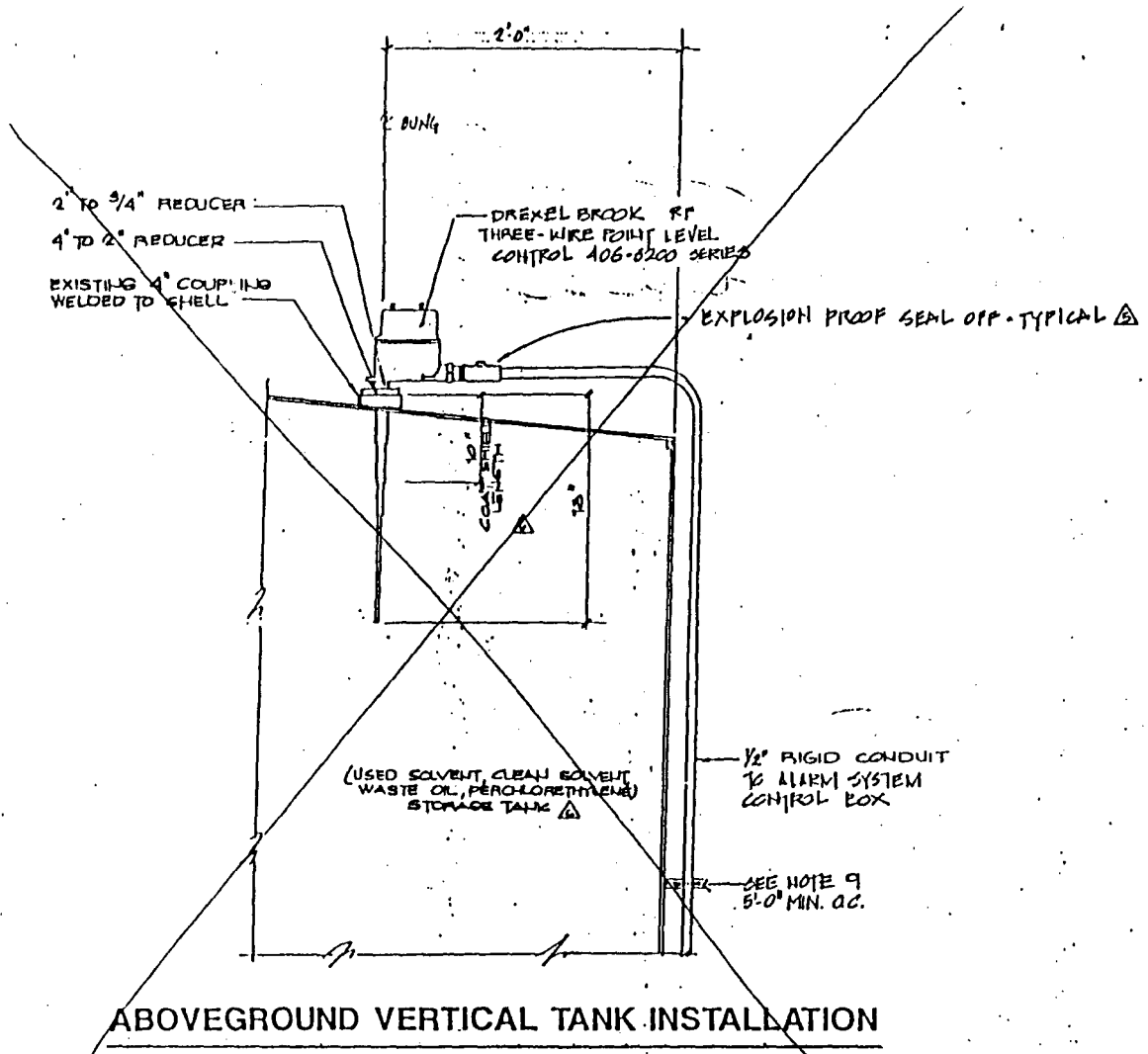
Figure II.C.2-5(a)

REVIEW UNDERGROUND INSTALLATION ADDD DETAIL 2 & CHANGE CONDUIT SIZE ON VERT & HOR. TANK INSTALLATION.	
ADD EXPLOSION PROOF SEAL OFF HOLE	
CHANGE PROBE DEPTH, NOTE 13	
Safety-Kleen Corp. 111 BIG THUNDER ROAD • ELK, ALABAMA 36021	PHONE 1
HIGH LEVEL ALARM SYSTEM TRANS TO TANK INSTALLATION DETAILS	
DATE: NONE	REVISION:
DATE: 6-22-88	1. Added "Clear" (Misc. Inf.)
DATE: 10-18-88	2. 1/2" RIGID CONDUIT 18" MIN. INS. 18"
DATE: 10-18-88	3. Added Seal Off
FOR SERVICE CENTER BRANCH	

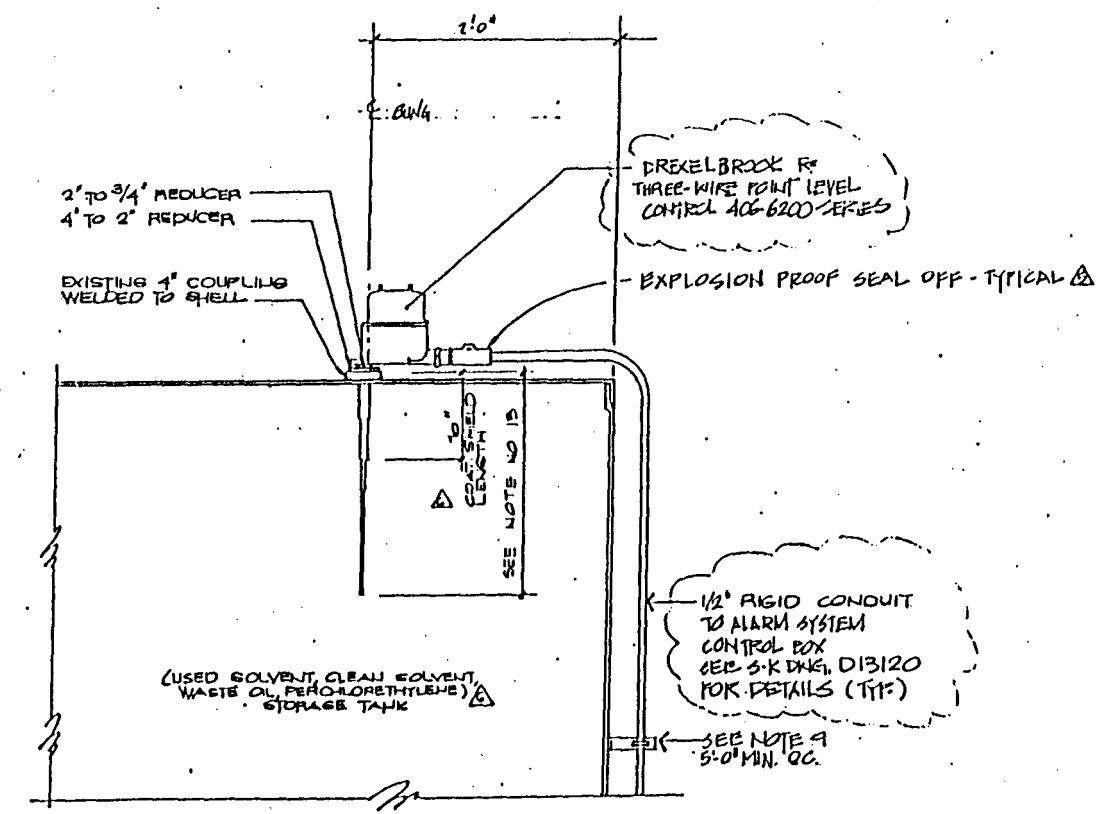
NOTE:

