Feasibility and Plan of Operation Report

Safety-Kleen Systems, Inc.
2100 Badger Road
Kaukauna, WI 54130

WID981187297
FID445097400

Prepared by Safety-Kleen Systems, Inc. October 2012
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CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to 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. (Wisconsin Administrative Code NR 670.011(4)(a)

Name of Person Making Certification: Virgil W. Duffie III

Title of Person Making Certification: SVP and Assistant Secretary

Signature of Person Making Certification: _____

Date of Certification: 08/01/2012

Part I – General Requirements

Section A NR 670.010 – NR 670.014

A.1 NR 670.010(1) *Two copies of license application submitted.*

Two hardcopies of the license application have been submitted.

A.2 NR 670.010(12) *Appropriate plan review and license fees submitted.*

The plan review and license fees of $10,400.00 have been submitted.

A.3 NR 670.011(1) *Report signed by a president, secretary, treasurer or vice president of a corporation or other approved signatory.*

The Feasibility and Plan of Operation Report has been signed by Virgil W. Duffie II, Senior Vice President and Secretary for Safety-Kleen Systems, Inc.

A.4 NR 670.011(4) *Signature includes certification statement.*

The required signature by a responsible corporate officer includes the certification statement found in NR 670.011 (4).

A.5 NR 670.012 *Claims of confidentiality are met.*

The facility is not claiming confidential business information so this section does not apply.

A.6 NR 670.014(2)(v) *Summary of pre-application meeting, list of attendees/addresses and copies of written comments or materials submitted during meeting.*

A Pre-application Meeting (Public Hearing) was held September 4, 2012 from 6:00 PM - 8:00 PM at 2201 Badger Road Kaukauna, WI. There were no attendees from the public, no written comments, and no materials were submitted during this meeting. Materials prepared for the public hearing are included in Exhibit J-1.

Public Notice Requirements

As required by ss. NR 670.14(4)(a)1-3, the Public Hearing was properly noticed. Exhibit J-2 contains proof of compliance.

Newspaper Notices:	**Publish/Air Date:**
Wisconsin State Journal	August 6, 2012
Kaukauna Times-Villager	August 4, 2012
Location Radio Station:	
WTAQ-AM 1360	August 3, 2012

Facility Signage:
A 2-sided A-Frame sign with 24" x 24" message board was placed at front of the facility.

Local Units of Government:

City of Kaukauna, WI	August 10, 2012
Outagamie County	August 27, 2012

A.7 NR 670.014(2)(w) *Documentation showing compliance with local approval requirements.*

Safety-Kleen obtained local approval from the City of Kaukauna. The approval verified compliance with all local requirements. This approval is included as Exhibit G-1.

A.8 NR 670.013 *Complete Part A application*

The Part A application is included as Exhibit A-1.

A.9 NR 670.014(1) *Technical data, such as design drawings and specifications and engineering studies are certified by WI registered PE.*

Technical data, such as design drawings and specifications are certified by Wisconsin Certified PE, Kraig L. Spence. The PE stamp is located on each document as appropriate.

A.10 NR 670.011(2)(a) *General description of facility.*

Safety-Kleen Systems, Inc. is an international service-oriented company whose customers are primarily engaged in automotive repair, industrial maintenance, and dry cleaning services. The company has been operating since 1968, offering solvent collection and reclamation services for its 270,000 customers, many of whom generate less than 1000 kilograms (2,220 pounds) of hazardous waste per month. In 2011, Safety-Kleen (company-wide) reclaimed more than 206 million gallons of used oil, and over 14 million gallons of used parts washer solvent. Safety-Kleen is also a leading provider of containerized waste services, vacuum services, total project management, and other environmental services to a wide array of customers in the automotive, metalworking, manufacturing, and other end markets.

The Kaukauna Service Center typically operates Monday through Friday from 6:00 AM to approximately 7:00 PM. The Service Center Manager (Branch General Manager) has the ultimate responsibility of the facility's operations. In the event of his/her absence, a qualified designate will assume the responsibility.

Facility Address:	2100 Badger Road / 2201 Badger Road Kaukauna, WI 54130
US EPA Identification Number:	WID 981 187 297
Wisconsin Facility Identification Number:	445 097 400
Telephone Number:	920-766-4266
Fax Number:	920-766-0006
Geographic Location:	44° 18' 00" N 88° 15' 26" W Outagamie County T21N – R18E, NE ¼ of NE ¼ of Section 13
Property Owner (2100 Badger Road)	B & B Enterprises W3110 Creek View Lane Appleton, WI 54915
Property Size:	1.220 Acres
Telephone Number:	920-202-3742
(2201 Badger Road)	Safety-Kleen Systems, Inc.
Property Size:	4.13 Acres
Date Operations Began:	April 11, 1985

This facility is an accumulation point for many spent materials generated by Safety-Kleen customers, the majority of whom are small quantity generators. Wastes are ultimately transported to a Safety-Kleen recycling facility or a contract reclaimer for processing. There is no onsite hazardous waste processing. Business activities are conducted on contiguous sides of Badger Road in the City of Kaukauna, Outagamie County, Wisconsin as shown on the Site Location Map included as Exhibit B-1. The facility is located in Kaukauna's Industrial Park. The City of Kaukauna zoning is included as Exhibit B-3.

The Kaukauna Service Center began operations as a storage facility at 2100 Badger Road on April 11, 1985. The facility is not establishing, constructing, or expanding its hazardous waste storage. The facility is a small and simple warehouse facility regarding its physical and operational needs. The facility consists of the following structures:

2100 Badger Road (South Side)

a. A building with office and warehouse space which includes a container storage area;
b. One tank farm with three storage tanks: one 13,500 gallon tank is used for the storage of spent parts cleaner solvent and the other two tanks, a 13,500 gallon tank and a 15,000 gallon tank are used for the storage of clean parts cleaner solvent (or other bulk product for distribution)
c. A return and fill station
d. Metal storage shelters used for storage of transfer wastes or inventory items

2201 Badger Road (North Side)

a. One building with office and warehouse space;
b. One tank farm with three storage tanks and space for three additional tanks. These tanks are currently unused but may be utilized for storage of bulk product for distribution or for storage of used oils, oily water, or used antifreeze

FACILITY TYPE: Storage in an above ground tank (S02) and in containers (S01)

Storage Unit	Capacity (Gallons)	Secondary Containment (Gallons)	Material to Be Stored
Tank	13,500	6,019+	Spent Parts Cleaner Solvent (D001[1])
Container Storage Area (CSA) Warehouse	790	79	Dumpster Sediment (D001[1]) Branch Debris ((D001[1]) Spent Immersion Cleaner (D006[1]) Dry Cleaning Waste (F002, D039[1])

+ This value represents the net (excess) secondary containment volume, taking into account the volume of the largest tank, the displacement of the pad and the other two tanks and the local rainfall allowance.

[1] and 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

Safety-Kleen offers collection services for numerous non-hazardous waste streams. The facility holds a Solid Waste Processing Facility Operation License #3764 issued by the Wisconsin DNR.

Sealed (closed) containers of Solid Wastes are delivered to the Facility and are accumulated prior to offsite shipment. Some of the wastes managed include: oil, oil filters, inks, paint filters, paint powders, paint sludge, pit sludge, greases, absorbents, oil sludge, spent filters, degreasing solvents, aqueous cleaning

solutions, fiberglass resins, dibasic esters, polymers, industrial wastewaters, rags, coolants, photographic wastes, PCB-contaminated materials (primarily used oils), universal wastes (i.e. mercury-containing devices, batteries, spent lamps and bulbs), industrial liquid waste (i.e. combustible liquids, corrosive liquid), used photographic solutions, used photographic silver flake/silver sludge, scrap films (medical and from print industry), used aluminum plates from printing operations, etc. This list is not exclusive but is representative of wastes to be managed through the facility. A Safety- Kleen representative collects these containers and stores them in a transfer storage area at the facility. These wastes are transported to a Safety-Kleen recycle center or other reclaimer for processing or disposal.

Other activity conducted pursuant to the Solid Waste Processing License is management of non-hazardous parts washer solvent (petroleum naphtha). Non-hazardous spent parts washer solvents (SK Premium Gold/150) from customers will be transferred to the waste storage tank via the return and fill station which consists of a dumpster, dumpster/barrel washer and pump. Each container will be manually emptied allowing the waste to flow into one of the dumpsters. The waste material in the dumpsters/barrel washer will be pumped to the tank.

This facility only receives wastes transported directly from the original generator on Safety-Kleen Systems operated route vehicles.

At no time will the Facility accept:

- infectious, medical wastes (such as blood or body fluids) or human tissue;
- compost material; construction or demolition wastes;
- household waste as defined in NR 500.03(105) (including garbage, trash and sanitary waste in septic tanks which is derived from households, hotels, motels, etc.);
- municipal solid waste as defined in NR 500.03(150) (household waste, or solid waste from commercial or industrial sources that does not contain any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as dry cleaners or paint shops);
- putrescible waste as defined in NR 500.03(185) (solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of supporting a vector population or attracting or providing food for birds)

There are no non-hazardous or hazardous waste activities currently being conducted at 2201 Badger Road. Notification will be made to the Wisconsin DNR if waste activities will be implemented at this address.

A.11 NR 670.014(2)(h)l *Descriptions of procedures, structures or equipment used to prevent hazards in unloading operations.*

The Kaukauna Service Center was designed to facilitate the handling and storage of the wastes resulting from the services offered by Safety-Kleen. Proper handling of hazardous

waste is ensured through proper training. Employees are trained on hazardous waste procedures during their initial training and then annually. It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Safety-Kleen will store and transport any incompatible wastes in accordance with 49 CFR 177.848 (segregation of hazardous materials). Hazardous waste is received onsite in containers. Proper handling of hazardous waste is ensured through proper training and use of proper equipment. Employees are trained on hazardous waste procedures during their initial training and then annually. Containers will be moved with a forklift, pallet jack, or drum dolly.

A.12 NR 670.014(2)(h)2 *Description of procedures, structures or equipment used to prevent runoff from hazardous waste handling areas or to prevent flooding.*

Containers of waste are off-loaded from route trucks into enclosed storage areas. The containers are stored in an enclosed warehouse, and not subject to run on or run off. Tank storage is in a diked tank farm. The diking prevents run on and runoff. The dikes are constructed to contain the anticipated collection from a 24-hour, 25-year storm. Drums of spent petroleum naphtha solvent are emptied in the Return and Fill which is contained so that any material splashed, dripped, or spilled will not runoff.

The tank farm containment area is designed and operated to remove accumulated liquids through a sump located in the containment dike. Accumulated precipitation in the secondary containment system will be removed in a timely basis after detection. A visual inspection of the storm water for a sheen and discoloration will be conducted. If no sheen or discoloration is noted, the accumulated precipitation will be discharged from the tank farm to the surface of the facility. If a sheen is noted, the precipitation will be pumped into an onsite storage tank for offsite management. If a solvent spill occurs within the containment dike, the spilled material will be completely removed. Should a spill occur and there is water present, a waste determination shall be made the material will be managed appropriately. Accumulated liquids will be removed by use of a portable electric pump that must be placed into the sump. An automatic pump is not present in the tank farm.

A.13 NR 670.014(2)(h)3 *Description of procedures, structures or equipment used to prevent contamination of water supplies.*

The Kaukauna Service Center is operated in a manner that is protective of water supplies. Containers of waste are stored in enclosed storage areas and the transfer of parts washer solvent to the bulk storage tank is conducted over secondary containment. Bulk storage

tanks are located within a diked tank farm that has adequate containment capacity. The facility is maintained to prevent waste materials migrating to the environment.

A.14 NR 670.014(2)(h)4 *Description of procedures, structures or equipment used to mitigate effects of equipment failure or power outages.*

A power failure would not result in a spill. Should a power failure occur, all activities requiring electricity will cease. The transfer pump used to pump the spent solvent into the storage tank is electric and will fail during a power outage. No liquid can back flow from the tank because the fill line has a check valve at the tank. Since the tank is not pressurized, the lines will be in a stable state until the power is restored and the pump is restarted. The high level alarm on the tank requires electricity to operate. However, the only way spent solvent can be transferred into the storage tank is via the transfer pump and the pump will not be operable during a power outage.

The transfer pumps used to pump clean solvent into the storage tanks, or remove spent solvent from the tank are located on the transport vehicles so a power failure will not have any effect on removal of material from the tank.

A.15 NR 670.0014(2)(h)5 *Description of procedures, structures or equipment used to prevent exposure of personnel.*

All Safety-Kleen employees receive extensive training on recognizing hazards in the workplace and how to avoid or best manage them. Safety-Kleen's Health and Safety department completes hazard assessments for all branch activities and issues a Personal Protection Equipment Matrix that all employees are required to follow. An example PPE Matrix is included as Exhibit B-27. There is an emergency eyewash/handheld shower located in the warehouse. There is a standard shower located in the office area that can be used to decontaminate in the event of accidental contact with contaminants and end-of-day decontamination.

A.16 NR 670.014(2)(h)6 *Description of procedures, structures or equipment used to prevent releases to the atmosphere.*

The tank system is equipped with a high level alarm which indicates when the tank is 95% full. The high level alarm is inspected daily for proper functioning of electrical and mechanical components. The volume of spent solvent in the bulk storage tank is visually monitored daily to ensure adequate capacity for the day's activities. In order to prevent releases from the hazardous waste storage tank, the tank is equipped with a high level alarm that is activated by a float. If the level in the tank is 95% of capacity, the float activates a switch which activates both visual and audible alarms. The transfer pump is also disabled so that the tank will not overflow.

The tank is equipped with a pressure/vacuum vent which operates at two ounces of pressure and one ounce of vacuum. The specific gravity of the hydrocarbon-based parts washer solvents is approximately 0.8 and the vapor pressure is less than 2mm at 68

degrees F. Tanks and piping are inspected each operating day for signs of deterioration.

Containers of waste are not opened while onsite. They are inspected daily (when the facility is in operation) for signs of deterioration.

A.17. NR 670.014(2)(j). *Traffic patterns, estimated traffic volume, traffic control, access road surfacing and load bearing capacity.*

Access to Safety-Kleen Systems, Inc. Kaukauna Branch is from interstate 41 to Highway 55. The distance from interstate 41 to the Safety-Kleen facility is approximately 1 mile. The on-site traffic pattern loops around the facility. The truck entrance accesses the facility from the southwest side and circles around the plant, exiting either at the south side of the facility or at the same point of entrance. Most cars are confined to the south and southwest parking lots which are located in non-traffic areas. Most trucks are confined to the lot located south east of the Safety-Kleen facility in non-traffic areas. Within the plant, traffic vehicles consist mostly of forklifts with the occasional arrival of a semi-trailer. Forklifts do not cross streets between facilities.

Traffic is controlled by a one-way direction around the plant. Three access locations are utilized at the south Plant on Badger road. The access to the facility is from Badger Road, which is constructed with concrete. According to the City of Kaukauna's engineering department, this is an industrial park rated for all industrial traffic. According to Kaukauna's engineering department, there is no specific rating for Badger Road and the construction is adequate for all types of industrial traffic.

The facility's waste collection vehicles that deliver wastes daily to the Service Center are completely enclosed cargo-box straight trucks with a GVW of 33,000 pounds. Waste containers will be transported from the Service Center in completely enclosed box trailers. The facility is serviced by 18-wheel, 5-axle tractor-trailers with a maximum load of approximately 80,000 pounds, with 13,000 lbs. /axle attributed to the steering axle (axle 1), and approximately 34,000 lbs. maximum gross weight between axles 2 and 3, and 34,000 lbs. maximum gross weight between axles 3 and 4. The tractor/trailer is generally dispatched to the Service Center one time per week.

Bulk tractor/tankers are dispatched from the recycle center approximately every 20 working days to deliver the fresh solvent and pick up spent solvent. These transfer activities are conducted at the aboveground tank area to the south of the building, and at the overhead door on the west side of the building. These trucks have a maximum GVW of 80,000 pounds. The size of the vehicles used to transport wastes to and from this facility may vary from what is previously described; the cargo-carrying portion of the vehicle will always be a completely enclosed box-type cargo truck or bulk tanker.

The Service Center currently has 4 box trucks and 3 bulk tank trucks based at the facility so the traffic generated by the Safety-Kleen operation does not have a major impact on the traffic volume of adjacent and nearby roadways, or the routes the trucks travel.

A.18. NR 670.014(2)(b). *Chemical and physical analyses of the hazardous waste and debris to be handled at the facility.*

The complete Waste Analysis Plan is located in Section G.

Bottom Sediment in the Tank: Periodically, it is necessary to remove sediment and other heavy material from the bottom of the tank. A vacuum truck is used for this purpose and can collect up to 4,000 gallons of this waste for reclamation. The sediment may be ignitable (D001) and may exhibit the toxicity characteristic (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). This waste is transported to a Safety-Kleen Recycle Center or other properly permitted facility.

Dumpster Sediment: Sediment also accumulates in the bottom of the drum washer in the return and fill station. This sediment is removed manually, containerized, and the containers are stored in the CSA. The chemical composition of this waste is analogous to that of the bottom sediment from the tank. This waste sediment will be transported to a Safety-Kleen Recycle Center or other properly permitted facility.

The analytical data utilized to determine the 2013 waste codes for the tank bottoms and dumpster sediment is included in Exhibit C-5.

A.19. NR 670.014(2)(b). *Chemical and physical analyses contains all information that must be known to treat, store or dispose of the waste according to NR 664 requirements.*

The Waste Analysis Plan is located in Section G.

A.20. NR 670.014(2)(f). *Justification of any request for a waiver of the preparedness and prevention requirements NR 664. subch.C.*

No request for a waiver of the preparedness and prevention requirements of subch. C of ch. NR 664 is being made.

A.21. NR 670.014(2)(i). *Description of precautions taken to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes, including A.22 to A. 24*

Reactive wastes are not received at this facility. It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Safety-Kleen will store and transport any incompatible wastes in accordance with 49 CFR 177.848, Segregation of Hazardous Materials. Any potentially wastes that may be incompatible with others wastes would be managed as 10-day transfer wastes and these wastes remain in the container in which they were originally packaged until received at a Safety-Kleen Recycle Center or other properly permitted facility.

The facility receives ignitable waste (spent petroleum naphtha solvent). The following is a list of general fire prevention and minimization measures:

a. All waste and products are kept away from ignitable sources – Personnel must confine smoking and open flames to remote areas, separate from any ignitable materials. The solvent handling area and the aboveground storage tanks are separated from the warehouse area to minimize the potential for a fire to spread or injury to personnel. All electrical wiring, switches, and fixtures meet applicable fire safety and electrical construction codes.

b. 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 spent parts cleaner solvent is stored in a tank or in containers, none of which are near sources of extreme heat, fire, potential explosion sources, or sources that are subject to violent reactions. The tanks are vented and the containers are kept at ambient temperature to minimize the potential for pressure buildup.

2. Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health – The vapor pressure of parts cleaner solvent is low, 2 mm Hg at 68°F, and it is reactive with reactive metals and strong oxidizers only. Toxic mists, fumes, dusts, or gases will not form in quantities 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 parts cleaner solvent will not cause deterioration of the tank, drums or other structural components of the facility.

c. 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.

d. Fire extinguishers must be checked once per week by facility personnel to ensure proper charge, and once per year by a fire extinguisher company.

e. There is a potential for static electricity occurring during transfer activities to and from the bulk solvent storage tanks and the transport tanker. This is controlled through bonding and grounding. In bonding, two containers or

fluid streams are electrically connected. This neutralizes the build-up of a difference in static charge or potential between the two containers. In grounding, the containers are electrically connected to the Earth, which also drains off the buildup of static charge or potential.

A.22 NR 664.0017(1) *Ignitable and reactive waste is separated and protected from sources of ignition or reaction.*

See A.21 above

A.23. NR 664.0017(1) *Smoking and open flame are confined to specially designated locations when handling ignitable or reactive waste.*

The facility manager is responsible for implementation of the written site-specific hot-work permit system program. This responsibility includes identifying areas in the plant which will require a hot work permit, indicating which areas are considered safe for hot work, and ensuring that plant equipment and areas have been properly classified and maintained in a safe working condition. Open flames are not permitted in any areas where ignitable or flammable materials are stored. Smoking is permitted only outside of the facility buildings and fenced areas, generally near the employee parking areas. Safety-Kleen's Hot Work Procedure and example permit is included as Exhibit B-31.

A.24. NR 664.0017(1) *"No Smoking" signs are conspicuously placed where there is a hazard from ignitable or reactive waste.*

"No Smoking" signs are posted in areas where ignitable solvents are handled or stored.

A.25. NR 664.0017(3) *Documentation demonstrating compliance with A.22. to A.24., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions.*

There are no references, so this section does not apply.

Part 1 – Noncompliance with Plans or Orders

Section B NR 670.014(2)(x)1

B.1 NR 670.014(2)(x)1.a *Identification of all persons owning ≥10% legal or equitable interest in the applicant or their assets.*

An organizational chart of the company structure is included as Exhibit A-2.

B.2. NR 670.014(2)(x)1.b. – B.3. NR 670.014(2)(x)1.c.

Identification of all WI solid or hazardous waste facilities for which applicant or other identified person is named in or subject to a department order or plan approval.

Identification of all WI solid or hazardous waste facilities owned by the applicant or other identified person who owns or previously owned ≥10% interest in the assets.

Following is a list of all Safety-Kleen Systems, Inc. operations in the State of Wisconsin.

Location	Type of Facility
2200 S. West Avenue Waukesha, WI	• TSDF • 10-Day Hazardous Waste Transfer Site • Solid Waste Processor • Hazardous Waste/Full Service PCB Transporter • Solid Waste/Recyclables Transporter
2100 Badger Road Kaukauna, WI	• TSDF • 10-Day Hazardous Waste Transfer Site • Solid Waste Processor • Hazardous Waste/Full Service PCB Transporter • Solid Waste/Recyclables Transporter
3715 Lexington Avenue Madison, WI	• 10-Day Hazardous Waste Transfer Site • Used Oil Processor • Solid Waste Transfer Site • Hazardous Waste/Full Service PCB Transporter • Solid Waste/Recyclables Transporter
552 Carter Court Kimberly, WI	• Used Oil Processor
16955 W. Rogers Drive New Berlin, WI	• Hazardous Waste Generator-LQG

B.4. NR 670.014(2)(x)1.d. *Statement regarding whether or not all plan approvals and orders relating to all identified facilities are being complied with.*

To the best of Safety-Kleen's knowledge, all facilities listed above are operating in compliance with all plan approvals and operating conditions.

Part I – Environmental Impact Review

Section C NR 670.014(2)(x)2

C.1. NR 670.014(2)(x)2.a*. Purpose, history, background, relevant local, state and federal permits or approvals and zoning changes for the project.*

Safety-Kleen Systems, Inc. in Kaukauna, WI, is an accumulation point for many spent materials generated by Safety-Kleen customers. All wastes are ultimately transported to a Safety-Kleen recycling facility or a contract reclaimer for processing. There is no onsite hazard waste processing.

At the facility, spent solvent is received in 5, 16, and 30 gallon containers. The contents are transferred to the bulk storage tank via the return and fill station. The emptied drums are cleaned and refilled with clean product for the next day's services. Periodically (approximately once per week) a tanker truck is dispatched from Safety-Kleen's Dolton, Illinois Recycle Center to deliver a load of clean solvent and to collect the spent solvent at the facility.

All other wastes received at the Kaukauna facility are stored in the original shipping container. When sufficient quantities are accumulated (usually twice per week), a box trailer is dispatched to deliver products needed and to transport the containers of waste to a Safety-Kleen Service/Recycle Center for processing.

The Kaukauna Service Center began operations as a storage facility on April 11, 1985. An initial Hazardous Waste Storage License was issued by the WI Dept. of Natural Resources on June 29, 1990. The facility was re-licensed April 15, 2003. The total licensed hazardous waste storage capacity is 14,290 gallons. The purpose of the Feasibility and Plan of Operation Report is to renew the license to store and transfer hazardous waste. The maximum storage capacity is remaining the same.

C.2. NR 670.014(2)(x)2.b.1) *Description of proposed physical changes related to terrestrial resources, such as soil placement, construction of roads, surface water drainage and sedimentation controls.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, terrestrial resources, such as soil placement, construction of roads, surface water and sedimentation controls will not be affected.

C.3. NR 670.014(2)(x)2.b.2) *Description of proposed physical changes related to aquatic resources, such as impacts to streams, wetlands or other water bodies.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, there will be no impacts to streams, wetlands or other water bodies.

C.4. NR 670.014(2)(x)2.b.3) *Description of proposed physical changes related to the construction of buildings and other structures.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore there will be no changes related to the construction of buildings and other structures.

C.5. NR 670.014(2)(x)2.b.4) *Description of proposed physical changes related to air emissions and water discharges during facility construction, operation and closure.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, there will be no changes related to air emissions and water discharges during facility construction, operation and closure.

C.6. NR 670.014(2)(x)2.b.5) *Description of proposed physical changes related to any other changes anticipated with facility development.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, there will be no changes anticipated with facility development.

C.7. NR 670.014(2)(x)2.b.6) *Maps, plans or other materials needed to clarify the information provided for C.2. to C.6.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, this section is not applicable.

C.8. NR 670.014(2)(x)2.c.1) *Description of the effects on the existing physical environment, such as topography, surface water drainage, hydrogeologic conditions, geology.*

Safety-Kleen is not proposing any physical changes to the existing facility. The Safety-Kleen Service Center is located within the Fox-Wolf River drainage basin. The surface terrain and drainage are influenced by the bedrock surface topography and have been modified by glacial deposition and subsequent erosion. The general topography of the basin includes broad, relatively flat plains, and some generally north-south-oriented ridges. Regional highs and lows on the bedrock surface generally underlie and influence the present-day surface terrain in the basin.

The Safety-Kleen Service Center is located approximately one and one-quarter miles north of the Fox River. The immediate vicinity of the site is a lacustrine plain which is comprised of fine-textured silt and clay. The area of the Service Center has an average surface elevation of approximately 700 feet above mean sea level.