WORK THIS DWG. WITH BK. DWGS
D-13929 AND D-14218

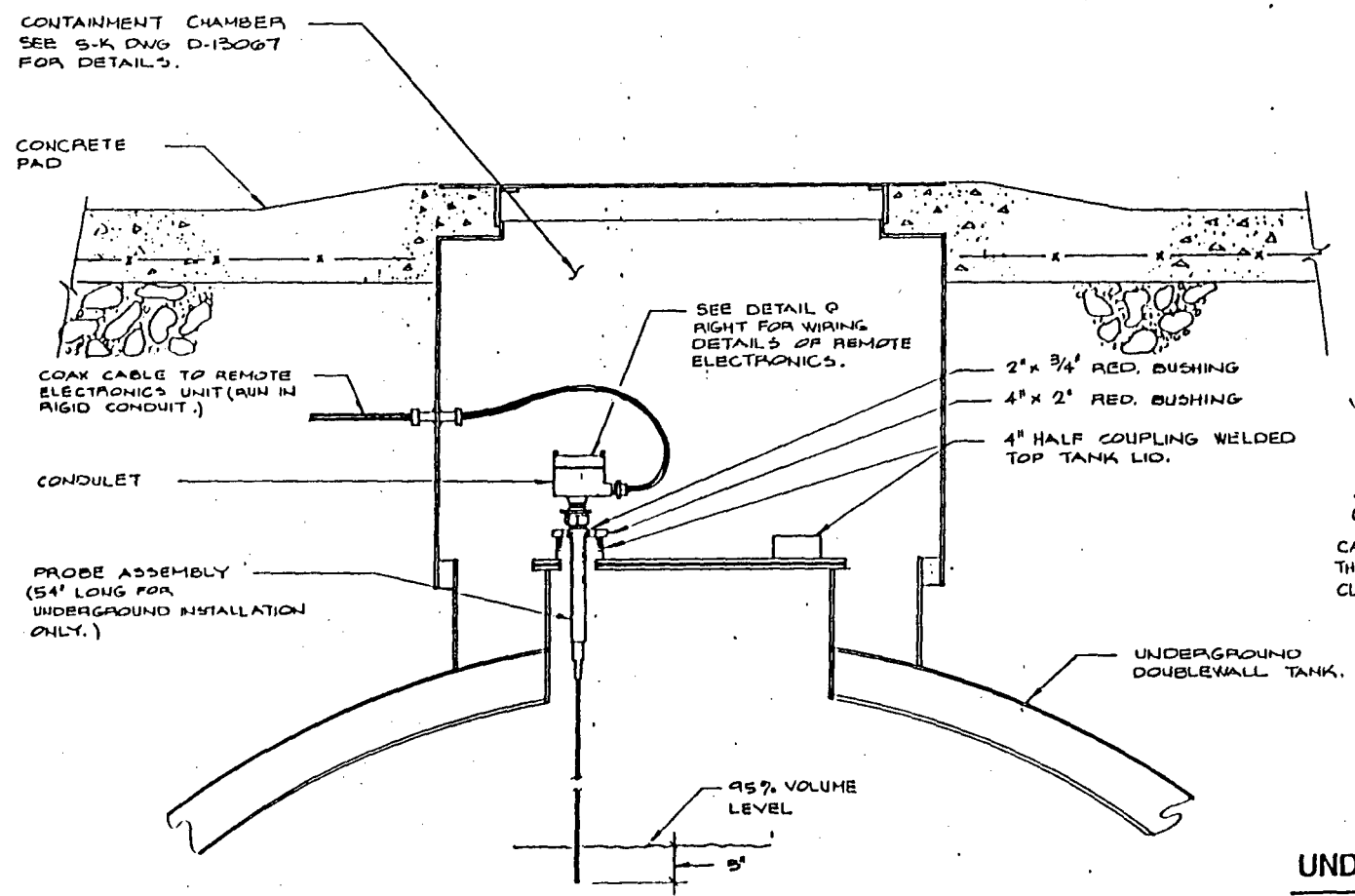
II.C.2-3C



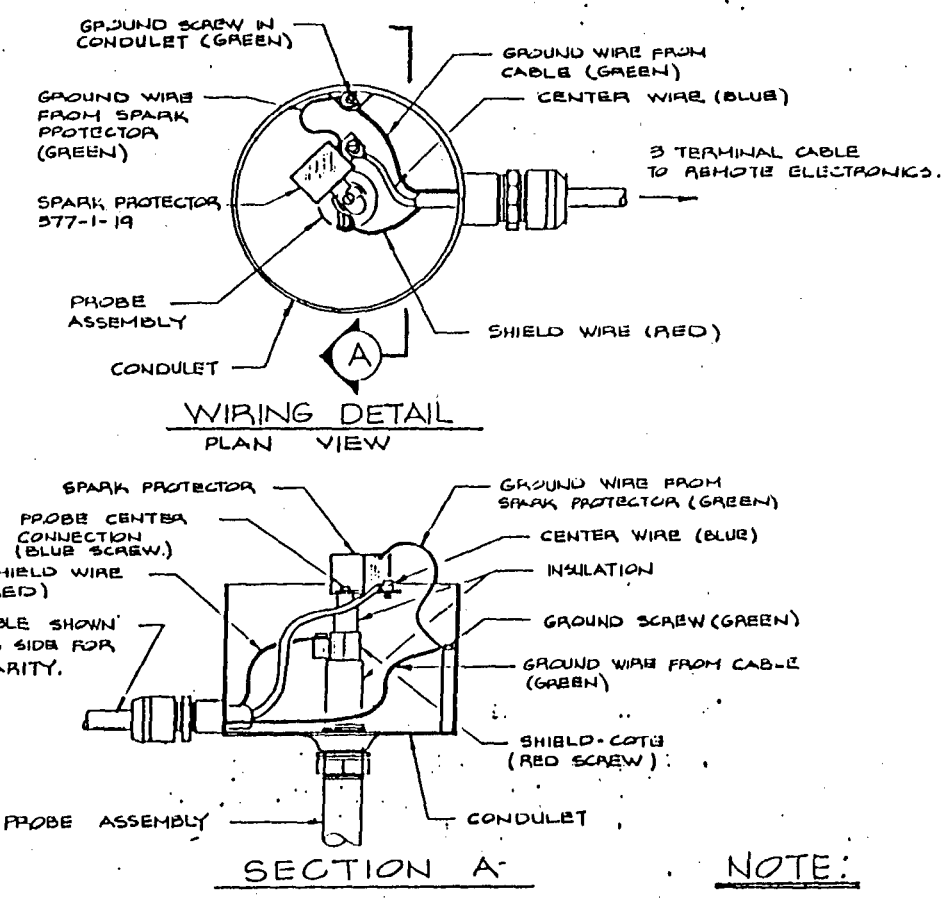
ABOVEGROUND VERTICAL TANK INSTALLATION



ABOVEGROUND HORIZONTAL TANK INSTALLATION

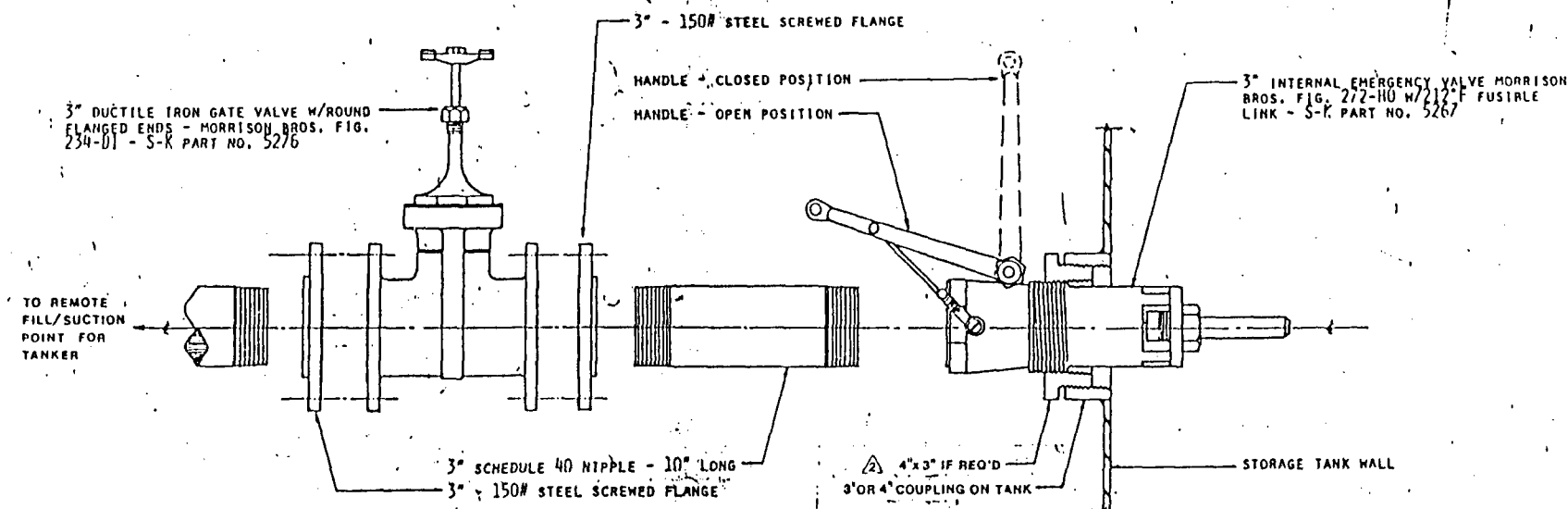


UNDERGROUND TANK INSTALLATION

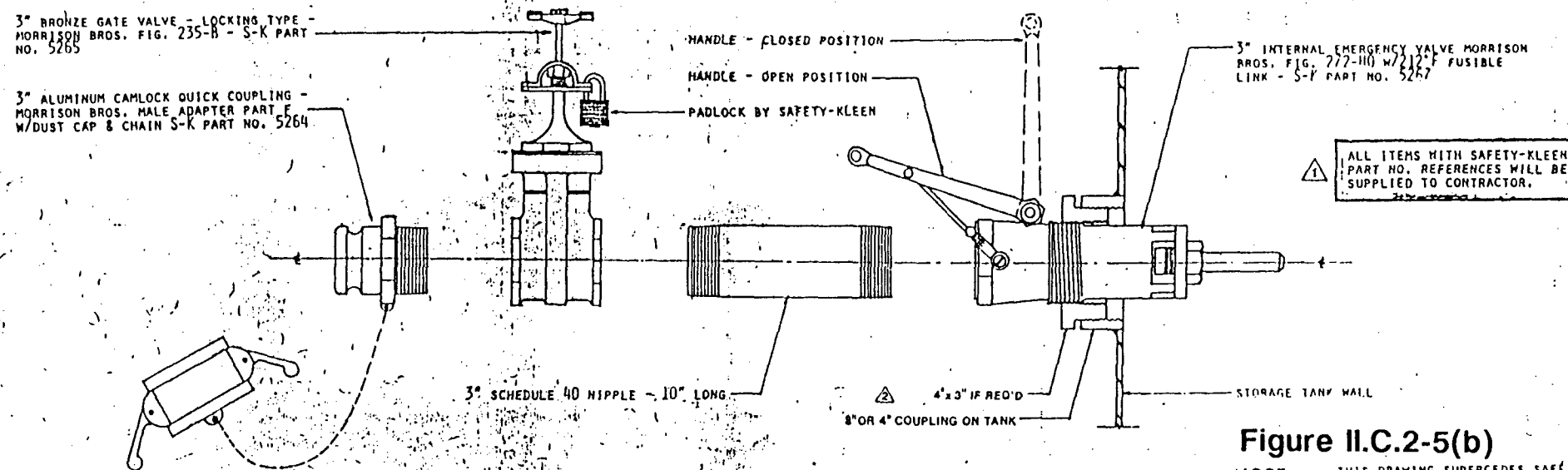


WIRING DETAIL
PLAN VIEW

SECTION A



— STANDARD INSTALLATION FOR PIPING OF ALL STORAGE TANKS —

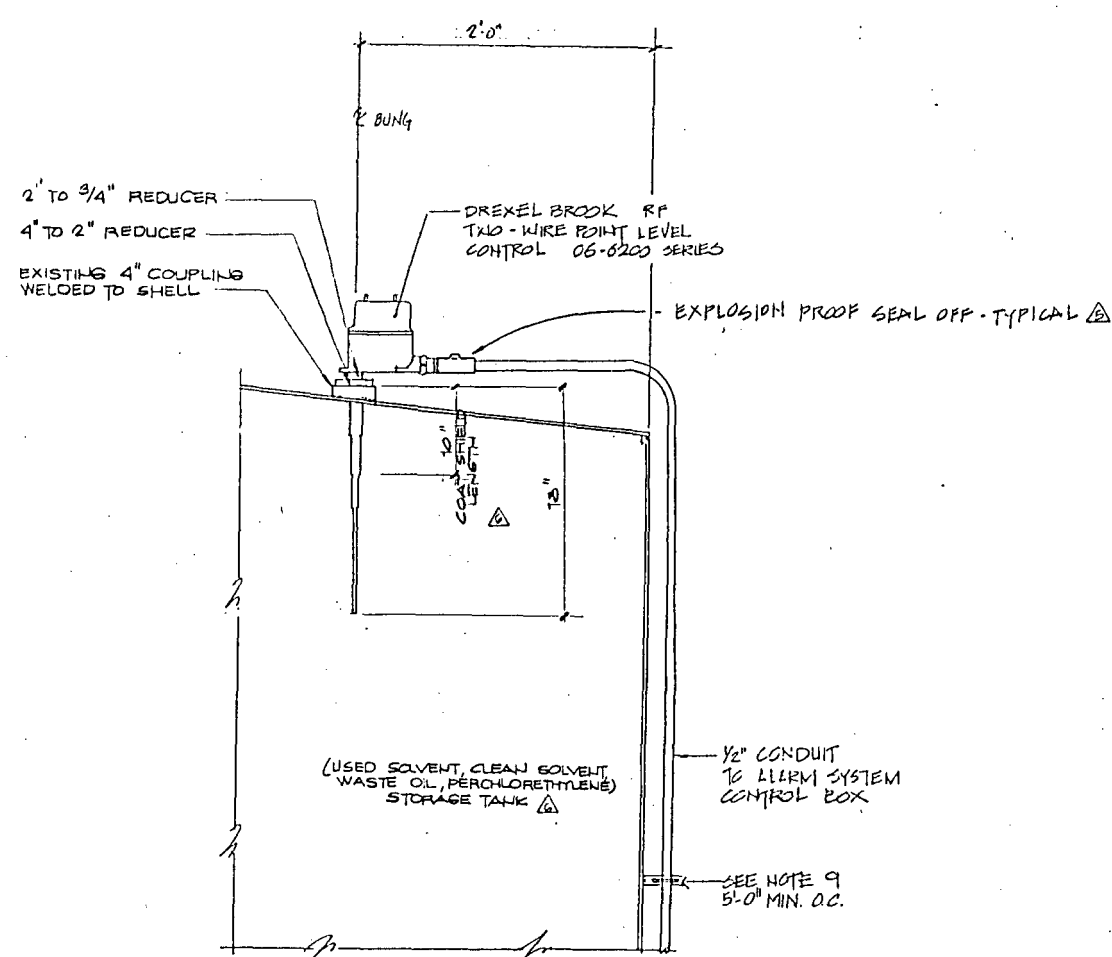


— ADDITIONAL INSTALLATION FOR PIPING OF NEW TANKS FOR STORAGE OF USED SOLVENT —
(FOR LOCATIONS PRONE TO FREEZING ONLY - SEE SAFETY-KLEEN DRAWING D11124)

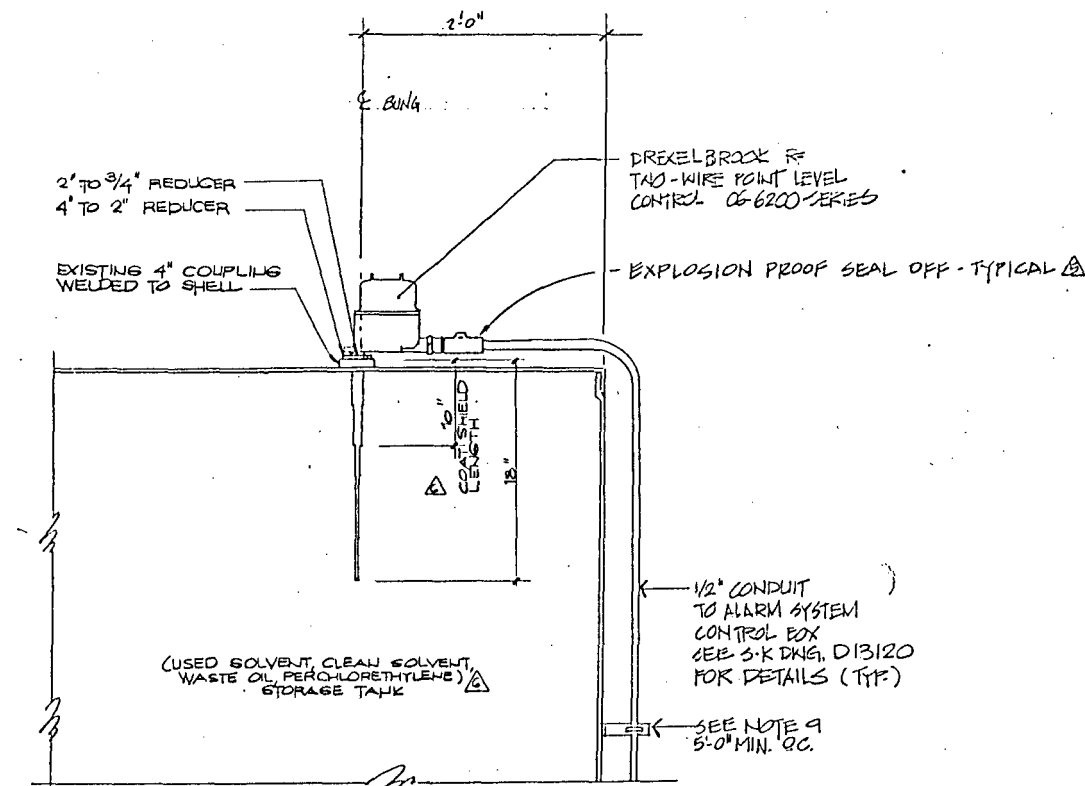
Figure II.C.2-5(b)

NOTE — THIS DRAWING SUPERCEDES SAFETY-KLEEN DRAWING C11036

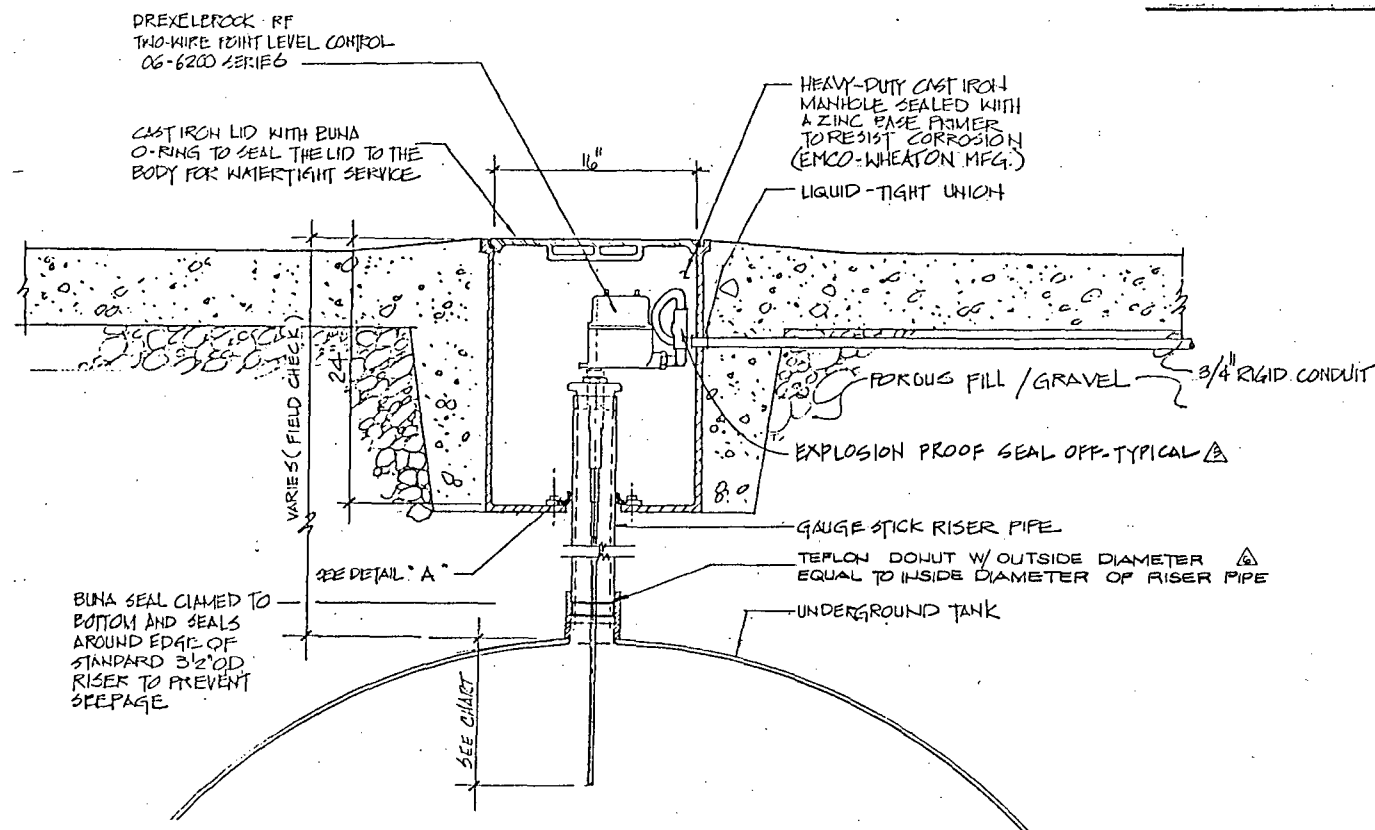
SAFETY-KLEEN CORP.		NO. 5041
EMERGENCY & GATE VALVE INSTALLATION DETAILS		SCALE
FOR SERVICE CENTER BRANCH CONSTRUCTION & OR IMPROVEMENTS		DATE
		C1130



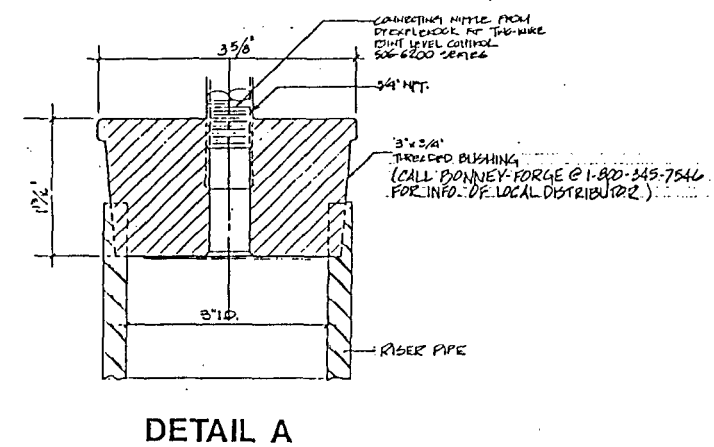
ABOVEGROUND VERTICAL TANK INSTALLATION



ABOVEGROUND HORIZONTAL TANK INSTALLATION



UNDERGROUND TANK RISER PIPE INSTALLATION



DETAIL A

GENERAL NOTES

- POWER REQUIREMENT 13 TO 28 VDC
- OUTPUT 4 - 10 m (ALARM STATE)
15 - 25 m (NORMAL STATE)
- OPERATING TEMP. -40°F TO +140°F
- SHIELD-TO-GROUND LOADING:
25 ohm MIN. RESISTANCE
- RFI EFFECT: LESS THAN 2 pF SHIFT
IN OPERATING POINT FOR UNIT IN
EXPLOSION-PROOF HOUSING FROM 3 W
FIELD @ 27, 130, OR 450 MHz, AT A
DISTANCE OF 5 FT. FROM EXPOSED
CABLE OR SIGNAL WIRE.
- FAIL-SAFE: SWITCHABLE OR EITHER
LOW-LEVEL FAIL-SAFE (LLFS) OR
HIGH-LEVEL FAIL-SAFE (HLFS).
- HOUSING: NEMA 12-WATERPROOF
EXPLOSION PROOF FOR CLASS I GROUPS
A, B, C, D, AND CLASS II GROUPS E, F, G
DM, 1 OR 2.
- SEE INDIVIDUAL SERVICE CENTER SITE PLANS
FOR RELATIVE LOCATIONS OF THESE DETAILS.
- CONTRACTOR TO SUPPLY & INSTALL CONDUIT
SUPPORTS & BRACKETS AS REQUIRED.
- THIS DRAWING CONTAINS INFORMATION
PROPRIETARY TO SAFETY-KLEEN CORP. ANY
REPRODUCTION, DISCLOSURE OR USE OF THIS
DRAWING IS EXPRESSLY PROHIBITED BY
SAFETY-KLEEN
- ALL ITEMS SHOWN WITH A SAFETY-KLEEN PART
NUMBER WILL BE SUPPLIED BY SAFETY-KLEEN
CORP. (e.g. SK- - - -)
- IF INDIVIDUAL SERVICE CENTER CONDITIONS
ARE NOT COVERED BY DETAILS SHOWN HERE,
PLEASE CONTACT TECHNICAL SERVICES AT THE
CORPORATE OFFICE FOR ASSISTANCE.
- CALCULATIONS FOR LENGTH OF PROBE INSIDE
OF TANK ARE SET TO ACTIVATE THE ALARM
AT THE 95% VOLUME LEVEL.
- ALL CALIBRATION OF UNIT SHALL BE DONE
IN ACCORDANCE WITH DREXELBROOK'S
RECOMMENDATIONS. CALIBRATION SHALL
BE DONE AFTER ALL COMPONENTS OF
SYSTEM ARE IN PLACE.
- ALL TANKS SHALL BE GROUNDED PRIOR
TO INSTALLATION OF ALARM SYSTEM.