The Prairie du Chien and St. Peter sandstone, and Cambrian units are the deepest principal bedrock aquifers in the area. Wells completed in these aquifers commonly yield approximately 500 gallons per minute (gpm) and are a source of water for many municipalities and industries. Above the Cambrian units is Galena dolomite and undifferentiated Platteville formation of the Sinnipee Group from the Ordivician Period. The bedrock slopes to the east toward Lake Michigan. The Platteville-Galena bedrock unit,

which ranges from about 100 to 300 feet thick, generally yields ground water at a rate of less than 50 gpm to wells but is still used as an aquifer for domestic and farm wells. The lacustrine deposits above the Platteville-Galena unit are not good sources of ground water due to the clay and silt deposits, which restrict permeability and therefore water movement. These lacustrine deposits are approximately 80 feet thick.

The major soil association in the vicinity of the Safety-Kleen Service Center is in the Winneconne-Manawa Association. A soils map is included in Exhibit B-8. These soils which are underlain by glacial till, silty clays, or lacustrine clay sediments are well drained to somewhat poorly drained, nearly level, and slowly permeable to very slowly permeable soils. The soil on which the Kaukauna Safety-Kleen facility is located is a Winneconne silty clay loam, two to six percent slopes. This soil series is a well-drained to moderately well-drained material. The available water capacity is moderate and permeability is slow to very slow.

The amount of surface water leaving the facility is minimized by having grassy areas located in the front and back of the property. Any surface water leaving the property would be conveyed primarily by the driveways into the Heart of the Valley storm water management system. A site storm water flow diagram is included as Exhibit B-35.

C.9. NR 670.014(2)(x)2.c.2) *Description of the effects on existing dominant aquatic and terrestrial plant and animal species and habitats.*

The facility conducts the waste activities in contained areas, so there is a minimal risk of adverse effects to terrestrial plant and animal species that are native to this area. The facility is not located on or near any ponds, lakes or bodies of water where aquatic life would be affected.

C.10. NR 670.014(2)(x)2.c.3) *Description of the effects on existing land use, dominant features, and zoning in the area.*

The Service Center is located in Outagamie County that has a total area of 644 square miles (1,668 km^2), of which 640 square miles (1,658 km^2) is land and 4 square miles (10 km^2) is water. The facility is located in Kaukauna's Industrial Park. The City of Kaukauna zoning map is included as Exhibit B-3.

C.11. NR 670.014(2)(x)2.c.4) *Description of the effects on existing social and economic conditions, such as ethnic or cultural groups.*

The City of Kaukauna is a community of over 15,000. Kaukauna has a 350 acre Industrial Park Network, complete with rail and heavy truck access. Operation of the Service Center has a positive effect on existing social and economic conditions. The facility offers employment opportunities for 16 area residents. The facility utilizes local contractors for a variety of needs, such as electrical and mechanical needs, office supplies, safety supplies, and landscaping.

C.12. 670.014(2)(x)2.c.5) *Description of the effects on other existing special resources, such as archaeological, historical, state natural areas, or prime agricultural lands.*

The Kaukauna Service Center is located in the Kaukauna Industrial Park. There are no other existing special resources, such as archaeological, historical, state natural areas, or prime agricultural lands.

C.13. NR 670.014(2)(x)2.d.1) *Discussion of the probable adverse and beneficial physical impacts associated with facility design, construction and operation.*

The facility utilizes good housekeeping and maintenance to maintain the appearance of the facility. There are no adverse impacts associated with the facility design, construction, or operation.

C.14. NR 670.014(2)(x)2.d.2) *Discussion of the probable adverse and beneficial biological impacts such as destruction and creation of habitat, alteration of physical environment and impacts to endangered or threatened species.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, there will be no biological impacts such as destruction and creation of habitat, alteration of physical environment and impacts to endangered or threatened species.

C.15. 670.014(2)(x)2.d.3) *Discussion of the probable adverse and beneficial impacts on land use.*

Safety-Kleen is not proposing any physical changes to the facility. Therefore, there will be no adverse and beneficial impacts on land use.

C.16. NR 670.014(2)(x)2.d.4) *Discussion of the probable adverse and beneficial social and economic impacts to local residents, cultural groups and communities and industries served by the facility.*

Safety-Kleen's operations in the State of Wisconsin have a positive impact on the economic conditions of the area. Safety-Kleen offers a viable and economical outlet for generators' waste which benefits hundreds of Wisconsin companies. Resultant employment results in a higher income tax for the surrounding communities.

C.17. NR 670.014(2)(x)2.d.5) *Discussion of probable adverse and beneficial impacts on other special resources, such as archaeological, historical, state natural areas and prime agricultural lands.*

Safety-Kleen is not proposing any physical changes to the facility. There will be no impacts on other special resources, such as archaeological, historical, state natural areas and prime agricultural lands.

C.18. NR 670.014(2)(x)2.d.6) *Discussion of probable adverse impacts that cannot be avoided, such as groundwater and surface water impacts, modifications of topography, loss of agricultural or forest land, displacement of wildlife and adverse aesthetic impacts for people in and around the facility*

Safety-Kleen is not proposing any physical changes to the facility. There will be no impacts to groundwater and surface water, no modifications of topography, loss of agricultural or forest land, and no displacement of wildlife.

C.19. NR 670.014(2)(x)2.e. *Identify, describe and discuss feasible alternatives such as taking no action, enlargement, reduction or modification of the project*.

Safety-Kleen is not proposing any physical changes to the facility, or to the business activity conducted at the facility. This will allow continuity of necessary services to our customers.

C.20. NR 670.014(2)(x)3 *Needs determination, per s. 289.28, Wis. Stat.*

From the 2003 FPOR Determination from the WI Dept. of Natural Resources:

The facility is part of an international service oriented company whose customers are primarily engaged in automotive repair, industrial maintenance, and dry cleaning services. The facility collects hazardous and non-hazardous wastes from over 1,100 customers.

Other Safety-Kleen facilities are located throughout Wisconsin to serve other areas of the state. These service centers are necessary to efficiently coordinate the product distribution and waste collection service for our customers.

Operation of these facilities assures that adequate waste management and recycling options are available to the automotive repair, industrial maintenance, and dry cleaning businesses in the State of Wisconsin. There are other hazardous waste management companies in Wisconsin, but they generally do not service parts washing equipment or manage the relatively small amounts of waste produced by Safety-Kleen customers.

DESCRIPTION OF THE ENVIRONMENTAL ASSESSMENT

An Environmental Assessment (EA) was conducted for Safety-Kleen's Kaukauna Service Center in 1987, by the Wisconsin Department of Natural Resources. The original EA is essentially correct, except as noted:

DESCRIPTION OF CHANGES TO ENVIRONMENTAL ASSESSMENT- PROJECT SUMMARY

References to specific container sizes and specifications should now reference U.S. DOT approved containers

References to the Elgin, Illinois recycling center should now reference a properly permitted process facility

DESCRIPTION OF CHANGES TO ENVIRONMENTAL ASSESSMENT – PROPOSED PHYSICAL CHANGES

This facility has been in operation since 1985 and there will be no changes to soil, water drainage, aquatic resources, or buildings. There will be no construction activities that may result in changes to air emissions or water discharges.

DESCRIPTION OF CHANGES TO ENVIRONMENTAL ASSESSMENT – ALTERNATIVES

The facility has expanded the facility through the acquisition of adjacent property located at 2201 Badger Road. This additional property has an office/warehouse building for all administrative functions and a tank farm for used oil/oily water or bulk product storage.

Part I – Groundwater Protection

Section D NR 670.014(3)

D.1. – D.9 *If all regulated units meet NR 664.0090(2), this Section is not applicable.*

The Facility does not operate a Solid Waste Management Unit (landfill), therefore this section is not applicable.

Part I – Corrective Action and Solid Waste Management Units

Section E NR 670.014(4)

E.1. NR 670.014(3) *If applicable, information regarding groundwater protection if there is a release from a SWMU.*

There is no groundwater protection at this facility. Therefore, this section does not apply.

E.2. NR 670.014(4)(a)1 . *Topographic map showing location of SWMU*

A topographic map with the location of SWMUs is included as Exhibit I-2.

E.3. NR 670.014(4)(a)2. *Designate type of SWMU.*

There are two SWMUs at the facility: 1-13,500 gallon storage tank and ancillary equipment that includes the return and fill; 1-790 gallon container storage area inside the warehouse building.

E.4.NR 670.014(4)(a)3 *General dimensions and structural description of SWMU.*

The storage tank is a vertical steel tank with a 45 degree cone bottom and a flat roof. It is supported by a steel support skirt. The tank is 12' diameter and 14' high. The return and fill is adjacent to the tank. It consists of a dock structure with steel secondary containment pans and 2 drum washer(s) with a capacity of 163 gallons each, 326 gallons total.

The container storage area is 20'5" X 19'8", with a maximum storage capacity of 790 gallons.

E.5. NR 670.014(4)(a)4 *When the SWMU was operated.*

The SWMUs have been in use since the facility began operations in April, 1985.

E.6. NR 670.014(4)(a)5 *All wastes managed at the SWMU are specified..*

The storage tank is used for spent parts washer solvent that may carry the following waste codes: D001, 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.

The container storage area in the Service Center warehouse is for the storage of (1) sediment from cleaning the drum washer/dumpsters in the return and fill station; (2) solid/liquid debris generated by Service Center operations and activities; (3) spent immersion cleaner; (4) dry cleaning wastes; and 5) aqueous parts cleaner solvent. Other non-hazardous materials or non-regulated wastes, and Safety-Kleen products may also be stored in this area provided the materials are compatible. The wastes stored may carry the following waste codes: D001, 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, F002.

E.7. NR 670.014(4)(b) *All available information pertaining to releases of hazardous waste constituents from hazardous waste units.*

Exhibit I-1 contains summaries of Corrective Action. Included are the Release Assessment Report and Final Case Closure.

E.8. NR 670.014(4)(c) *Results of sampling and analysis of surface or groundwater, soil and air sampling if the department determines a RFA is necessary.*

Exhibit I-1 contains summaries of Corrective Action. Included are the Release Assessment Report and Final Case Closure.

Part I – Location Standards

Section F NR 670.014(2)(k) and NR 670-014(2)(s)

F.1. NR 670.014(2)(k)3 *Identify if facility is in a 100-year floodplain and source of data.*

The area of the Kaukauna facility lies approximately 1 mile north of the nearest 100-year flood boundary, and is about 90 feet above the 100-year flood level. This would indicate there is little risk of flooding at the facility. A 100-foot, 2-foot contour interval topographic of the site is provided as Exhibit B-1.

F.2. NR 670.014(2)(k)3 *Copy of federal insurance administration flood map, or calculations and maps if FIA map is not available.*

A National Flood Insurance Program Map (Flood Insurance Rate Map-FIRM) is provided as Exhibit B-5.

F.3. NR 670.014(2)(k)3 *Identify 100-year flood level and other flooding factors (wave action) considered in design, construction, operation or maintenance of facility to withstand washout from 100 year flood.*

The Facility is not located in a 100-year flood plain area, nor is the area subject to other flooding factors. Therefore, there are no barriers or provisions for drainage or flood control.

F.4. NR 670.014(2)(k)4.a *If facility is located in 100 year flood plain, engineering analysis of various hydrodynamic and hydrostatic forces.*

The Facility is not located in a 100-year flood plain area. Therefore, this section does not apply.

F.5. NR 670.014(2)(k)4.b *Structural or other engineering studies showing design of operational units and flood protection devices and how they will prevent washout.*

The Facility is not located in a 100-year flood plain area. Therefore, this section does not apply.

F.6. NR 670.014(2)(k)4.c *Description of procedures to move hazardous waste before flooding, including timing; new approved or licensed location; resources needed; and, potential of discharge during move.*

The Facility is not located in a 100-year flood plain area. Therefore, this section does not apply.

F.7. NR 664.0018(2)(a) *If a facility located in a 100-year floodplain is not designed, constructed, operated and maintained to prevent washout, a demonstration that procedures in effect to move the waste safely to a location that is not vulnerable to flood waters before flood waters reach the facility.*

The Facility is not located in a 100-year flood plain area. Therefore, this section does not apply.

F.8. NR 670.014(2)(k)5*. If an existing facility is not in compliance with F.7,a plan and schedule to bring the facility into compliance.*

The Facility is not located in a 100-year flood plain area. Therefore, this section does not apply.

F.9. NR 670.014(2)(s) *A dated topographic map showing a distance of 1,000 feet around the facility, with a scale of no more than 1 inch to 200 feet, and contour intervals that clearly shows pattern of surface water flow of waste management unit.*

Topographic map is included as Exhibit B-1.

F.10. NR 670.014(2)(s)1 *Map shows map scale and date.*

Map shows map scale and date.

F.11. NR 670.014(2)(s)2 *Map shows 100 year flood plain area.*

This is not applicable as the facility is not within a 100-year flood plain.

F.12. NR 670.014(2)(s)3 *Map shows surface waters, including intermittent streams.*

Exhibit B-1 shows surface waters, including intermittent streams.

F.13. NR 670.014(2)(s)4 *Map shows surrounding land uses (residential, commercial, agricultural, recreational).*

The City of Kaukauna zoning map is included as Exhibit B- 3.