Figure II.C.2-5(c)

ADD NOTES AND MODIFY THE DWG. ON VERT. & HOR. TANK INSTALLATION.	MA	7-20-01
ADD "EXPLOSION PROOF SEAL OFF" NOTE	RLB	12-13-88
CHANGE: PROBE DEPTH, NOTE 13	RLB	11-23-88

Safety-Kleen Corp.
777 BIG TIMBER ROAD • ELGIN, ILLINOIS 60120 PHONE 312/697-8160

HIGH LEVEL ALARM SYSTEM TRANSMITTER
TO TANK INSTALLATION DETAILS

DATE	DESCRIPTION	BY	DATE
6-22-88	Added Chart & Misc. Info.	RD	7/5/88
RD	Added Seal Off	RD	9/1/88

For: SERVICE CENTER BRANCH
D13102

ATTACHMENT II.C.7
TANK SYSTEM SECONDARY CONTAINMENT

ATTACHMENT II.C.7

TANK SYSTEM SECONDARY CONTAINMENT

TANK CONTAINMENT

All tanks are aboveground, underlain by a 71' x 32'4" x 6" concrete slab, surrounded by a 36" concrete dike and covered by a roof. The dike has been sealed with Sikagard® 62, a chemical resistant coating. No surface run-on or precipitation would be in contact with the wastes stored in the tank farm and no run-off collection and management system is deemed necessary. The layout of the tank storage building is provided in Figure II.C.7-1. Containment calculations are in Figure II.C.7-2.

RETURN/FILL CONTAINMENT

The return/fill shelter is located inside the center portion of the main building. The floor is sloped to a containment trench located in the center of the return/fill shelter. The entire area is coated with a chemical resistant coating. The barrel washers are on a raised grating which measures 54'0" x 78'0" (Figure II.C.7-3).

The area is designed such that the route trucks can be backed inside the building and the garage doors shut so that no precipitation can get into the return/fill shelter containment area. The containment capacity for the return/fill area is 2,679 gallons which exceeds the storage capacity of the two dumpsters (275 gallons per dumpster). The containment calculations are presented in the tank system assessment report (Attachment II.C.1).

The diagram illustrates a spill containment area for tanker trucks. It features several storage tanks and containment structures:

- WASTE OIL 20K GALLON** (Two tanks)
- NEW MINERAL SPIRITS 15K GALLON**
- USED MINERAL SPIRITS 15K GALLON**
- 5K GALLON PERC.**
- SUMP** (Top right corner)
- SUMP** (Bottom center, connected to a dashed line)
- ALARM** (Bottom left, connected to a dashed line)

A dashed line runs horizontally across the bottom, with an arrow pointing to the **TANKER TRUCK SPILL CONTAINMENT AREA (CONC.)** label.



Project Safety-Kleen, Baynton Beach
Subject Tank Containment Area

W.O. No. 13112.28

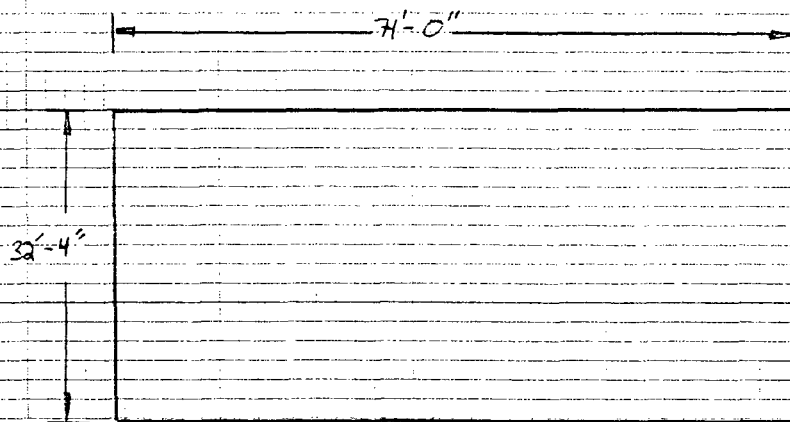
Sheet 1 of 1

By CLH

Date 4-3-91

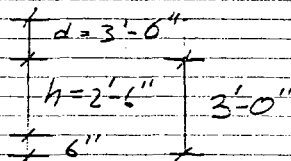
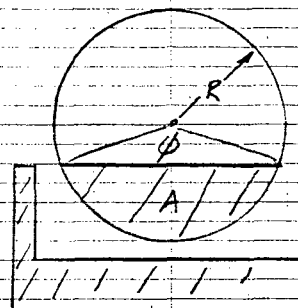
Chkd by RD

Date 4/8/91



$$\text{DIKE VOLUME} = (\text{BASE} \times \text{HEIGHT})$$

$$= (71'-0'' \times 32'-4'') \times 3'-0'' = 6887 \text{ ft}^3 = 51,514.7 \text{ gal}$$



$$\text{AREA } A = \frac{1}{2} R^2 (\phi - \sin \phi)$$

$$(\phi - \sin \phi) = 0.95$$

$$\phi = 2 \left(\cos^{-1} \frac{R-h}{R} \right) = 2 \left(\cos^{-1} \frac{6-2.5}{6} \right) = 108.63^\circ = 1.90 \text{ rad}$$

TANK	R	h	d	A	L	Vol
USED M.S.	6'-0"	2'-6"	3'-6"	17.1 ft ²	18'	308 ft ³
FRESH M.S.	6'-0"	"	"	"	18'	308 ft ³
OIL	6'-0"	"	"	"	24'	410 ft ³
OIL	6'-0"	"	"	"	24'	410 ft ³
PER	6'-0"	"	"	"	6'	103 ft ³

$$\text{TOTAL TANK DISPLACEMENT} = 1,537 \text{ ft}^3 = 11,512 \text{ gal}$$

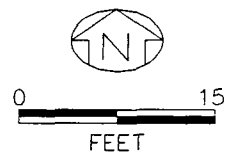
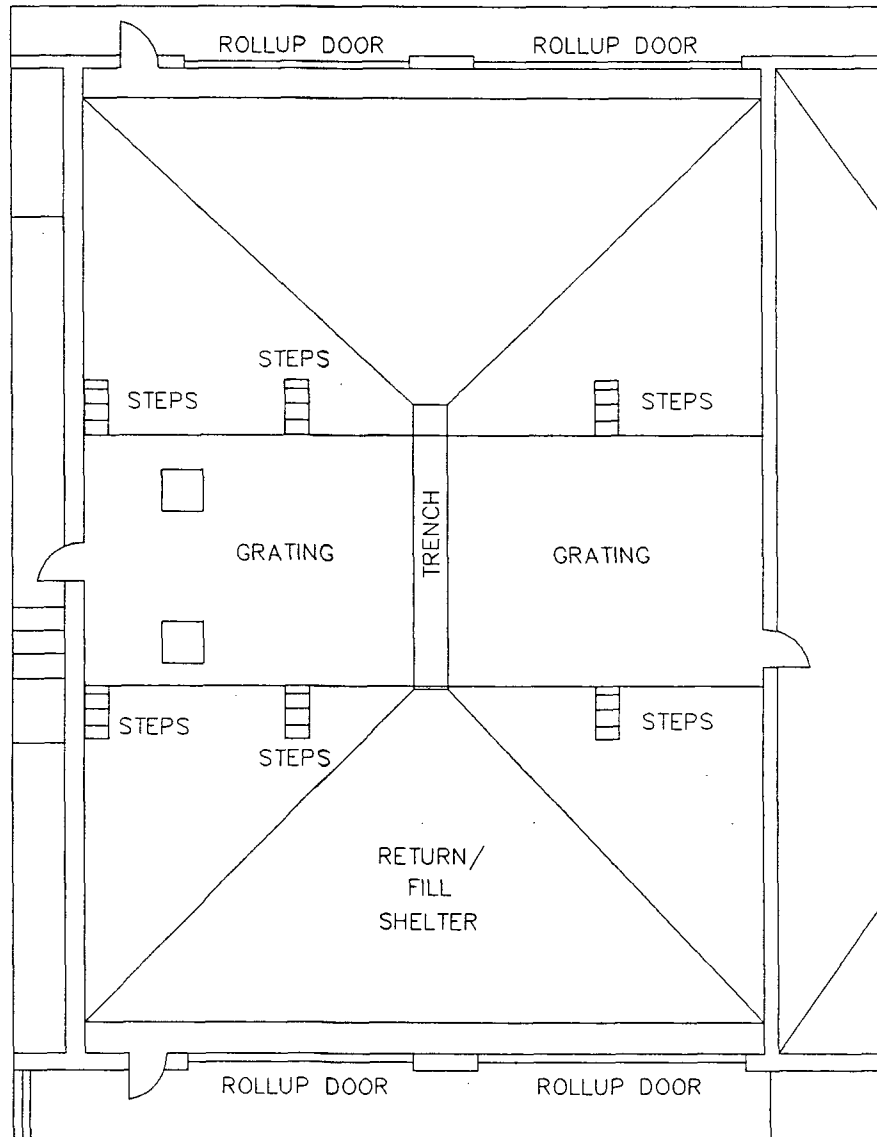
STAIR DISPLACEMENT:

$$\text{Vol}_{\text{ST}} = 3 \text{ ft} \left[(4' \times 6') + \frac{1}{2} (5 \times 4) \right] = 102 \text{ ft}^3 = 763 \text{ gal}$$

$$\text{VOLUME LARGEST TANK} = 20,000 \text{ gal}$$

$$\text{EXCESS CAPACITY} = 51,514.7 \text{ gal} - 11,512 \text{ gal} - 763 \text{ gal} - 20,000 \text{ gal} = 19,240 \text{ gal}$$

Figure II.C.7-3
Return/Fill Shelter
Safety-Kleen Corp. Facility
Boynton Beach, Florida



ATTACHMENT II.C.9
CONTROLS AND SPILL PREVENTION

ATTACHMENT II.C.9

CONTROLS AND SPILL PREVENTION

The tank system is designed to minimize the potential for spills and to control any spills which may occur. The tank area prevention and control system includes proper tanks, and containment walls and trenches. The return/fill shelter consists of dumpsters (barrel washers) located inside a containment area.