F.14. NR 670.014(2)(s)5 *Map shows wind rose (prevailing wind speed and direction).*

Exhibit B-4 is a wind rose for the Green Bay Airport located 15 miles northeast of the site.

F.15. NR 670.014(2)(s)6 *Map shows map orientation.*

Exhibit B-4 shows map orientation.

F.16. NR 670.014(2)(s)7 *Map shows legal boundaries of the hazardous waste facility.*

Legal boundaries of the hazardous waste facility are shown on Exhibit B-1.

F.17. NR 670.014(2)(s)8 *Map shows access control (fence, gates).*

Access control (fence, gates) is shown in Exhibit B-16.

F.18. NR 670.014(2)(s)9 *Map shows location of injection or supply wells on-site and off-site.*

There are no injection or supply wells on-site. Therefore this section is not applicable.

F.19. 670.014(2)(s)10 *Map shows buildings and storage, treatment or disposal operations.*

Buildings and storage areas are shown in Exhibit B-16.

F.20. NR 670.014(2)(s)10 *Map shows other structures such as recreation areas, runoff control systems, roads, sewers, loading, unloading areas, etc.*

There are no recreation areas, runoff control systems, roads, or sewers. Therefore, this section is not applicable. Loading and unloading areas are seen on Exhibit B-16.

F.21. NR 670.014(2)(s)11 *Map shows barriers for drainage or flood control.*

There are no barriers for drainage of flood control. Therefore, this section does not apply.

F.22. NR 670.014(2)(s)12 *Map shows location of operational units where hazardous waste will be treated, stored or disposed.*

Location of operational units where hazardous waste will be stored are indicated in Exhibit B-16.

F.23. NR 670.014(2)(k)6.b *Facility is not located in a wetland.*

There are no surface waters in the immediate vicinity of the Service Center. A wetland is located about three quarters of a mile west of the site. The Kaukauna facility is not located within a wetland as designated by Wisconsin Department of Natural Resources. The Wisconsin DNR wetland area map is provided as Exhibit B-6.

F.24. NR 670.014(2)(k)6.a*. Facility is not located in a critical habitat for threatened or endangered species.*

Facility is not located in a critical habitat for threatened or endangered species. Exhibit B-7 is an Endangered Resources Review by the Wi. Dept. of Natural Resources.

Part I – Waste Analysis Plan

Requirements Section G NR 670.014(2)(c)

WASTE ANALYSIS PLAN ABSTRACT

Waste analysis requirements mandate that before an owner or operator transfers, treats, stores, or disposes of any hazardous waste, detailed chemical analysis of a representative sample of the waste must be obtained. This analysis, at a minimum, must contain all of the information that must be known to transfer, treat, store, or dispose of the waste. The analysis may include data developed under 40 CFR 261 of the regulations, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

The Waste Analysis Plan for the Safety-Kleen Kaukauna Service Center has been developed to meet the Waste Analysis requirements described above and as found in 40 CFR 264.13 and NR 668.013. This Waste Analysis Plan also conforms to the requirements of *U.S. EPA Publication PB94-963603, OSWER 9938.4-03, Waste Analysis at Facilities that Generate, Treat, Store and Dispose of Hazardous Wastes.*

PERMITTED WASTE STREAMS

WASTE DESCRIPTION	EPA WASTE CODES	FACILITY CAPACITY[1]	ESTIMATED ANNUAL AMOUNT[2]	STORAGE AREA
Spent Parts Washer Solvent 105	D001[3]	13,500	85,000	Tank
Spent Parts Washer Solvent 150	D039[3]	13,500	85,000	Tank
Bottom Sediment from the Spent Parts Washer Solvent Tank (facility generated)	D001[3]	NA	1,000	Container Storage Area
Dumpster Sediment (facility generated)	D001[3]	790[4]	600	Container Storage Area
Spent Immersion Cleaner	D006[5]	Included Above	750	Container Storage Area
Dry Cleaning Waste	D001 or F002[6]	Included Above	1,500	Container Storage Area

[1]The facility capacity in gallons

[2]The estimated annual amount in gallons

[3]In addition to the code(s) listed above, these codes may be applicable: 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

[4]The total amount of containerized waste stored in the CSA will not exceed 790 gallons

[5]In addition to the code(s) listed above, these codes may be applicable: D004, D005, 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

[6]In addition to the code(s) listed above, these codes may be applicable: 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

G.1 NR 664.0013(1)(a) *Procedures for obtaining chemical and physical analyses of hazardous waste managed at facility.*

Spent materials generated from Safety-Kleen customers are the primary feedstock for the generation of Safety-Kleen recycled solvent products. As a result, quality control of the spent materials is necessary to monitor product quality and regulatory consistency. The Kaukauna facility collects spent materials from thousands of customers, most of whom are small quantity generators. With such large numbers of waste generators and waste shipments, performing detailed analyses at the facility is economically and logistically infeasible.

Most of the materials collected at the Service Center are managed in the closed loop system and are collected from a company with a single process. The composition and quality of these materials are known, and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications.

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Most of the materials collected at the Service Center are managed in the closed loop system and are collected from a company with a single process. The composition and quality of these materials are known, and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications.

Waste analysis at the Safety-Kleen Kaukauna Service Center is a three-step process that includes:

- Prescreening of customers
- Qualitative/visual analysis and
- Quantitative analysis (lab analysis)

Prescreening of Customers

Safety-Kleen performs a customer prescreening for all parts washer and immersion cleaner service customers. The other permitted waste streams (dry cleaning wastes) are generated from facilities where there is one process generating hazardous waste and the possibility of cross-contamination from other chemicals or wastes is minimal. These wastes remain in the container they were originally packaged until received at a Safety-Kleen Recycle Center or other properly permitted recycling or disposal facility.

Prior to leasing a parts cleaning machine or placing a Customer Owned Machine (COM) service, the customer's business is reviewed. Where the possibility exists for contamination of the parts cleaner solvent (e.g. pesticide, herbicide, or pharmaceutical operations), operations are reviewed to ensure that the solvent is protected from the sources of contamination. In reviewing a customer's business, the Safety-Kleen Representative provides customers with written and verbal information on use of the equipment. This information will contain at a minimum:

- Proper usage and management of the unit
- Information on the reasons to not add materials to the unit, and
- Examples of what not to add to the unit

Qualitative/Visual Analysis

Safety-Kleen conducts qualitative/visual analysis as a part of all parts washer and immersion cleaner services. Qualitative/visual analysis is not conducted on the dry cleaning waste streams as these containers are not opened by the Safety-Kleen service representative and the likelihood of contamination is remote.

Safety-Kleen representatives are instructed to visually examine the spent solvent (parts washer and immersion cleaner) when the machines are serviced, noting the quantity, odor, and appearance of the material recovered as follows:

a. The quantity of spent solvent in the drum – When the amount of parts cleaner solvent or immersion cleaner fluid is more than 25% greater than originally supplied, the container will not be accepted. Contingent on the customer's responses to Safety-Kleen's inquiry regarding the customer's operation and handling practices, the solvent is accepted or left with the customer until an analysis is completed to determine its acceptability.

b. The odor of the liquid in the container – Personnel must never make an effort to "sniff" the solvent. However, if in the normal course of servicing the customer, the odor of the fluid in the container is noticed to be different from that of parts cleaner solvent or immersion cleaner, the container will not be accepted. Contingent on the customer's responses to Safety-Kleen's inquiry of the customer's operation and handling practices, the solvent is accepted or left with the customer until an analysis is completed to determine its acceptability.

c. The appearance of the liquid in the drum – The spent parts cleaner solvents have a normally brown or black appearance. Certain contaminants containing dyes and color pigments (such as transmission fluid, printers' ink, and water-based paints) may change the color of the spent parts cleaner solvent to other colors. Spent immersion cleaner should have a dark brown

to almost black appearance. The immersion cleaner is a single-phase liquid. Liquids in the containers which deviate from the above description or which contain substantial amounts of water, high density solvent and/or oil at the bottom will be set aside for an analysis to determine its acceptability.

At the Service Center, the Safety-Kleen Representative or Material Handler again observes the quantity, odor, and appearance prior to emptying the parts washer solvent into the wet dumpster. Drums with questionable contents are managed as described in Section G.4 of this Waste Analysis Plan.

In addition, receipt analysis is performed by the Safety-Kleen Recycle Centers on all inbound bulk solvent deliveries. Receipt analysis includes a screen for atypical flash point, PCBs, and halogenated organics.

Quantitative Analysis (Lab Analysis)

After 50 years of servicing over 250,000 parts washer customers each year, Safety-Kleen has determined that the wastes generated by its customers are relatively homogeneous. The homogeneity of these wastes are evaluated annually through the Safety-Kleen Recharacterization Process (Quantitative Analysis).

Analytical data from the Recharacterization sampling is subjected to an EPA SW846 approved statistical model. Although the Kaukauna facility is not routinely included as one of the facilities sampled in the process, waste samples come from a variety of Safety-Kleen facilities across the country and is representative of the Kaukauna facility. NOTE: Samples for the Annual Recharacterization program were collected from the Kaukauna facility in 2005. While not included in the map (Exhibit C-1), samples were collected from the Madison facility in 1998.

Samples included in the Annual Recharacterization process are selected from random customers at selected Safety-Kleen facilities. Exhibit C-1 depicts the facilities where Annual Recharacterization samples have pulled over the last 10 years. Not every location was sampled every year.

The waste streams collected by Safety-Kleen are uniform across business types and geographical locations. This is demonstrated by the minimal changes in the codes assigned to each stream through the Annual Recharacterization statistical evaluation each year. Homogeneity of the streams was further confirmed in 2004. In 2004, Safety-Kleen conducted an Annual Recharacterization using California customer data only. Safety-Kleen then conducted a statistical comparison of the 'California only' Annual Recharacterization result with the results from the National Annual Recharacterization (Exhibit C-3). Note the conclusion that California customer wastes are no different than the streams generated by Safety-Kleen customers in the rest of the country.

The waste streams included in the Safety-Kleen Recharacterization process are by their nature consistent and predictable. The process includes streams generated by Safety-Kleen customers and terminated as permitted streams at Safety-Kleen facilities as well as streams generated by Safety-Kleen facilities. Waste streams included in the Recharacterization process for 2013 are:

CUSTOMER GENERATED	SAFETY-KLEEN GENERATED
Immersion Cleaner	Branch Debris
Parts Washer Solvent Virgin 105	Bulk Solvent
Parts Washer Solvent Premium	Dumpster Sludge
Paint Gun Cleaner/Paint Wastes/Clear Choice	Tank Bottoms
Dry Cleaning Related Streams (Perc and Naphtha, filters, bottoms, and separator water)	

Final Annual Recharacterization (National) Waste Code Assignments are included in Exhibit C-7.

The purpose of the Recharacterization is to determine the waste codes applicable to core waste streams managed and generated by Safety-Kleen facilities. As such, a waste stream may be excluded from Recharacterization once it has been designated as non-hazardous. A stream may also be excluded from Recharacterization when it has been determined that the codes assigned to the stream are stable and marginal changes in trace constituents will not affect the management of the stream. Streams expected to be phased out of the Recharacterization program in coming years include the Dry Cleaning related streams and Paint Gun Cleaner/Paint Wastes/Clear Choice streams. Lastly, a set of analytes may be omitted if they are not expected; or demonstrated to not be present in a waste stream. Pesticides and herbicides have never been included in the Recharacterization process as these constituents are not allowed in wastes picked up by Safety-Kleen. Analysis for semivolatiles is in the process of being phased out as codes for semivolatiles have never been assigned.

Note: All samples pulled during the Recharacterization sampling event are identified by customer and date. If the analytical from a sample pulled during the Recharacterization process determines a customer's waste is non-conforming, that customer's waste will be excluded from the Safety-Kleen core waste program. Future pickups of waste from any non-conforming customer will be profiled and managed through Safety-Kleen's containerized waste program.

Details on the Statistical Method employed by Safety-Kleen for its Annual Recharacterization process are included in Exhibit C-2. As noted in this Exhibit, the Statistical method has been developed and is conducted in accordance with U.S. EPA SW846 Chapter 9 (September 1986) guidance on determining if a waste is hazardous.

Annual Recharacterization Sample Testing Protocol is located in Exhibit C-4. The analytical data utilized to determine the 2013 waste codes is included in Exhibit C-6.

G.2 NR 664.0013(1)(a)1 *Analysis by WI certified labs.*

This analysis is currently being conducted at a Wisconsin Certified Lab #998027800
TestAmerica-Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

G.3 NR 664.0013(1)(b) *Description of other data to be used rather than lab analysis.*

As outlined under Section G.1 above, Safety-Kleen conducts Prescreening of customers and Qualitative/visual analysis at each pickup.

G.4 NR 670.0013(1)(d) *For off-site waste, analysis upon receipt to verify waste matches description on manifest*

The Safety-Kleen Representative inspects each load of waste at the generator's facility for conformance with the Qualitative/Visual Analysis (described in G.1. above). If the waste does not conform to these criteria, a paper profile may be completed, or a sample collected for additional analysis to determine if the waste can be accepted. The waste is retained at the customer location until the analysis is complete.