The prevention and control system minimizes the opportunity for an uncontrolled release of material to the environment.

DESCRIPTION OF FACILITY

The facility utilizes five aboveground steel tanks. Used mineral spirits contained in drums returned by the customers are transferred via the wet dumpster into a 15,000-gallon tank, awaiting bulk shipment to the recycle center. The other four tanks consist of one 15,000-gallon mineral spirits product tank, two 20,000-gallon nonhazardous waste oil tanks, and one 5,000-gallon dry cleaning product tank. These four tanks are not considered RCRA tanks.

MINERAL SPIRITS

Mineral spirits (petroleum naphtha) is compatible with the mild steel tank structure. In fact, mineral spirits is often used as a light hydrocarbon coating to prevent rusting of metal parts. As with all petroleum storage vessels, water will accumulate over time due to condensation. The mineral spirits has a specific gravity less than water and the water will accumulate in the bottom of the tank. There is the potential for corrosion of the tank at the mineral spirits/water interface.

Spent mineral spirits from parts washers is accumulated in a 15,000-gallon aboveground storage tank via the return and fill station. Used solvent is returned from customers via



drums and poured into the barrel washers. The barrel is then placed on roller brushes contained within the barrel washer. As the machine is turned on, the barrel rotates on the brush and the outside of the barrel is cleaned. There is also a nozzle that sprays a stream of solvent into the bottom of the barrel to clean the inside of the barrel. The machine is turned off and the barrel is removed. The procedure takes approximately five seconds per barrel.

The used solvent goes to a sump in the bottom of the barrel washer and is automatically pumped to the used mineral spirits storage tank. There is a basket in the sump that collects sludge. Approximately twice a day, this basket is removed and sludge is removed and placed into a sludge drum for recycle.

The barrel washer is a totally enclosed unit. A small amount of mist is generated while operating the unit. This is controlled by closing the lid of the unit.

TANKS

The tanks are designed and constructed to be compatible with the materials stored in them. Typical construction and installation standards for the aboveground tanks are discussed in Attachment II.C.2. All tanks are vented in accordance with National Fire Protection Association (NFPA) standards, and the tanks are equipped with high level-alarms. The tank seams are lapped with full fillet welds. The weld is done with an E70 electrode and can withstand a 4-psi air pressure test (which is performed by the manufacturer). All tanks are new and unused.

Attachment II.C.1 provides an independent assessment of the tank system. This assessment by Wishmeier & Associates includes a detailed description of the tank system components and operation. The following is a concise description of the main features of the tank system.

All tanks are aboveground, underlain by a 71' x 32'4" x 6" concrete slab, surrounded by a 36" concrete dike and covered by a roof. The dike has been sealed with a chemical resistant coating. Therefore, no surface run-on or precipitation would be in contact with the wastes stored in the tank farm and no run-off collection and management system is deemed necessary. Gauges are used to measure liquid levels in tanks and float switch-activated automatic high level alarms (which consist of a strobe light and siren) will signal the tank's being 95 percent full. This alarm allows an operator more than two minutes to stop operations and avoid overfilling the tank. In addition, the gauges of the tank must be read before filling and before and during the filling of a tanker truck (the available volume of which must be noted prior to emptying the tank) to prevent overfilling of the truck. A suction pump equipped with the tanker truck is used to withdraw used mineral spirits from the tank. No other equipment or standby equipment is used in the operation of the aboveground tanks. The secondary containment under the tanks and return/fill station must be cleaned within 24 hours of a spill. The used mineral spirits tank may be operated at a maximum volume of 14,250 gallons (95 percent).

Material which collects in the tank dike and return/fill station can be removed using a "wet/dry" vacuum, sorbents, or mop.

No smoking signs are posted on the entrance to the tank farm and return/fill station.

ATTACHMENT II.C.11
TANK SYSTEM INSPECTIONS

ATTACHMENT II.C.11

TANK SYSTEM INSPECTIONS

The purpose of the inspection plan is to establish a procedure and schedule for the systematic monitoring and inspection of hazardous waste management and other material management facilities to ensure proper operation and maintain compliance.

The Branch Manager or his designate is responsible for carrying out the inspections of all hazardous waste management facilities in accordance with the following procedure and schedule.

The Branch Manager inspects the facility daily for security (gates and locks), using the inspection log (Figure II.C.11-1), and any evidence of sticking, corrosion, or uncommon activity. The facility fence is checked weekly for deterioration, gaps under the fence, and broken wire ties. The weekly inspection log is shown in Figure II.C.11-2.

Figure II.C.11-3 presents the daily inspection log for the tank system. Daily inspections of tanks and dumpsters consist of the following:

- Physically examine the tank or dumpster area to verify that leaks have not occurred since the last inspection.
- Verify that tanks or dumpster have not been damaged and rusted to the point of near leakage.
- Examine and verify that all tank or dumpster identification, dates, loading data, hazardous waste labels are attached and current.

FIGURE II.C.11-1**INSPECTION LOG SHEET FOR
DAILY INSPECTION OF GATES AND LOCKS**

Check all gates and locks for security, sticking, corrosion, lack of warning signs, or uncommon activity.

Name	Date	Time	Status

Figure II.C.11-2

INSPECTION LOG SHEET FOR: Weekly Inspection of SAFETY AND EMERGENCY EQUIPMENT,
SECURITY DEVICES AND MISCELLANEOUS EQUIPMENT

INSPECTOR'S NAME/TITLE: _____

INSPECTOR'S SIGNATURE: _____

DATE OF INSPECTION (Month/Day/Year): _____

TIME OF INSPECTION: _____

SAFETY AND EMERGENCY EQUIPMENT

Fire Extinguishers: _____ A N

If 'N', circle appropriate problem: overdue inspection, inadequately charged, inaccessible, other: _____

Eyewash and Shower: _____ A N

If 'N', circle appropriate problem: disconnected malfunctioning valves, inadequate pressure, inaccessible, malfunctioning drain leaking, other: _____

First Aid Kit: _____ A N

If 'N', circle appropriate problem: inadequate inventory, other: _____

Spill Cleanup Equipment: _____ A N

If 'N', circle appropriate problem: inadequate supply of sorbent, towels and/or clay, inadequate supply of shovels, mops, empty drums, wet/dry vacuum, other: _____

Personal Protection Equipment: _____ A N

If 'N', circle appropriate problem: inadequate supply of aprons, gloves, glasses, respirator, other: _____

SECURITY DEVICES:

Gates and Locks: _____ A N

If 'N', circle appropriate problem: sticking, corrosion, lack of warning signs, fit, other: _____

Fence: _____ A N

If 'N', circle appropriate problem: broken ties, corrosion, holes, distortion, other: _____

MISCELLANEOUS EQUIPMENT:

Dry Dumpster: _____ A N

If 'N', circle appropriate problem: rust, corrosion, split seams, distortion, deterioration, excess debris, liquids in unit, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF ANY REPAIRS: _____

*A = ACCEPTABLE

II.C.11-1B

N = NOT ACCEPTABLE

(IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT ACCEPTABLE' BOX)

Page 1 of 2

INSPECTOR'S NAME/TITLE: _____

INSPECTOR'S SIGNATURE: _____

	MON	TUES	WED	THURS	FRI
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

DATE: (M/D/Y) _____

TIME: _____

Volume in Product Tank (in./gal.)
(in./
Volume in Second Product Tank gal.)

Volume in Waste Tank (in./gal.)

Volume in Second Waste Tank (in./gal.)

Tank Exterior	A* N	A N	A N	A N	A N
---------------	------	-----	-----	-----	-----

If 'N', circle appropriate problem: rusty or loose anchoring, lack of grounding, wet spots, discoloration, leaks, distortion, other:

High Level Alarms	A N	A N	A N	A N	A N
-------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: malfunctioning "Power On" light, malfunctioning siren/strobe light, other:

Volume Gauges	A N	A N	A N	A N	A N
---------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: disconnected, sticking, condensation, other:

CONTAINMENT AREA (Tank Dike):

Bottom and Walls	A N	A N	A N	A N	A N
------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: cracks, debris in dike, open drums in dike, ponding/wet spots/stains, deterioration, displacement, leaks, other:

Self-closing Drain Valve	A	N	A	N	A	N	A	N	A	N
--------------------------	---	---	---	---	---	---	---	---	---	---

If 'N', circle appropriate problem: open, leaks, other:

Rigid Piping and Supports	A N	A N	A N	A N	A N
---------------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: distortion, corrosion, paint failure, leaks,
other:

OBSERVATIONS, COMMENTS, DATE AND NATURE OF ANY REPAIRS:

*A = ACCEPTABLE

N = NOT ACCEPTABLE

II.C.11-1C

(IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT ACCEPTABLE' ROW)

Figure II.C.11-3

Page 2 of 2

INSPECTION LOG SHEET FOR: Daily Inspection of STORAGE TANK SYSTEM

INSPECTOR'S NAME/TITLE: _____

INSPECTOR'S SIGNATURE: _____

	MON	TUES	WED	THURS	FRI
--	-----	------	-----	-------	-----

TRANSFER PUMPS AND HOSES

Pump Seals	A* N	A N	A N	A N	A N
------------	------	-----	-----	-----	-----

If 'N', circle appropriate problem: leaks, other: _____

Motors	A N	A N	A N	A N	A N
--------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: overheating, other: _____

Fittings	A N	A N	A N	A N	A N
----------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: leaks, other: _____

Valves	A N	A N	A N	A N	A N
--------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: leaks, sticking, other: _____

Hose Connections and Fittings	A N	A N	A N	A N	A N
-------------------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: cracked, loose, leaks, other: _____

Hose Body	A N	A N	A N	A N	A N
-----------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: crushed, cracked, thin spots, leaks, other: _____

RETURN AND FILL STATION

Wet Dumpster	A N	A N	A N	A N	A N
--------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: excess sediment buildup, leaks, rust, split seams, distortion, deterioration, excess debris, other: _____

Secondary Containment	A N	A N	A N	A N	A N
-----------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: excess sediment/liquid, leaks, deterioration, distortion, excess debris, other: _____

Loading/Unloading Area	A N	A N	A N	A N	A N
------------------------	-----	-----	-----	-----	-----

If 'N', circle appropriate problem: cracks, ponding/wet spots, deterioration, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF ANY REPAIRS: _____

*A = ACCEPTABLE

II.C.11-1D

N = NOT ACCEPTABLE

(IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT ACCEPTABLE' ROW)

Daily inspections of containment consist of the following:

- Physically examine containment areas to detect signs of deterioration and failure of the containment system such as cracks, breakage, settlement, and spillage.