In accordance with 40 CFR 264.13(b), and Wisconsin Administrative Code NR 664.0013(1), Safety-Kleen will perform physical and chemical analysis of a waste stream if notified or has reason to believe that the process or operation generating the waste has changed, or when the result of the Qualitative/Visual Analysis indicates that the waste collected does not match that designated. All of Safety-Kleen's customers have agreed to notify the Safety-Kleen Representative if the process or nature of his business has changed. If a container with questionable contents is returned to the Service Center, a sample will be taken and an analysis will be performed. The container will be held at the facility until analysis is complete. If analysis indicates the waste to be different than what was manifested to the Service Center, the waste will be returned to the customer or managed at the Service Center in accordance with the customer's direction. Records of all sampled and/or rejected wastes will be kept on file at the Service Center. Procedures to verify waste characteristics occur at several check points in the management of the solvent, as described below.

Procedures for Unacceptable Shipments

If a waste fails to meet the acceptance criteria described above and the additional analyses reveal the waste contains constituents that render it unsuitable for recycling, Safety-Kleen will refuse to remove the waste from the generator's facility under the existing service agreement.

G.5 NR 664.0013(2)(a) *Parameters for which waste will be analyzed and rationale.*
G.6 NR 664.0013(2)(b) *Test methods that will be used*

Exhibit C-4 details the Re-Characterization sample testing protocol.

G.7 NR 664.0013(2)(c) *Sampling methods to obtain representative sample.*

Annual Recharacterization Sampling Method Requirements are found in Exhibit C-5.

G.8 NR 664.0013(2)(d) *Frequency of repeating initial analysis to ensure it is accurate and up to date.*

As described previously, a Qualitative/Visual analysis of all wastes managed at the Service Center is conducted for each waste pickup. Safety-Kleen's Waste Recharacterization is conducted annually.

G.9 NR 664.0013(1)(c) *At a minimum, analysis is repeated if the process generating the waste has changed or when the inspection upon receiving the waste does not match the description on the manifest.*

In accordance with 40 CFR 264.13(b), and Wisconsin Administrative Code NR 664.0013(1), Safety-Kleen will perform physical and chemical analysis of a waste stream if notified or has reason to believe that the process or operation generating the waste has changed, or when the result of the Qualitative/Visual inspection indicates that the waste collected does not match that designated. The generator will notify the Safety-Kleen Representative upon servicing, if the process or nature of his business has changed. It is Safety-Kleen's practice that suspected non-conforming material must not be accepted until a full analysis has been completed, or the material must be rejected. If a container with questionable contents is returned to the Service Center, a sample will be taken and an analysis will be performed. Annual Recharacterization Sample Testing Protocol is located in Exhibit C-4. Records of all rejected wastes will be kept on file at the Service Center.

G.10 NR 664.0013(2)(e) *For off-site waste, the waste analysis generators agree to supply.*

Generators are provided with a copy of the results of the Annual Recharacterization each year. No action is required by the generator if the generator agrees to the codes. However, if a generator chooses to use its own knowledge of its process to identify which waste codes are attached to the waste, approval by the Safety-Kleen Technical Center is required. Laboratory analytical data will be required to remove codes determined by the Annual Recharacterization process.

G.11 NR 664.0013(2)(f) *If ignitable, reactive or incompatible wastes are managed, the waste analysis methods used to comply with NR 664.0017(3).*

Methods to be used for ensuring compatibility of wastes with handling methods

Safety-Kleen manages a limited number of waste streams, most of which originate from new products that are supplied to its customers. Safety-Kleen has evaluated the chemical composition of these products and wastes and has determined that the wastes are compatible with the methods with which they are handled.

Waste Compatibility with Containers

Procedures for determining compatibility of waste to a container (40 CFR 264.172; NR 664.0172).

Safety-Kleen manages a limited number of waste streams, most of which originate from new products that are supplied to its customers. Safety-Kleen has evaluated the chemical composition of these products and wastes and has determined that the wastes are compatible with the containers in which they are stored.

Procedures for analyzing liquids that are collected in a storage area (40 CFR 264.175(b)(5); NR 664.0175(b)(5)

All wastes kept at the facility are properly segregated and only a limited number of waste streams are stored at the facility. Additionally, the composition of these waste streams are well-known, as described above. It is therefore unnecessary to analyze any spilled liquid collected in the storage area. Any material will be identified by the container labeling and manifest information.

Procedures for analyzing ignitable or reactive containerized wastes (40 CFR 264.17, 264.176, 270.15(c); NR 664.017, 664.0176, 670.015(c)

Containerized waste received at the facility is analyzed according to the procedures described in the Waste Analysis Plan. All ignitable wastes terminated at the facility are compatible with each other and the containers in which they are stored. Therefore, additional analyses to evaluate compatibility are not necessary.

Procedures for determining compatibility of waste to be placed in the same container.

The only waste opened at the facility is the solvent waste, which is co-mingled in the aboveground storage tank. Compatibility with tanks is discussed below. The remaining containers of wastes are not opened at the facility and would not be placed in the same container. Therefore, this section does not apply.

Procedures for determining compatibility of wastes previously held in reused containers that were not decontaminated

The only containers reused at the facility are drums containing spent parts washer solvent. These drums are emptied and washed with same solvent in a drum washer and are then refilled with clean solvent for delivery to customers. As the only material placed in these drums is new or spent solvent, there is no potential for contact with incompatible materials.

Procedures for determining compatibility to other wastes stored nearby

Safety-Kleen has determined that all wastes stored at the facility are compatible with each other. There is no need for additional procedures to evaluate if a waste stream is compatible with another waste stream stored nearby.

Waste Compatibility with tanks

Procedures for analyzing liquids collected in the collection area (40 CFR 264.196(b); NR 664.0196(b)

All wastes are analyzed according to the procedures described above and have known composition. Therefore, additional analyses will not be required.

Procedures for determining compatibility of a waste to a tank (40 CFR 264.194(1); NR 664.0194(1)

The only waste stored in the aboveground storage tank is spent parts washer solvent. This material has been analyzed and found to be compatible with the steel tank in which it is stored.

Procedures for analyzing ignitable or reactive wastes managed in tanks (40 CFR 264.17, 264.198, 270.(16)(j); NR 664.017, 670.016(j)

The aboveground storage tank used for storage of the spent parts washer solvent was new when installed, and is dedicated to the storage of this waste stream. Incompatible raw materials or wastes will not be stored in this tank.

G.12 NR 664.1034(4). NR 664.0013(2)(f) *If the facility is subject to NR 664 subch. AA standards for process vents, the test methods and procedures used to comply with*

There are no process vents subject to subch. AA standards. Therefore, this section does not apply.

G.13 NR 664.0013(2)(f) *If the facility is subject to NR 664 subch. BB standards for equipment leaks, the test methods and procedures used to comply with NR 664.1063(4).*

See Part III; Section I and Exhibit D-1.

G.14 NR 664.0013(2)(f) *If the facility is subject to NR 664 subch. CC standards for containers or tanks, the waste determination procedures in NR 664.1083.*

See Part III; Section M

G.15 NR 664.0013(2)(f) *The testing performed to determine if the waste meets or exceeds LDR standards, as required by NR 668.07.*

Waste Analysis Requirements Pertaining to Land Disposal Restrictions (40 CFR 64.13(b)(6); 267.7, 270.14(b)(3); NR 664.013(b)(6), 670.014(b)(3)

All of the permitted waste streams received and stored at the Service Center are treated or recycled at an approved Safety-Kleen Recycle Center or other authorized treatment or disposal facility. The drum washer sediment generated at the facility is containerized and shipped offsite for reclamation. The Service Center does not dispose of any hazardous wastes onsite and does not send any permitted wastes to land disposal facilities. Therefore, the Kaukauna Service Center is not required to certify that hazardous wastes that are restricted from land disposal are below treatment standards. The following sections discuss how Safety-Kleen determines appropriate Land Disposal Restriction (LDR) classification and treatment standards and how LDR notification requirements are met.

Waste Characterization

Due to the nature of its business, Safety-Kleen receives wastes that are untreated and that are assumed to exceed the LDR treatment standards. For the Safety-Kleen parts washer solvent, immersion cleaner, and dry cleaning wastes, the hazardous constituents are known. The rationale for the selection of LDR treatment standards are provided below.

Solvent wastes and dioxin-containing wastes – Safety-Kleen will manage F-solvent wastes. The spent dry cleaning perchloroethylene is F-Solvent non-wastewater waste with the following treatment standard: tetrachloroethylene (0.05 mg/L).

Wastes with treatment Standards – Safety-Kleen may generate or store D001 wastes, including parts washer solvent. Since this waste contains high levels or organics, Safety-Kleen assumes that all D001 wastes will contain 10 percent total organic carbon (TOC). The technology-based standards for these wastewaters are “RORGS”, or recovery of organics.

Safety-Kleen may also generate or store wastes that may be classified as D006, D008 (example: drum washer sludge/sediment). The treatment standards for these wastes are 1.0 mg/L, 5.0 mg/L, and 5.0 mg/L respectively.

Notification and certification requirements (40 CFR 268.7; NR668.07, 668.08)

For all waste streams terminated at this facility, in accordance with 40 CFR 268.7, Safety-Kleen will provide to the Recycle Centers or authorized treatment or disposal faciity, and require from its' regulated customers, notification/certification for wastes banned from landfills as follows:

Retention of generator notices and certifications – The notice is required paperwork for all Safety-Kleen waste types. The notices and certifications provided by regulated customers must be reviewed for correctness and be kept on file at the Service Center for at least three years as part of the operating record.

Notification and certification for wastes to be further managed – All wastes are delivered to an approved Safety-Kleen facility or other permitted facility for processing or disposal. Therefore, notification and certification for wastes to be further managed are not applicable.

Additional notification and certification requirements for treatment facility – This facility is not a treatment facility. Therefore, this section does not apply.

Additional notification and certification requirements for disposal facility – This facility is not a disposal facility. Therefore, this section does not apply.

Notification and certification requirements pertaining to landfill and surface impoundment disposal restrictions – This facility is not a land-disposal site. Therefore, this section does not apply.

Additional requirements pertaining to the storage of restricted wastes – This facility does not store restricted wastes. Therefore, this section does not apply.

G.15 NR 664.0013(2)(h) *Information if seeking exemption to subch. CC requirements.*

The facility is not seeking exemption to subch. CC requirements. Therefore, this section does not apply.

G.17 NR 664.0013(3) *For off-site waste, procedures used to inspect, and if necessary, analyze each movement of waste to ensure it matches the identity of the waste designated on the manifest.*

The regulations require an owner or operator of an off-site facility to inspect and, if necessary, analyze any hazardous waste received at the facility to determine whether it matches the identity of the waste specified on the manifest or shipping paper. The verification analysis is accomplished through the Qualitative/Visual Analysis.

Part I – Security Requirements

Section H NR 670.014(2)(d)

H.1. NR 664.0014(2)(a) *Security procedures to prevent unknowing entry by a 24 hour surveillance system which continuously monitors and controls entry.*

The facility does not have a 24 hour surveillance system. Therefore, this section does not apply.

H.2. NR 664.0014(2)(b) - H.3. NR 664.0014(3) *The artificial or natural barrier surrounding active portions of facility and other means of controlled entry, such as gates or locked entrance AND The placement of "Danger – Unauthorized Persons Keep Out"signs at entrances and other locations.*

The facility is secured with a chain link fence topped with strands of barbed wire surrounding the facility. All access gates are locked when the facility is unoccupied. The facility has warning signs stating "Danger-Unauthorized Personnel Keep Out," (or similar language) which are visible from twenty-five feet, posted at the entrances. In addition, outdoor lights are on at night.

The office/warehouse building is secured with locks on all outer doors, and warning signs are posted at entrances to work and waste storage areas. The container waste storage area is located in the warehouse, which is locked unless occupied by Safety-Kleen personnel. Tank pump controls are located inside the warehouse area. The pumps are not activated unless parts cleaner solvent product or waste is being added to or removed from the tanks by Safety-Kleen personnel. As a result, the tank and container storage area are inaccessible except by Safety-Kleen personnel.

H.4. NR 664.0014(1) *Demonstration that the above security requirements are not necessary.*

Safety-Kleen is not claiming security requirements are not necessary. Therefore, this section does not apply.

Part I – General Inspection Requirements

Section I NR 670.014(2)(e)

I.1. NR 664.0015(2)(a) *Description of the equipment and devices inspected.*
I.2. NR 664.0015(2)(c) *Description of problems checked during the inspection.*

The Service Center Manager (i.e., the Branch General Manager) or his designate is responsible for carrying out and documenting the facility inspection. The inspection will be conducted by an employee familiar with facility operations and inspection procedures. The inspector must make a record of the inspection in an inspection log or summary, note any repairs that are needed, and assure that they are completed. If he cannot carry out the repairs, he must notify the Safety-Kleen Engineeering Department and request assistance. Completion of repairs also must be noted on the Facility Inspection Record. Exhibit D-1 is an example inspection form that may be subject to change. Facility inspections may be recorded electronically.