In addition to daily inspections, the tank will be inspected once every five years by a Professional Engineer registered in Florida. A general structural inspection, hydraulic test of the tank, internal inspection, and wall thickness will be made.

This inspection and testing will involve withdrawal of contents, a squeegee cleaning, visual inspection and performance of Kent-Moore®, or other leak detection tests. Frequency and method of future inspection and testing will be determined based upon results of prior evaluations.

ATTACHMENT II.C.12(a)
TANK SYSTEM CLOSURE PLAN

ATTACHMENT II.C.12(a)
TANK SYSTEM CLOSURE PLAN

CLOSURE INTRODUCTION

The Safety-Kleen Corp. has constructed each service center with the intent that each will be a long-term facility for the distribution of Safety-Kleen products. No onsite disposal activity occurs at any plant and hence no disposal capacity will be exhausted that will necessitate closure of a facility. Based on current business and facility conditions, this facility is expected to remain in operation beyond the year 2000.

In the event that presently unforeseen circumstance(s) would result in the discontinuance of operations and permanent closure or sale of the facility, the following closure plan is designed to identify the steps necessary to completely close the facility at any point during its intended life, and should be used for tanks, drum storage area, and equipment.

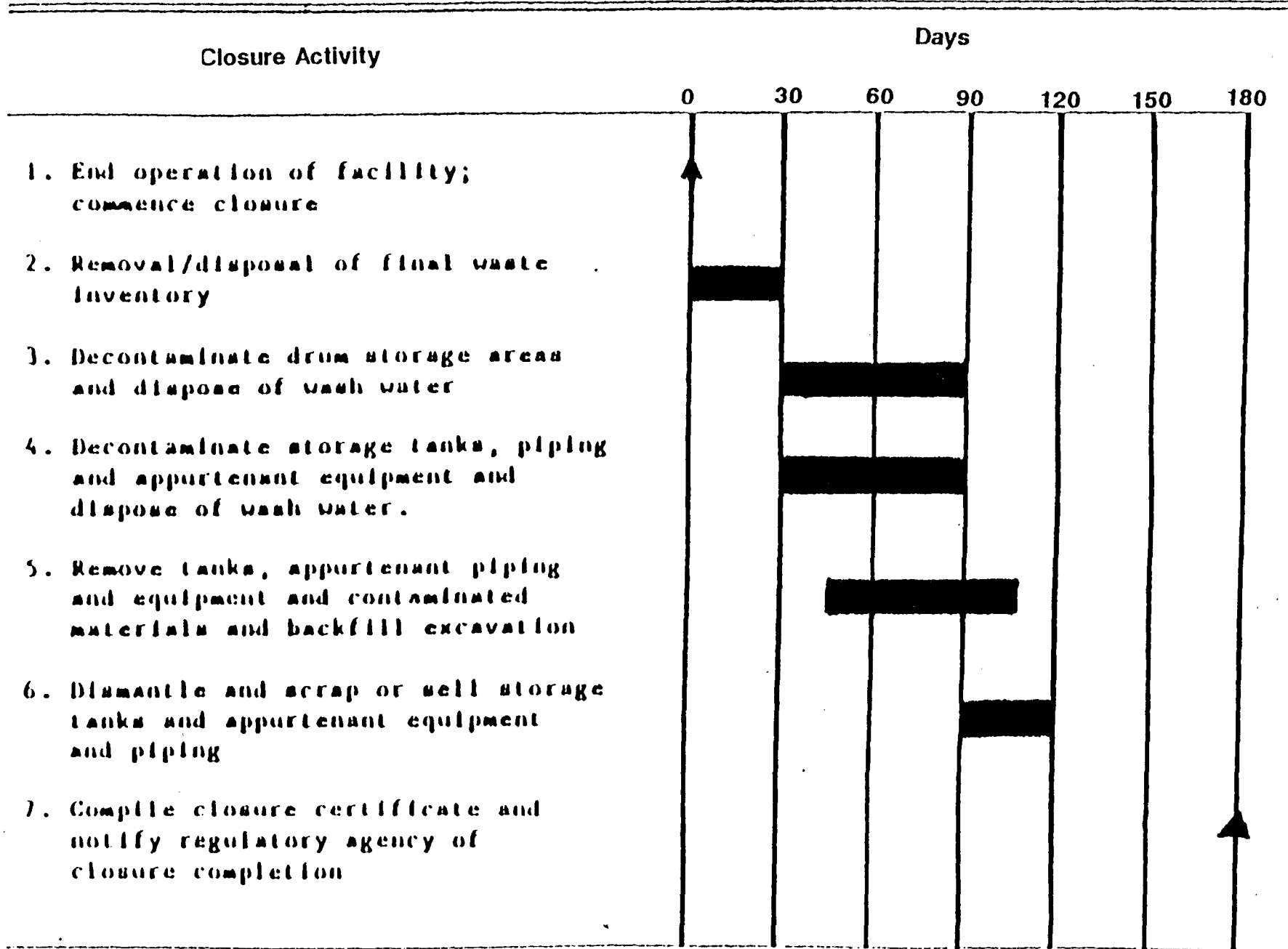
It is intended that all closures will be complete and final with removal of waste and decontamination of the facility and associated equipment, in order to eliminate the need for maintenance after closure and a chance of the escape of hazardous waste constituents into the environment.

Procedures described in this closure plan are also applicable to cleaning up spills and repairing/decontamination of facility or equipment.

An anticipated closure schedule can be seen in Figure II.C.12(a)-1. An anticipated maximum waste inventory for the tank system of the facility is presented in the following section.

Figure II.C.12(a)-1

Typical Closure Schedule



Facility Data

15,000-gallon waste mineral spirits tank in a three-foot high concrete containment area enclosed inside a building. This building also houses two 20,000-gallon nonhazardous waste oil tanks, a 15,000-gallon clean mineral spirits tank, and an 5,000-gallon clean perchloroethylene tank.

Solvent Return/Fill Shelter Area

One 45' x 44' structure with two solvent return receptacles (wet dumpsters) each and ancillary equipment. Each dumpster can hold 275 gallons of waste.

MAXIMUM INVENTORY OF WASTE

The maximum amount of waste mineral spirits in the tank is 15,000 gallons.

Dumpsters: 550 gallons (two 275-gallon dumpsters).

Solvent Return/Fill Shelter Area

- This area is used to return the used mineral spirits to the storage tank.
- Closure of the solvent return receptacles (wet dumpster) will be made prior to the cleaning and removal of the storage tank.
- At closure, the sludge in the dumpsters ("dumpster mud") will be cleaned out and drummed, labeled, and manifested for proper disposal at permitted facilities.

- The dumpsters and the dock area will be cleaned with detergent solution and the rinsate analyzed for mineral spirits, volatile organic compounds, lead, and cadmium to determine the effectiveness of the decontamination. The area will continue to be washed and rinsed until levels are below MCLs, or PQLs if MCLs are not available.
- The rinsing fluids will be discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described Attachment II.C.12(a).
- The cleansed dumpster and dock structure will be reused by Safety-Kleen, or scrapped.
- The cleanup equipment and solutions disposal is the same as that listed earlier.

PHASE I--OPEN THE TANK

- Access to aboveground tanks is obtained by removing manways.
- Prior to opening the tanks, the personnel should have full face respiratory protection and protective clothing. Once the tanks have been opened, they will be provided with positive ventilation. The tanks will then be inspected to determine the approximate quantity and physical conditions of the remaining material.

PHASE II--REMOVING WASTE AND CLEANING TANK

- Before removing the waste from the tank, all piping and appurtenant equipment will be flushed first with clean mineral spirits followed by a detergent solution.
- The method to remove the waste material from the tanks will depend on the physical properties and quantities of that material. Prior to any person entering the tank, an effort will be made to remove as much liquid and sludge as possible.
- Subsequent to vacuuming the majority of the material from the tank, it may be necessary to use a high pressure wash system using a clean solvent and detergent solution to rinse residual material from the walls and bottom of the tanks. The evacuated material and the rinse solution will be returned to the recycle center for reclamation. The quantity of wash fluid used will be kept to a minimum in order to limit the amount of unnecessary material. The final rinsate will be analyzed for mineral spirits, volatile organic compounds, lead, and cadmium, using SW-846 to determine the effectiveness of decontamination. The tank will continue to be washed and rinsed until levels are below MCLs, or PQLs if MCLs are not available. Rinsate will be removed using a vacuum tanker truck and will be disposed of as hazardous waste. It is anticipated that approximately 2,000 gallons of rinsate will require RCRA disposal.
- Storage tanks are considered confined spaces, i.e., spaces open or closed having a limited means of egress in which poisonous gases or flammable vapors might accumulate or an oxygen deficiency might occur.
- Confined space entry requires special operating procedures:
 - ▶ Tanks are to be washed, neutralized and/or purged (where flammable atmosphere is present) prior to being entered.

- ▶ Supply valves must be closed and "tagged" and bleeder valves left open, or supply piping should be disconnected.
 - ▶ Pumps or motors normally activated by automatic controls shall be operated manually to be sure they have been disconnected. Instrument power switches should be tagged "OFF."
 - ▶ On tanks where flammable vapors may be present, all sources of ignition must be removed.
 - ▶ All tanks must be tested for flammable vapors, toxic gases, or oxygen deficiency in that order, as applicable. The results of such tests should be displayed on the job site.
-
- In all tank entering situations, an Oxygen Deficiency Test shall be performed prior to tank entry.
 - Under circumstances where "hot work" (welding, burning, grinding, etc.) is to be performed in or on the vessel, a test for combustible gases shall be taken. This is referred to as a "flash test."
 - In most circumstances, flash tests and oxygen deficiency tests will be performed by the supervisor of the area in which the work is being performed.
 - Under any conditions where a possibility (no matter how remote) of toxic vapors being present in the tank to be entered exists, the supervisor will arrange to have the air tested.

- ▶ There must be a set of wristlets or a rescue harness and sufficient rope at the job site to effect a rescue. Any other rescue equipment considered necessary must also be on the job site.
- ▶ Workers should wear a rescue harness if entering a tank with a large enough opening to easily effect a rescue. In tanks with small openings, only wristlets may be used. However, in cases where there are agitator shafts, drums, or other hazards in which the man's life-line would be entangled and the supervisor in charge feels that wearing the life-line may entrap a man and increase the hazard, the wearing of a harness or wristlets may be eliminated.
- ▶ A constant source of fresh air must be provided to ensure a complete change of air every few minutes. In cases of short-term entry for inspection or removal of objects, an air mask is recommended. In cases of long-term entry (generally for repair) the use of an air mover should be considered.
- ▶ When a ladder is required to enter a tank, the ladder must be secured and not removed while anyone is in the vessel. In cases where a rigid ladder could become an obstacle, a chain ladder may be used.
- ▶ Adequate illumination must be provided.
 - A flashlight or other battery-operated light must also be available to provide illumination for safety exit in the event of an electrical power failure.
 - Explosion-proof lighting must be used in any tank used to store flammable liquids.