The facility inspections include the following:

a. Tank Inspections – At a minimum, the tanks holding product and spent materials are inspected each operating day, typically Monday through Friday. The inspections include checks of the high level alarm and of the volume held in each tank. Sudden deviations in the solvent volumes will be investigated and their causes determined. If necessary, repairs must be initiated immediately. The solvent waste must not exceed 95% of the volume at any time. The power to the high level alarm must be checked each operating day; it will sound when the tank's volume is 95% of capacity. All storage tanks at this facility are equipped with high level alarm systems. The piping and secondary containment for the tanks must be checked for cracks or other deterioration. Insulated piping will be visually inspected for evidence of leaks. Any damage to tanks and piping (such as rust or loose fixtures) or secondary containment must be noted and repairs initiated.

b. Solvent dispensing equipment – The solvent dispensing hose, connections, and valves must be inspected for damage (such as cracks or leaks) and proper functioning. The pumps, pipes, and fittings must also be checked for damage and proper functioning. Any damage to the solvent dispensing equipment must be noted and repaired.

c. Container Storage Area (CSA) – The container storage area is inspected each operating day, typically Monday through Friday. The number and condition of the containers are noted. The total volume of the waste held in the CSA will not exceed the permitted volume for the area. The contents of any leaking or suspect containers must be placed in a container of adequate integrity. The containers will be properly labeled and marked in accordance with U.S. DOT and Wisconsin hazardous waste regulations. The secondary containment system must be inspected for deterioration or failure. If cracks or leaks are detected, repairs will be initiated immediately.

d. Drum washer/dumpster units – The wet dumpster units (in the return and fill station) must be inspected each operating day, typically Monday through Friday, for leaks and sediment buildup. Any leaks must be noted and repair must be initiated immediately. Excess sediment must be removed from the drum washer/dumpsters. The secondary containment must be checked for cracks and gaps. If cracks are detected, repairs will be initiated immediately.

e. Safety Equipment – The fire extinguishers must be checked to ensure that the units are charged and accessible. The operation of the telephone intercom/paging system and the eyewash units must be confirmed. The first aid kit and spill cleanup equipment must be inspected for adequate content and accessibility. A list of emergency equipment is provided in Exhibit D-3.

f. Security – The operation of each gate and lock must be checked weekly. In addition, the fence must be inspected for deterioration weekly.

I.3. NR 670.014(2)(d) *Inspection schedule for closed vent system and control device, required by NR 664.1033.*

There are no closed vent system and control devices. Therefore, this section does not apply.

I.4. NR 670.014(2)(d) *Inspection schedule for subch. BB pumps in light liquid service, required by NR 664.1052.*

There are no pumps in light liquid service. Therefore, this section does not apply.

I.5. NR 670.014(2)(d) *Inspection schedule for subch. BB compressors, required by NR 664.1053.*

There are no compressors at the facility. Therefore, this section does not apply.

I.6. NR 670.014(2)(d) *Inspection schedule for subch. BB pumps and valves in heavy liquid service, pressure relief devices and connectors, required by NR 664.1058.*

The spent parts cleaner solvent managed in the tank system is a heavy liquid (vapor pressure less than 0.3 kilopascals at 20°C) and has a maximum concentration in the vapor phase of 2,000 ppm. The hazardous waste state at each piece of equipment is liquid. Each valve, flange and pump which is associated with the hazardous waste tank and its ancillary equipment must be marked and listed on the air monitoring equipment inventory form. A piping schematic (Exhibit B-24) shows the location and the number assigned to each piece of the equipment. Compliance with the standard will be achieved through facility inspections. If required, leak detection monitoring and repair records are maintained. Records of equipment monitoring and repair are maintained in the operating record. Because the spent parts cleaner solvent is a heavy liquid, a photoionizer type instrument will not detect leaks at 10,000 ppm, and a leak will be observed based on visual, audible, or

olfactory inspection. It will be noted on the inspection form. The leaking piece of equipment must be tagged with the I.D. number, date of potential or actual leak, and the date of leak confirmation. After a valve has been repaired, it will be visually monitored as part of the daily facility inspection. After two successive months with no leak detection, the identification may be removed. For other equipment, such as pumps, the tag may be removed after a successful repair.

The leak detection and repair record will be kept at the facility.

I.7. NR 664.0015(2)(d) *The inspection frequency for pumps, valves, pressure relief devices or connectors subject to subch. BB is adequate to prevent environmental or human health incidents.*

These items are inspected each operating day, typically Monday through Friday.

I.8. NR 664.0015(2)(d) *Areas subject to spills inspected daily when in use.*

These areas are inspected each operating day, typically Monday through Friday.

I.9. NR 664.0015(2)(d) *Inspection frequency for other areas based on deterioration of equipment and probability of environmental or human health incident if problem goes undetected between inspections.*

All operational areas of the facility are inspected each operating day, typically Monday through Friday.

I.10. NR 664.0015(3) *Schedule to remedy ensures problem does not lead to environmental or health hazard.*

If a problem is discovered during the inspection that can be corrected immediately by the inspector, it is done so and noted on the inspection form. If there is an item noted during an inspection that requires maintenance, repair or replacement, the Branch General Manager is notified. If required, Safety-Kleen's EHS and Engineering departments will ensure completion as soon as possible. These items will be entered into the EHS Issues Database for tracking the required actions. If tank corrosion is noted, it will be removed and the tank repaired. If the corrosion is significant and localized, the tank will be taken out of service and repaired, (e.g., a patch welded over the corroded area). Should the corrosion of the vessel be extensive or if the tank is found to be leaking and repair of the tank is not practicable, the vessel will be taken out of service and replaced. If a waste container is found to be leaking or corroded, the container will be placed into an approved salvage container to prevent any release of the contents.

I.11. NR 664.0015(4) *Inspection log will be kept for at least 3 years and includes date and time of inspection; inspector name; observations made; date and type of remedial actions.*

Records of inspections will be kept for three years from the date of inspection.

Part I – Contingency Plan Requirements

Section J NR 670.014(2)(g)

J.1. NR 670.014(2)(g) *Copy of Contingency Plan.*

The Contingency Plan is located in Exhibit D-5.

J.2. NR 664.0051(1) *Plan is designed to minimize hazards to human health or the environment in the event of a release.*

The Contingency Plan is designed to minimize hazards to human health or the environment in the event of a release.

J.3. NR 664.0051(2) *Provisions in the plan will be carried out immediately if release threatens human health or the environment.*

The Contingency Plan will be carried out immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

J.4. NR 664.0052(1) *Describes actions facility personnel will take if a release.*

In the event of a hazardous waste release, facility personnel will the actions described in the Contingency Plan. Every employee is trained on the actions they are to take to recognize or identify that a release has occurred, to evaluate the hazards, based on employee knowledge, labels, and other sources of information. Upon recognition that a release has occurred, the employee notifies Emergency Coordinator. The facility personnel are notified via voice page for emergency releases or if danger to human health is imminent.

All facility employees (with the exception of Branch Administrators) are trained to respond and assist with cleaning up incidental releases. The personnel are trained to control the release by following such measures as stopping the source of the release, shutting down equipment or blocking off the immediate spill area with absorbents. Once the release has been stopped and controlled, the process for clean-up begins. The waste generated from the release is handled and disposed of properly. As part of the cleanup process the area, PPE, and equipment are decontaminated.

J.5. NR 664.0052(2) *If using SPCC, it has been amended to incorporate hazardous waste provisions.*

The Contingency Plan has not been incorporated into the SPCC Plan.

J.6. NR 664.0052(3) Describes arrangements with local emergency agencies, hospitals and contractors.

The Facility maintains a call-out list for emergency response that includes the National Response Center, local emergency response agencies, and a local hospital. Copies of the Contingency Plans have been provided to the Kaukauna Fire Department, Kaukauna Police Department, and Appleton Memorial Hospital. When the Contingency Plan is revised, copies are sent to these groups to keep them apprised of the Facilities current protocols. In the event of response that would require outside assistance, the Fire Chief of the Kaukauna Fire Department assumes the Incident Commander role.

J.7. NR 664.0052(4) *Current list of emergency coordinator (primary and alternate) names, addresses and home/office phone numbers.*

There is a current list of emergency coordinator (primary and alternate) names, addresses and home/office phone numbers in the Contingency Plan.

J.8. NR 664.0052(5) *Current list of emergency equipment, describing location, physical description and capability of each item.*

A facility drawing indicating the location of each item is located in Exhibit D-2. Current list of emergency equipment is located in Exhibit D-3.

J.9. NR 664.0052(6) *Evacuation plan, signals to begin evacuation and alternate routes.*

The evacuation section of the Contingency Plan describes signals to begin evacuation.

J.10. NR 664.0053 *Copy of plan kept at facility and copy sent to police and fire depts., hospital, and state and local response teams.*

A copy of the Contingency Plan is accessible to all employees at all times at the facility. The Plan is sent to: City of Kaukauna Police Department, City of Kaukauna Fire Department, and the Appleton Medical Center.

J.11. NR 664.0054 *The Contingency Plan will be reviewed and amended, as necessary.*

This plan, and all revisions to the plan, are regularly updated throughout the operating life of the facility. This plan and all revisions to the plan are made readily available to employees working at the facility. The plan will be reviewed and updated as necessary.

J.12. NR 664.0055 *An Emergency Coordinator or Alternate are available on premises or on call at all times.*

At all times that the Facility is in operation, an Emergency Coordinator is on-site or on call.

J.13. NR 664.0055 *The Emergency Coordinators are thoroughly familiar with plan, site operations, waste types handled, facility records and layout.*

The emergency coordinator and the alternate emergency coordinators are familiar with all aspects of this Contingency Plan, the 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.

J.14. NR 664.0055 *The Emergency Coordinator has authority to commit resources to carry out contingency plan.*

The coordinators have the authority to commit the resources necessary to carry out the Contingency Plan.

J.15. NR 664.0056(1) *Emergency coordinator activates alarms and notifies state or local agencies.*

Employees are authorized to activate internal facility alarms or communication systems to notify all facility personnel and the Emergency Coordinator (or alternate). The Emergency Coordinator will notify state and local agencies as necessary.

J.16. NR 664.0056(2) *Emergency coordinator identifies the character, sources, amount and extent of release.*

The Emergency Coordinator identifies the character, source, amount and extent of any released materials. The Coordinator may do this in conjunction with personnel who first identified the release, reviewing operating records, shipping documents, and chemical analyses.

J.17. NR 664.0056(3) *Emergency coordinator assesses possible hazards to human health and environment.*

The Emergency Coordinator concurrently assesses possible hazards to human health or the environment that may result from the release. The assessment will include both direct and indirect effects from the release, fire or explosion.

J.18. NR 664.0056(4)(a) *Emergency coordinator notifies local authorities if evacuation is necessary.*

If the Emergency Coordinator determines that the facility has to evacuate, the Emergency Coordinator or his delegate shall immediately notify appropriate local authorities. When the Fire Department arrives, the Fire Chief will assume the role of Incident Commander and the Emergency Coordinator shall assist if needed in deciding if local areas should be evacuated.

J.19 NR 664.0056(4)(b) *Emergency coordinator notifies emergency response officials of release outside of facility.*

If the Emergency Coordinator determines that the facility has had a release, fire or explosion which could threaten human health, or the environment outside the facility, the Emergency Coordinator or his delegate shall immediately notify the local officials and/or the National Response Center.

J.20. NR 664.0056(5) *Emergency coordinator takes reasonable measures to ensure fire, explosion or release do not occur or spread to other hazardous waste.*

During an emergency, all reasonable measures will be taken to ensure that fires, explosions and releases do not occur, reoccur or spread to other hazardous waste areas of the Facility.

J.21. NR 664.0056(6) *Emergency coordinator monitors for leaks, pressure build-up, and gas generation if operations stop. NR 664.0056(6)*

The Service Center is designed to be a passive waste management facility. Much of the material handled at the facility is contained in small containers and manually moved from storage to transport. The spent parts washer solvents that are unloaded into the dumpster/washer unit depend upon a pump for transfer to the storage tank. If the power or transfer equipment fails, this operation would be halted. There would be no leaks, pressure build-up or gas generation due to the halting of operations.

J.22. NR 664.0056(7) *The Emergency coordinator arranges for treatment, storage, or disposal of materials after emergency.*

The treatment, storage, and/or disposal of the recovered waste, contaminated soil or surface water that results must be arranged by Safety-Kleen and carried out as expeditiously as possible.

J.23. NR 664.0056(8)(a) *The Emergency coordinator ensures no incompatible waste is treated, stored or disposed until cleanup is completed.*

The emergency coordinator or alternate emergency coordinator must ensure that, in the affected area(s) of the facility, no substance that may be incompatible with the released material is brought on site until cleanup procedures are completed.

J.24. NR 664.0056(8)(b) *The Emergency coordinator ensures all emergency equipment is clean and fit for use before operations resume.*

The emergency coordinator or alternate emergency coordinator must ensure that, in the affected area(s) of the facility, all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

J.25. NR 664.0056(9) *Safety-Kleen will notify the department and state and local authorities before resuming operations.*

Safety-Kleen will notify the appropriate state and local authorities that the facility is in compliance with Wisconsin Admin Code NR 664.0056(9) before operations are resumed in the affected area(s) of the facility.