- ▶ All electrical equipment to be used inside the tank must be in good repair and grounded.
- ▶ Others working in the immediate area shall be informed of the work being done and they shall inform the watcher or supervisor immediately of any unusual occurrence which may make it necessary to evacuate the tank.
- The "buddy" (standby observer) system:
 - ▶ Men working inside a confined space must be under the constant observation of a fully-instructed standby observer.
 - ▶ Before anyone enters the tank, the standby observer will be instructed by the person in charge of the entry that:
 - An entry authorization must be obtained from the person in charge by anyone entering the tank.
 - A rescue harness or wristlets must be on the job.
 - The standby observer must know the location of the nearest telephone (with emergency numbers posted); safety eyewash/shower; fire extinguisher; and oxygen inhalator.
 - For all "hot work" inside a tank, the standby observer must be instructed how to shut down welding/burning equipment.

- As long as personnel are inside the vessel, the standby observer must remain in continuous contact with the worker. **HE IS NOT TO LEAVE THE JOB SITE EXCEPT TO REPORT AN EMERGENCY.**
 - **UNDER NO CIRCUMSTANCES SHOULD THE STANDBY OBSERVER ENTER THE VESSEL.** If the worker(s) in the tank becomes ill or injured, the watcher is to put in effect the emergency plan described in the attached Standard Operating Procedure.
 - The standby observer still **DOES NOT ENTER THE TANK** until help is available.
 - After being instructed in his responsibilities, the standby observer will sign an instruction form indicating his understanding.
- Welding and burning within a tank:
- ▶ All welding and burning equipment must be provided with a shutoff device under the control of the standby observer; and the standby observer must know how to shut off the equipment if it becomes necessary.
 - ▶ Welding and burning equipment will only be taken into a tank immediately prior to its use and must be removed from the tank immediately after the job is finished.
 - ▶ For all "hot work" inside a tank, a properly executed flame permit, if needed, must be displayed at the job site.
 - ▶ Standard welding and burning safety precautions will always be followed.

PHASE III--REMOVE TANK

- Disconnect and cap all appurtenant piping.
- Disconnect and decontaminate all appurtenant pumping equipment.
- The vessels shall be removed and reused by Safety-Kleen or cut up and sold as scrap.
- The surface soil beneath the fill pipes and beneath each tank will be sampled and analyzed for volatile organic compounds, mineral spirits, lead, and cadmium.
- The secondary containment system will be disassembled. The construction materials will be tested with TCLP (pertinent constituents only). If the construction materials are classified as non-hazardous via TCLP, then they will be disposed of as a solid waste in a sanitary landfill. In the event the construction materials are identified as hazardous via TCLP, then the construction materials will be disposed of as a hazardous waste in accordance with RCRA regulations.
- Contaminated soil, if it exists, shall be removed and properly disposed of. An additional work plan to determine the extent of contamination and remediation procedures will be submitted in this case.

PHASE IV--BACKFILLING AND REGRADING

- Backfill any excavation with previously excavated material with proper compaction.
- Add additional backfill with proper compaction if necessary. The material must be of clean materials and easily compacted in place.
- Regrade the site to proper topography.



- Remove and dispose of nonusable debris.

FACILITY CLOSURE SCHEDULE AND CERTIFICATION

- Safety-Kleen may amend the closure plan at any time during the active life of the facility. The active life of the facility is that period during which wastes are periodically received. Safety-Kleen shall amend the plan any time changes in operating plans or facility design affect the closure plan or whenever a change occurs in the expected year of closure of the facility. The plan must be amended within 60 days of the changes.
- Within 90 days of receiving the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, Safety-Kleen shall remove from the site all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if Safety-Kleen demonstrates that:

The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

The following requirements are met:

- ▶ The facility has the capacity to receive additional wastes;
- ▶ There is a reasonable likelihood that a person other than Safety-Kleen will recommence operation of the site;
- ▶ Closure of the facility would be incompatible with continued operation of the site; and

- ▶ Safety-Kleen has taken and will continue to take all steps to prevent threats to human health and the environment.
- Safety-Kleen shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, whichever is later.
- When closure is completed, all facility equipment and structures shall have been properly disposed of, or decontaminated by removing all hazardous waste and residues.
- When closure is completed, Safety-Kleen shall submit to the certification by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

ATTACHMENT II.C.12(b)
TANK SYSTEM CONTINGENT POST CLOSURE PLAN

ATTACHMENT II.C.12(b)
TANK SYSTEM CONTINGENT POST CLOSURE PLAN

At the present time Safety-Kleen intends to remove or decontaminate all tank system components and associated containment systems. If at a subsequent time or at the time of the closure permit application, it is determined that all contaminated soils and tank system components cannot practicably be decontaminated or removed, then a plan to perform post-closure care in accordance with the post-closure care requirements that apply to landfills (264-310) will be developed and submitted to the agency.

ATTACHMENT II.C.13
RESPONSE TO LEAKS AND DISPOSITION OF
UNFIT-FOR-USE TANK SYSTEMS

ATTACHMENT II.C.13
RESPONSE TO LEAKS AND DISPOSITION OF
UNFIT-FOR-USE TANK SYSTEMS

In the event that a leak or spill were to occur from a tank system or secondary containment system, the actions identified herein will be undertaken.

IMMEDIATE RESPONSE

All waste flow to the tank system in question will be ceased immediately. An inspection will be undertaken to identify the cause of the release. Waste flow to the tank system will not be reinstituted until the tank system has been inspected, repaired, and declared fit for use.

In order to prevent further releases, or to allow inspection and a repair of the system, it may be necessary to remove the waste from the tank system. This waste removal will occur within 24 hours after detection of the leak, or at the earliest practicable time.

All material released to the secondary containment area will be removed within 24 hours, or in as timely a manner as possible, to prevent harm to human health and the environment. Every reasonable effort will be made to prevent migration of the release to soils or surface water.

If necessary, visible contamination of surface water and soil will be removed and properly disposed of.

MODIFICATIONS

If a spill is less than one pound and is immediately contained and cleaned up, no notifications are required. All other releases require notification to the Regional

Administrator and Florida Department of Environmental Regulation (FDER). The reporting requirements identified in the Contingency Plan will satisfy this requirement.

SUBSEQUENT REPORTING

Within 30 days of detection of a release to the environment, a report must be submitted to the Regional Administrator and FDER. The report must contain the following information:

1. Likely route of migration of the release;
2. Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);
3. Results of any monitoring or sampling conducted in connection with the release. If sampling has occurred and is not available within 30 days, it must be submitted as soon as available.
4. Proximity to downgradient drinking water, surface water, and populated areas; and
5. Description of response actions taken or planned.

REPAIR OR CLOSURE

If the integrity of the containment system has not been damaged, then the system may be returned to service as soon as the released waste is removed and repairs, if necessary, are made.

If the tank was the source of the release, then the tank must be repaired prior to returning the tank system to service.

If the release was from a tank system component which did not have secondary containment, then secondary containment must provide for this component before the system can be returned to service. The exception to this is if the component can be visually inspected. In this instance, the component may be repaired and returned to service. If a component is replaced, then the component must satisfy the requirements for new tank systems and components.

All major repairs must be certified by an independent, qualified, registered, professional engineer in accordance with 270.11(d). The engineer must certify that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This report must be filed with the agency within seven days after returning the tank system to use.

If repairs that meet these requirements cannot be performed, then the tank system must be closed in accordance with the Closure Plan.

PART II K
CLOSURE

Revision 0 - 04/23/91



ATTACHMENT II.K.1

CLOSURE PLAN

ATTACHMENT II.K.1**CLOSURE PLAN****CLOSURE INTRODUCTION**

The Safety-Kleen Corp. has constructed each service center with the intent that each will be a long-term facility for the distribution of Safety-Kleen products. No onsite disposal activity occurs at any plant and, hence, no disposal capacity will be exhausted that will necessitate closure of a facility. Based on current business and facility conditions, this facility is expected to remain in operation until the year of 2000.

In the event that some presently unforeseen circumstance(s) would result in the discontinuance of operations and permanent closure or sale of the facility, the following closure plan is designed to identify the steps necessary to completely close the facility at any point during its intended life, and should be used for tanks, drum storage area, and equipment.

It is intended that all closures will be complete and final with removal of waste and decontamination of the facility and associated equipment, in order to eliminate need for maintenance after closure and chance of escape of hazardous waste constituents into the environment.

Procedures described in this closure plan are also applicable to cleaning up of spills and repairing/decontamination of facility or equipment.

Facility Data**Tank Area**

15,000-gallon waste mineral spirits tank in a three-foot-high concrete containment area enclosed inside a building. This building also houses two 20,000-gallon nonhazardous

waste oil tanks, a 15,000-gallon clean mineral spirits tank, and an 5,000-gallon clean perchloroethylene tank.

Drum Storage Area:

A 48' x 78' foot area with sloped floor and collection sump. The maximum total volume stored is 18,750 gallons with 6,912 gallons anticipated to be waste mineral spirits dumpster mud drums, dry cleaner wastes, antifreeze, and/or spent immersion cleaner.

Solvent Return/Fill Shelter:

One 45-foot by 44-foot structure with two solvent return receptacles (wet dumpsters) each and ancillary equipment. Each dumpster can hold 275 gallons of waste.

MAXIMUM INVENTORY OF WASTE

Tank Wastes

The maximum amount of waste mineral spirits in the tank is 15,000 gallons.

Drummed Waste: Anticipated maximum of 6,912 gallons

This amount includes any combination of 16-, 20-, and 30-gallon drums.

Dumpsters: 550 gallons (two 275-gallon dumpsters)

CLOSURE PROCEDURE

Drum Storage Areas

- The drum storage area contains drums of used immersion cleaner, mineral spirits, dumpster mud, antifreeze, paint waste, and dry cleaning wastes.

- At closure, all drums will be removed and transported to the recycle center with proper packaging, labeling, and manifesting where the contents in the drums will be reclaimed and the drums will be cleaned for reuse.
- The concrete floor and spill containment areas will be cleaned with detergent solution and the rinsate will be analyzed for mineral spirits, volatile organic compounds, lead, and cadmium, using SW-846 methods, to determine the effectiveness of decontamination. The area will continue to be washed and rinsed until levels are below maximum contaminant levels (MCLs), or if MCLs are not available, practical quantification levels (PQLs) as specified in Appendix IX of 40 CFR 264.
- If the wash water or other wastes generated in the closure process are determined to be hazardous, they will be disposed of properly as a hazardous waste; otherwise, the material will be disposed of as an industrial waste. It should be noted that wash water and rinsate will not be allowed to drain to the waterway. It is anticipated that approximately 350 gallons of rinsate will require RCRA disposal.
- The equipment used to clean this area includes mops, pails, scrub brushes, a wet/dry vacuum, and drums. The mops, pails, and scrub brushes will be drummed and disposed of as hazardous waste. The wet/dry vacuum hose will be washed with a detergent solution to decontaminate it. The drums will be used to store the wastewater.