J.26. NR 664.0056(10) *Implementation of plan will be noted in operating log and incident report sent to WDNR in 15 days.*

Following implementation of the Contingency Plan, an Incident Investigation will be conducted, which will include the time, date and details of the incident. This investigation will be made part of the operating record. Within 15 days of the incident, a written report on the incident will be submitted to the Wisconsin Department of Natural Resources.

Part I – Training Plan Requirements

Section K NR 670.014(2)(l)

K.1 NR 670.014(20(L) *Outline of both introductory and continuing training programs to prepare persons to operate or maintain facility in a safe manner.*

A description of the introductory and continuing training programs for facility personnel is in the Training Plan located in Exhibit E-1 and Exhibit E-2.

K.2. NR 664.0016(1)(b) *Training program teaches personnel hazardous waste management procedures relevant to the positions in which they are employed.*

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.

K.3. NR 664.0016(1)(c) *Training program ensures facility personnel can respond effectively to emergencies by familiarizing them with emergency procedures, equipment and systems.*

All employees are trained on the Contingency Plan to ensure they can respond effectively to emergencies by familiarizing them with emergency procedures. Evacuation drills are conducted annually to document comprehension.

K.4. NR 664.0016(2) *Personnel complete training within 6 months of being in new position and before working in unsupervised positions*.

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. The EHS Department ensures that the Branch General Manager or his/her designate has received adequate training to train all branch personnel.

K.5. NR 664.0016(4) *Training documentation includes job title, job description, type and amount of training to be given and training that is completed.*

All employee regulatory training must be documented. The training record will include job title, job description as well as documentation for completed training. Records of current employees will be kept at the facility until closure. Some training documentation will be maintained electronically.

K.6. NR 670.014(2)(L) *Brief description of how training will be designed to meet actual job tasks.*

All facility employees receive basic training on Hazard Awareness and the facility Contingency Plan. The level of training an employee receives is dependent upon the employee's level of involvement in hazardous waste management

Part I – Closure Plan Requirements

Section L NR 670.014(2)(m)

L.1. NR 670.014(2)(m) *Closure Plan*

GENERAL INFORMATION

This closure plan provides for the closure of the hazardous waste management units (HWMU) at the SK Kaukauna facility.

The hazardous waste units which require closure include:

Tank Storage – One tank at 13,500-gallon (nominal) aboveground storage tank and concrete dike area for secondary containment and associated ancillary equipment

Return and Fill Station – One return and fill dock structure with secondary containment and 2 drum washers with a capacity of 163 gallons each.

Container Storage – One container storage area of approximately 400 square feet with a total storage capacity of 790 gallons

PURPOSE

The Kaukauna Service Center operates as a storage facility for hazardous wastes. The hazardous waste management units (HWMUs) must be closed in accordance with the closure requirements of 40 CFR 264.110 through 40 CFR 264.115, as adopted by Wisconsin in NR 670.014. Closure of the facility will be carried out in accordance with the steps outlined in this plan and applicable Federal and State regulations. An estimated closure cost estimate is included in Exhibit F-1. The closure plan and closure cost estimate, as part of the permit, will be kept on site. Safety-Kleen will remediate all hazardous wastes from the facility to a level that is protective of human health and the environment, thereby achieving clean closure and eliminating the need for further maintenance and care. Upon completion of closure activities, the need for post-closure maintenance will be minimized or eliminated.

SK has developed this generalized closure plan for decontamination of the HWMUs at the site. The closure plan includes the following:

- The estimated expected year of closure and a closure schedule.
- An estimate of the maximum inventory of waste in storage at any time during the active life of the facility for development of the closure cost estimate.
- Notification procedures.
- A description of how and when the facility will be partially and/or finally closed.
- A description of decontamination procedures to be implemented during closure.
- Procedures for certification of closure activities by SK and an independent professional engineer.

L.2. –L.3 NR 664.0112(2)(a) *Description of how each unit will close during partial or final closure to minimize the need for further maintenance.*

See RCRA Unit Closure Activities below.

L.4. NR 664.0112(2)(b) *Description of the maximum extent of operations during the active life of the facility.*

It's estimated the Kaukauna Service Center will be operational through 2050.

L.5. NR 664.0112(2)(c) *Estimate of maximum inventory during active life of facility.*

MAXIMUM INVENTORY OF WASTES

The maximum containerized waste inventory at the SK Kaukauna facility waste management units is:

a) Tank Storage – One 13,500-gallon (nominal) aboveground storage tank and concrete dike area for secondary containment and associated ancillary equipment

b) Return and Fill Station - One return and fill dock structure with secondary containment and 2 drum washer(s) with a capacity of 163 gallons each, 326 gallons total.

c) Container Storage – One container storage area(s) with a total storage capacity of 790 gallons.

L.6. NR 664.0112(2)(c) *Description of methods used to remove, transport, treat, store, and dispose of all hazardous waste during partial and final closure.*

See RCRA Unit Closure Activities below.

L.7. NR 664.0112(2)(c) *Identification of the types of off-site hazardous waste management units to be used.*

The types of off-site hazardous waste management units include:
H020 - Reclamation
H061 - Fuel Blending
H050 - Burned for Energy Recovery
H040 - Incineration

L.8. NR 664.0112(2)(d) *Detailed description of steps needed to remove or decontaminate all hazardous waste residues and contaminated equipment, structures and soils during partial and final closure.*

See RCRA Unit Closure Activities below.

L.9 NR 664.0112(2)(e) *Detailed description of other activities necessary to ensure all partial and final closures satisfy the closure performance standards.*

See RCRA Unit Closure Activities below.

L.10. NR 664.0178 *During closure of container areas, all hazardous waste and residues will be removed from the containment system; remaining contaminated structures and soil will be decontaminated or removed.*

See RCRA Unit Closure Activities below.

L.11. NR 664.0197(1) *During closure of tank systems, all waste residues, contaminated containment system components, soils, structures and equipment is decontaminated or removed.*

See RCRA Unit Closure Activities below.

RCRA UNIT CLOSURE ACTIVITIES

Partial or facility closure will be implemented in accordance with this plan and any subsequent modifications. The contractor selected to implement closure will also be required to prepare a health and safety plan in accordance with applicable regulations for their personnel. The health and safety plan shall be kept on-site during the closure activities.

ABOVEGROUND TANK AND ASSOCIATED PIPING

The aboveground storage tank is situated within a concrete secondary containment area. At facility closure or partial closure (i.e. closure of a tank unit) the following will generally be necessary to remove hazardous waste and waste residues: 1) opening of the tank and removal of wastes, 2) decontamination of the tank interior and piping, and 3) decontamination of the containment area, unless other permitted tanks remain. These procedures are briefly described below.

OPENING OF THE TANK AND REMOVAL OF WASTE

To safely open the tank and remove the waste material the following activities will be conducted:

a) Waste material from the tank will be removed using a tanker truck pump (for used solvent), vacuum truck (for heavy sludge) or similar equipment and transported to a permitted hazardous waste TSDF for reclamation and/or disposal.

b) Following removal of free-liquid wastes to the extent practicable, the aboveground waste tank will be entered to remove residual waste and sludge from the bottom of the tank. Depending on the quantity and consistency of residual wastes, it may be removed using shovels, squeegees etc., and transferred to drums, or may be removed with a pump during tank decontamination (described below).

TANK DECONTAMINATION PROCEDURES

Once residual wastes are removed, the tank and piping will be decontaminated. Decontamination procedures will be generally consistent with the following:

a) The tank interior will be washed with a detergent-water solution and high-pressure spay. The interior may also be scraped and/or squeegeed to remove residual waste material. Pressure washing will continue until the tank interior is visually clean, and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. It is anticipated that approximately 650 - 700 gallons of wash/rinse water will be generated during tank decontamination activities (estimate includes piping and ancillary equipment).

b) Decontamination water and residual wastes that accumulate at the bottom of the tank will be removed using a remote pump, buckets, or similar, and transferred to either a vacuum truck, tanker truck or into containers.

c) The decontamination wash water and residual waste from the tank will be managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF, or characterized as non-hazardous waste in accordance with applicable regulations.

d) Piping and appurtenant equipment may be flushed prior to or during residual waste removal for the tank and/or return/fill station. Piping and appurtenant equipment will be decontaminated with a detergent-water solution and high-pressure spray.

e) Depending on the disposition of the tank at closure, sampling of the final rinsate may be required. If the tank will be reused at the existing location or at an offsite location, a rinsate sample will be collected from the final rinse of the tank interior. If collected, the rinsate sample will be analyzed for constituents representative of the toxicity characteristic waste codes listed in the facility permit for tank storage (e.g. total VOCs, SVOCs and Metals), using an appropriately certified laboratory.

f) If the tank and piping will be processed as scrap metal following decontamination [i.e. the decontaminated structures no longer meet the definition of solid or hazardous waste in 40 CFR 261], rinsate sampling will not be required.

DECONTAMINATION OF THE TANK CONTAINMENT AREA

At the time of facility closure the tank containment area will be inspected and decontaminated in accordance with the following general procedures. Unless otherwise specified, the decontaminated containment structure will be left in place at the time of closure.

a) The tank containment area dike and slab area will be inspected by an independent Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible cracks or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment area. In addition, if unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described below.

b) The containment dike will be swept to remove loose debris, and then washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 150 gallons of wash/rinse water will be generated during decontamination of the tank containment area.

c) A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. The results of the rinsate analysis will be used to verify effective decontamination of the containment area.

d) The decontamination wash water will either be managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or

characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

e) Soil samples will be collected if necessary based on the engineer's inspection. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.

f) As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

SOLVENT RETURN AND FILL STATION

The return and fill station is used to collect and return the used parts washer solvents to the waste storage tank via the drum washer unit(s). At the time of final facility closure or partial closure the following steps will be conducted:

a) The sediment in the drum washers will be removed and containerized, labeled, and manifested as a hazardous waste and transported to a permitted hazardous waste TSDF.

b) The drum washers and the dock area will be decontaminated using a detergent-water solution, high-pressure spray and triple rinsed. It is anticipated that approximately 800 gallons of rinsate will be generated during decontamination of the drum washers and dock area.

c) Following decontamination, a sample of the final rinsate will be collected from the containment, and from the drum washer(s) if saved for potential reuse and analyzed for the same constituents as the tank system. Components of the return/fill that will be scrapped at closure will not require rinsate sampling. (Note that the closure cost estimate includes the cost of scrapping the return and fill station structure).

d) The decontamination wash/rinsate water may be discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described above *or* containerized in an appropriate storage device. The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

e) The secondary containment at the return and fill will be decontaminated using procedures consistent with those described for the tank containment area.

Approximately 250 gallons of wash water are anticipated from decontamination of the containment area.

f) Following decontamination, the containment will be inspected by an independent Professional Engineer for the presence of cracks, fissures, missing seals, etc. If a breach in the steel containment pan(s) is observed that may have allowed a release, the Professional Engineer will inspect the underlying concrete pad for the presence of cracks, fissures, missing seals, staining, etc. If fully-penetrating cracks are present, the underlying soil will be sampled during closure as described below.

CONTAINER STORAGE AREA

The container storage area is used to store/accumulate containers of used materials (e.g. used parts washer solvent, used immersion cleaner, dry cleaning waste, waste antifreeze, tank or drum washer sediment, industrial solvents, or other non-regulated wastes or products). At the time of facility closure or partial closure of the container storage area, waste inventory will be removed and transported under manifest to a permitted hazardous waste TSDF. The contents of the drums will be treated or disposed of at a permitted TSDF.

At the time of facility closure or partial closure, the following steps will be conducted:

a) The secondary containment structure will be inspected and decontaminated using procedures consistent with those described above for the tank secondary containment area. It is anticipated that approximately 250 gallons of rinsate will be generated during decontamination of the container storage area. The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF.

b) A sample of the final rinsate will be collected and analyzed for constituents representative of waste codes listed in the facility permit, including any F-listed codes.

c) The rinsate sample results will be used to verify the effectiveness of decontamination. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met.

d) If the independent Professional Engineer determines that the unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described below.

L.12. NR 664.0112(2)(f) *Schedule for closure of each hazardous waste management unit and final closure of the facility.*

The closure schedule is included as Exhibit F-2.

L.13. NR 664.0112(2)(g) *The estimated year of final closure if the financial mechanism is a trust fund and the facility expects to close before the operating license expires.*

The facility does not have a trust fund as the financial mechanism. Therefore, this section does not apply.

L.14. NR 664.0112(2)(h) *Alternative requirements for closure established by the department.*

There are no alternative requirements for closure. Therefore, this section does not apply.

L.15. NR 664.0112(4)(a) *Department will be notified at least 180 days prior to partial or final closure.*

SK will remove all hazardous wastes and residuals from the facility to levels protective of human health and the environment and will therefore, eliminate the need for further maintenance and care.

SK will notify the Department in writing of any intent to close the facility at least 180 days (or as soon as the business decision is made to close the facility) before SK begins full facility closure. The following general requirements apply to facility closure.

- As required by 40 CFR 264.113 (b) and WI DNR 670.014, the closure will be completed within 180 days of the receipt of the final volume of hazardous waste, and/or receipt of Wisconsin DNR approval, or unless an extended closure period is requested by SK and approved by the Wisconsin DNR.
- Upon completion of final closure, Certification of Closure, prepared and certified by both an independent registered professional engineer and SK, will be submitted to the Wisconsin DNR.
- If the facility permit is modified, this plan will also be amended to reflect those modifications, as appropriate. The request for modification and subsequent modified closure plan will be submitted to the Wisconsin DNR for acknowledgment and approval.