Solvent Return/Fill Shelter Area

- This area is used to return the used mineral spirits to the storage tank.
- Closure of the solvent return receptacles (wet dumpster) will be made prior to the cleaning and removal of the storage tank.



- At closure, the sludge in the dumpsters ("dumpster mud") will be cleaned out and drummed, labeled, and manifested for proper disposal at permitted facilities.
- The dumpsters and the dock area will be cleaned with detergent solution and the rinsate analyzed for mineral spirits, volatile organic compounds, lead, and cadmium to determine the effectiveness of the decontamination. The area will continue to be washed and rinsed until levels are below detectable MCLs, or PQLs if MCLs are not available.
- The rinsing fluids will be discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described herein.
- The cleansed dumpster and dock structure will be reused by Safety-Kleen, or scrapped.
- The cleanup equipment and solutions disposal are the same as those listed earlier.

PHASE I--OPEN THE TANK

- Access to aboveground tanks is obtained by removing manways.
- Prior to opening the tanks, the personnel should have full-face respiratory protection and protective clothing. Once the tanks have been opened they will be provided with positive ventilation. The tanks will then be inspected to determine the approximate quantity and physical conditions of the remaining material.

PHASE II--REMOVING WASTE AND CLEANING TANK

- Before removing the waste from the tank, all piping and appurtenant equipment will be flushed first with clean mineral spirits followed by detergent solution.

- The method to remove the waste material from the tanks will depend on the physical properties and quantities of that material. Prior to any person entering the tank, an effort will be made to remove as much liquid and sludge as possible.
- Subsequent to vacuuming the majority of the material from the tanks, it may be necessary to use a high pressure wash system using clean solvent and detergent solution to rinse residual material from the walls and bottom of the tanks. The evacuated material and the rinse solution will be returned to the recycle center for reclamation. The quantity of wash fluid used will be kept to a minimum in order to limit the amount of unnecessary material. The final rinsate will be analyzed for mineral spirits, volatile organic compounds, lead, and cadmium, using SW-846, to determine the effectiveness of decontamination. The tank will continue to be washed and rinsed until levels are below MCLs, or PQLs if MCLs are not available. Rinsate will be removed using a vacuum tanker truck and will be disposed of as hazardous waste. It is anticipated that approximately 2,000 gallons of rinsate will require RCRA disposal.
- Storage tanks are considered confined spaces, i.e., spaces open or closed having a limited means of egress in which poisonous gases or flammable vapors might accumulate or an oxygen deficiency might occur.
- Confined space entry requires special operating procedures:
 - ▶ Tanks are to be washed, neutralized and/or purged (where flammable atmosphere is present) prior to being entered.
 - ▶ Supply valves must be closed and "tagged" and bleeder valves left open, or supply piping should be disconnected.



- ▶ Pumps or motors normally activated by automatic controls shall be operated manually to be sure they have been disconnected. Instrument power switches should be tagged "OFF."
- ▶ On tanks where flammable vapors may be present, all sources of ignition must be removed.
- ▶ All tanks must be tested for flammable vapors, toxic gases or oxygen deficiency, in that order, as applicable. The results of such tests should be displayed on the job site.
 - In all tank entering situations, an Oxygen Deficiency Test shall be performed prior to tank entry.
 - Under circumstances where "hot work" (welding, burning, grinding, etc.) is to be performed in or on the vessel, a test for combustible gases shall be taken. This is referred to as a "flash test."
 - In most circumstances, flash tests and oxygen deficiency tests will be performed by the supervisor of the area in which the work is being performed.
 - Under any conditions where a possibility (no matter how remote) of toxic vapors being present in the tank to be entered exists, the supervisor will arrange to have the air tested.
- ▶ A set of wristlets or a rescue harness and sufficient rope must be present at the job site to effect a rescue. Any other rescue equipment considered necessary must also be on the job site.

- ▶ Workers should wear a rescue harness if entering a tank with a large enough opening to easily effect a rescue. In tanks with small openings, only wristlets may be used. However, in cases where there are agitator shafts, drums, or other hazards in which the man's life-line would be entangled and the supervisor in charge feels that wearing the life-line may entrap a man and increase the hazard, the wearing of a harness or wristlets may be eliminated.
- ▶ A constant source of fresh air must be provided to ensure a complete change of air every few minutes. In cases of short-term entry for inspection or removal of objects, an air mask is recommended. In cases of long-term entry (generally for repair) the use of an air mover should be considered.
- ▶ When a ladder is required to enter a tank, the ladder must be secured and not removed while anyone is in the vessel. In cases where a rigid ladder could become an obstacle, a chain ladder may be used.
- ▶ Adequate illumination must be provided.
 - A flashlight or other battery operated light must also be available to provide illumination for a safe exit in the event of an electrical power failure.
 - In any tank used to store flammable liquids, explosion-proof lighting must be used.
- ▶ All electrical equipment to be used inside the tank must be in good repair and grounded.

- ▶ Others working in the immediate area shall be informed of the work being done and they shall inform the watcher or supervisor immediately of any unusual occurrence which may make it necessary to evacuate the tank.
- The "buddy" (standby observer) system:
 - ▶ Men working inside a confined space must be under the constant observation of a fully-instructed standby observer.
 - ▶ Before anyone enters the tank, the standby observer will be instructed by the person in charge of the entry that:
 - An entry authorization must be obtained from the person in charge by anyone entering the tank.
 - A rescue harness or wristlets must be on the job.
 - The standby observer must know the location of the nearest telephone (with emergency numbers posted); safety eyewash/shower; fire extinguisher; and oxygen inhalator.
 - For all "hot work" inside a tank, the standby observer must be instructed how to shut down welding/burning equipment.
 - As long as personnel are inside the vessel, the standby observer must remain in continuous contact with the worker. **HE IS NOT TO LEAVE THE JOB SITE EXCEPT TO REPORT AN EMERGENCY.**

- **UNDER NO CIRCUMSTANCES SHOULD THE STANDBY OBSERVER ENTER THE VESSEL.** If the worker(s) in the tank becomes ill or injured, the watcher is to put in effect the emergency plan described in the attached Standard Operating Procedure.
 - The standby observer still **DOES NOT ENTER THE TANK** until help is available.
 - After being instructed in his responsibilities, the standby observer will sign an instruction form indicating his understanding.
- Welding and burning within a tank:
- ▶ All welding and burning equipment must be provided with a shutoff device under the control of the standby observer, and the standby observer must know how to shut off the equipment if it becomes necessary.
 - ▶ Welding and burning equipment will only be taken into a tank immediately prior to its use and must be removed from the tank immediately after the job is finished.
 - ▶ For all "hot work" inside a tank, a properly executed flame permit, if needed, must be displayed at the job site.
 - ▶ Standard welding and burning safety precautions will always be followed.

PHASE III--REMOVE TANK

- Disconnect and cap all appurtenant piping.

- Disconnect and decontaminate all appurtenant pumping equipment.
- The vessels shall be removed and reused by Safety-Kleen or cut up and sold as scrap.
- The surface soil beneath the fill pipes and beneath each tank (see Exhibit B) will be sampled and analyzed for volatile organic compounds, mineral spirits, lead, and cadmium.
- Contaminated soil, if it exists, shall be removed and properly disposed of. An additional work plan to determine the extent of contamination and remediation procedures will be submitted in this case.
- The secondary containment system will be disassembled. The construction materials will be tested with TCLP (pertinent constituents only). If the construction materials are classified as non-hazardous via TCLP, then they will be disposed of as a solid waste in a sanitary landfill. In the event the construction materials are identified as hazardous via TCLP, then the construction materials will be disposed of as a hazardous waste in accordance with RCRA regulations.

PHASE IV--BACKFILLING AND REGRADING

- Backfill any excavation with previously excavated material with proper compaction.
- Add additional backfill with proper compaction if necessary. The material must be of clean materials and easily compacted in place.
- Regrade the site to proper topography.
- Remove and dispose of nonusable debris.

FACILITY CLOSURE SCHEDULE AND CERTIFICATION

- Safety-Kleen may amend the closure plan at any time during the active life of the facility. The active life of the facility is that period during which wastes are periodically received. Safety-Kleen shall amend the plan any time changes in operating plans or facility design affect the closure plan or whenever a change occurs in the expected year of closure of the facility. The plan must be amended within 60 days of the changes.
- Within 90 days of receiving the final volume of hazardous wastes, or 90 days after approval of the closure plan, if that is later, Safety-Kleen shall remove from the site all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if Safety-Kleen demonstrates that:

The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

The following requirements are met:

- ▶ The facility has the capacity to receive additional wastes;
- ▶ There is a reasonable likelihood that a person other than Safety-Kleen will recommence operation of the site;
- ▶ Closure of the facility would be incompatible with continued operation of the site; and
- ▶ Safety-Kleen has taken and will continue to take all steps to prevent threats to human health and the environment.

- Safety-Kleen shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, whichever is later.
- When closure is completed, all facility equipment and structures shall have been properly disposed of, or decontaminated by removing all hazardous waste and residues.
- When closure is completed, Safety-Kleen shall submit to the certification by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

ATTACHMENT II.K.2
CONTINGENT POST-CLOSURE PLAN

ATTACHMENT II.K.2

CONTINGENT POST-CLOSURE PLAN

Closure and post-closure regulations have been promulgated by the United States Environmental Protection Agency (EPA) at 40 CFR, Part 264, Subpart G for permitted hazardous waste facilities. Specific post-closure requirements for hazardous waste storage tanks are contained in 40 CFR 264, Subpart J. The FDER has adopted these regulations by reference in Chapter 17-30.180 of the Florida Administrative Code (FAC).

Forty CFR 264.197(c) requires post-closure of tanks as landfills if the tank system does not have secondary containment that meets the requirements of 264.193(b) through (f), unless a variance from secondary containment requirements in accordance with 264.193(g) has been granted. The tank system at Boynton Beach has secondary containment which meets the requirements of 264.193, and is therefore not required to have a contingent post-closure plan under 264.197(c).

Forty CFR 264.197(b) requires post-closure of tanks as landfills if the owner or operator demonstrates that not all contaminated soils can be practically removed or decontaminated. At the present time, Safety-Kleen intends to remove or decontaminate all tank system components, associated containment systems, and contaminated soils. If at a subsequent time or at the time of the closure permit application, it is determined that all contaminated soils and tank system components cannot practicably be decontaminated or removed, then a plan to perform post-closure care in accordance with the post-closure care requirements that apply to landfills (Part 264-310) will be enacted.