FACILITY CLOSURE SCHEDULE

L.16. NR 664.0113(1) *Within 90 days of receiving the final volume of hazardous waste, all hazardous waste is treated, or removed from the unit or facility.*

Within 90 days of receiving the final volume of hazardous wastes, SK will remove all hazardous wastes from the site in accordance with the approved closure plan. SK will complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of waste or upon Wisconsin DNR approval of the closure plan and procedures, whichever is later. The Wisconsin DNR may approve a longer period if SK demonstrates that:

a) The activities necessary to remove waste or close the facility, will of necessity, take longer than 90 days or 180 days, respectively, to complete or the following requirements are met:

b) The facility has the capacity to receive additional wastes;

c) There is a likelihood that a person other than SK will recommence operation at the site within one year;

d) Closure of the facility is incompatible with future use of the site. In this case, SK will take all steps necessary to prevent threats to human health and the environment.

L 17. NR 664.0113(2) *Partial and final closure activities are completed within 180 days after receiving the final volume of hazardous waste.*

Safety-Kleen will complete the closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. Safety-Kleen may petition the Wisconsin DNR for an extension to the closure period to ensure that the facility has achieved clean closure levels that are protective of human health and the environment.

The closure schedule is included as Exhibit F-2.

L.18. NR 664.0114 *All contaminated equipment, structures, and soils will be properly disposed of or decontaminated.*

DECONTAMINATION OF CLEANUP EQUIPMENT

Equipment used during decontamination activities will be cleaned along with and within the respective secondary containment structure. Therefore the anticipated amount of wash water to decontaminate equipment was included in the estimated quantity generated for each unit. Small consumable equipment (e.g. mops, rags, disposable PPE, etc.), which cannot be cleaned will be containerized, managed as a hazardous waste and disposed of at a permitted TSDF, or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

SK does not anticipate that heavy equipment, such as cranes and backhoes, will come into contact with hazardous wastes. For example, a crane may be used to remove the storage tank, but only after the tank has been decontaminated. Therefore, an equipment decontamination area should not be necessary during closure. However, if necessary, heavy equipment will be cleaned by scraping, brushing and/or using a pressure washer

with a non-phosphate detergent/water solution with tap water rinse. The wash/rinse water will be containerized and managed as a hazardous waste and disposed of at a permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

SOIL SAMPLING DURING CLOSURE

Following closure/decontamination, if the independent Professional Engineer determines based on the inspection procedures described previously that the containment structure was breached in a manner to allow a potential release to the subsurface, soil samples will be collected from beneath containment area(s) in question. The number of soil samples required at closure will be determined at closure following the engineer's inspection of the respective containment areas.

In general, if required, soil samples will be collected from immediately beneath cracks or gaps noted by the engineer during inspection of each containment area, which are determined to have the potential for wastes to migrate to underlying soils. It is anticipated that soil samples will be analyzed for constituents representative of the toxicity characteristic waste codes listed in the facility permit for storage in each unit (total VOCs, SVOCs and Metals). If applicable, samples may also be collected from additional areas of the site for background comparison.

If required, the identification, characterization and remediation of any contamination that may exist beneath the containment areas shall be described in a work plan prepared following receipt of analytical results from any required soil sampling. The work plan will be submitted to the Wisconsin DNR for review and approval.

L.19. NR 664.0115 *Within 60 days of completing final closure, a certification of closure will be sent to the department.*

CLOSURE CERTIFICATION

When closure is completed, SK shall submit to the Wisconsin DNR certification, both by the operator and a qualified independent registered professional engineer, that the facility has been closed in accordance with the approved closure plan. The closure certification will be presented in a Closure Certification Report, which will be prepared in accordance with applicable portions of 40 CFR 264.115, as adopted by WI Admin Code NR 664.0115. Information contained in the closure report will include a brief site history, site plan, closure field notes, documentation of decontamination procedures, photo-documentation, soil sampling locations (if required), laboratory analytical reports, tabular summaries of analytical results, volumes of wastes removed, copies of waste manifests, etc. Any deviations from the approved closure plan will also be documented in the report. The Closure Certification Report will be submitted within 60 days of completion of the closure activities.

Part I – Closure Cost Estimate and Financial Responsibility

Section M NR 670.014(2)(o)

M.1. NR 664.0142(1) *The most recent detailed written closure cost estimate in current dollars for closing the facility in accordance with the approved closure plan.*

The Closure Cost Estimate Worksheet is included as Exhibit F-1.

M.2. NR 664.0142(1)(a) *Cost estimate equals the cost of final closure when facility operations make closure the most expensive.*

The Closure Cost Estimate included as Exhibit F-1 assumes 100% storage capacity of all permitted waste storage units. The costs on this worksheet are derived using ECHO database, which is the same source used by US EPA's CostPro.

M.3. NR 664.0142(1)(b) *Cost estimate is based on hiring a third party to close the facility.*

The Closure Cost Estimate is based on hiring a third party to close the facility. There is no assumed in-house labor, disposal costs, or transportation costs.

M.4. NR 664.0142(1)(c) *Cost estimate does not incorporate any salvage value of hazardous waste, structures, equipment, land or assets.*

There is no assumed salvage value of any hazardous waste, structures, equipment, land or other assets.

M.5. NR 664.0142(1)(d) *Closure estimate does not include a zero cost for hazardous waste that might have economic value.*

The closure cost estimate does not assume economic value of any waste that must be disposed of.

M.6. NR 664.0143 *Facility has established financial assurance that covers the closure cost estimate.*

The closure cost estimate is adjusted annually to reflect inflation, in accordance with and as required by and detailed in 40 CFR 264.142(b) and (c) and Wi NR 664.0142(2). Safety-Kleen maintains an insurance certificate for closure, as included in Exhibit F-2.

M.7. NR 664.0143 *The financial assurance mechanism meets all applicable requirements in NR 664.0143.*

The insurance certificate for closure meets all applicable requirements in NR 664.0143.

M.8. NR 670.014(2)(o) *If a new facility, the financial assurance is submitted 60 days prior to initial receipt of waste.*

This is an existing facility. Therefore, this section does not apply.

Part I – Pollution Liability Insurance

Section N NR 670.014(2)(q)

N.1. NR 670.014(2)(q) *Copy of the insurance policy or other documentation demonstrating liability coverage.*

A copy of the Hazardous Waste Facility Certificate Insurance (HWFCI) is included in Exhibit F-4.

N.2. NR 664.0147(1) *Financial responsibility covers bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility.*

A copy of the Hazardous Waste Facility Certificate Insurance (HWFCI) is included in Exhibit F-4.

N.3. NR 664.0147(1) *Coverage for sudden accidental occurrences of at least $1 million per occurrence with annual aggregate of at least $2 million.*

A copy of the Hazardous Waste Facility Certificate Insurance (HWFCI) is included in Exhibit F-4.

N.4. NR 670.014(2)(q) *If a new facility, documentation showing the amount of insurance to be in place before the initial receipt of waste.*

This is an existing facility. Therefore, this section does not apply.

Part II – Container Standards - Inspections

Section A NR 670.014(2)(e)

A.1. NR 664.0174 *Container storage areas inspected at least weekly for leaking containers and the deterioration of containers and containment system.*

The container storage area is inspected at least weekly as detailed in NR 664.0174 and NR 664.0015(1). The number and condition of the containers are noted. The total volume of the waste held in the CSA will not exceed the permitted volume for the area. The contents of any leaking or suspect containers must be placed in a container of adequate integrity. The containers will be properly labeled and marked in accordance with U.S. DOT and Wisconsin hazardous waste regulations. The secondary containment system must be inspected for deterioration or failure. If cracks or leaks are detected, repairs will be initiated immediately. Exhibit D-1 has an example inspection form that may be subject to change. Facility inspections may be recorded electronically.

A.2. NR 664.0015(2)(d) *Inspection frequency of container storage areas is adequate to prevent environmental or human health incident.*

Inspection of the container storage area is typically done every day the facility is operating.

A.3. NR 670.014(2)(e) *Inspection schedule for subch. CC containers, as required by 664.1086.*

Containers for hazardous waste meet the U.S. Department of Transportation (DOT) regulations for packaging hazardous materials for transportation. The containers are inspected upon receipt at the facility, and then daily for leaking due to visible cracks, holes, gaps, or other open spaces into the interior of the container. If a leaking container is discovered, it is immediately overpacked, or the contents are transferred to different containers. Containers are not stored at the facility for a period of one year or more. See Exhibit D-1 for an example inspection form that may be subject to change. Facility inspections may be recorded electronically

A.4. NR 670.014(2)(e) *Inspection schedule includes inspection and monitoring requirements in NR 664.1088 for containers.*

Containers and their storage areas are inspected at least weekly as outlined in NR 664.0015(1) and 664.1088. Safety-Kleen conducts regular inspections of the facility for malfunctions, deterioration, and discharges which may be causing, or may lead to, release of hazardous waste constituents to the environment or pose a threat to human health. The inspections are conducted often enough to identify problems in time to correct them before they harm human health or the environment.

A.5. NR 664.0015(2)(d) *The inspection frequencies required by subch. CC for containers are adequate to prevent environmental or human health incidents.*

The inspection of the container storage area is typically done every day the facility is operating to prevent environmental or human health incidents.

Part II – Container Standards - Containment

Section B NR 670.015(1)

B.1. NR 664.0175(2)(a) *Base of containment system is designed and operated to be free of cracks or gaps and sufficiently impervious to leaks and precipitation until material is removed.*

The floor, curbing and collection trench for the container storage area (CSA) are made of steel reinforced concrete and the concrete has been poured so that no cracks or gaps exist between them. The concrete contains spills, leaks, or accumulated precipitation until the material can be detected and removed. The concrete is covered with Corro-Shield Corro-Cote.

B.2. NR 664.0175(2)(b) *Base is sloped or containment system is designed and operated to drain and remove liquids from leaks or precipitation OR containers are elevated or otherwise protected from contacting accumulated liquids.*

The facility stores all hazardous waste on pallets in the CSA. This practice is done both to prevent containers from contact with standing liquids in the containment system and for ease of moving containers by mechanical means. Drums may be stacked more than one high but will have wooden pallets are placed between the layers of drums. An example of aisle space and pallet layout is included as Exhibit B-34.

B.3 NR 64.0175(2)(c) *Capacity of containment system is 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers without free liquids need not be considered.*

The CSA has secondary containment in the form of an approximately 0.65’ x 2.04’ x 8.0’ trench and curbing. The total secondary containment capacity is 79 gallons. The permitted use of the CSA in the Service Center warehouse is for the storage of (1) sediment from cleaning the drum washer/dumpsters in the return and fill station; (2) solid/liquid debris generated by Service Center operations and activities; (3) spent immersion cleaner; (4) dry cleaning wastes; and 5) aqueous parts cleaner solvent. Other non-hazardous materials or non-regulated wastes, and Safety-Kleen products may also be stored in this area provided the materials are compatible. No more than 790 gallons of hazardous and non-hazardous waste will be stored in the CSA at any time. The secondary containment calculations are included as Exhibit B-11.

B.4. NR 664.0175(2)(d) *Run-on into the containment system is prevented unless the containment system has sufficient excess capacity to contain it.*

The CSA is located in an enclosed warehouse so precipitation would not accumulate in this area. Therefore, this section does not apply.

B.5. NR 664.0175(2)(e) *Spilled waste and precipitation are removed from sump or collection area in a timely manner to prevent overflow.*

All accumulated liquids will be identified and removed within 24 hours of detection.

B.6. NR 664.0175(4) *The design and operation of the containment structure complies with B.1. to B.5. for containers of F020-F023 and F026- F027 wastes that do not contain free liquids.*

The Facility does not accept nor generate F020- F023 and F026- F027 wastes. Therefore, this section does not apply.

B.7. NR 670.015(1)(a) *Description of basic design parameters, dimensions and materials of construction of the containment system.*

See B-1 through B-3 above.

B.8. NR 670.015(1)(b) *Description of how the design of the containment system promotes drainage or how containers are kept from contacting standing liquids.*

All hazardous waste containers are indoors in an enclosed warehouse. The containers are stored on pallets to keep them from contacting standing liquids.

B.9. NR 670.015(1)(c) *Description of the capacity of the containment system relative to the number and volume of containers to be stored.*

See B-3 above.

B. 10. NR 670.015(1)(d) *Provisions for preventing or managing run-on. NR 670.015(1)(d)*

All hazardous waste containers are stored indoors. Therefore, there would be no run-on and this section does not apply.

B.11. NR 670.015(1)(e) *How accumulated liquids will be analyzed and removed to prevent overflow.*

Containers of hazardous waste are marked with a proper DOT shipping description, generator information, and manifest number. If there has been a release that has accumulated, it will be easily identified by locating the leaking container. The leaking container would be placed into a DOT-approved salvage container.

Due to the size of containers stored in the Container Storage Area, absorbents such as socks or pads would be used to clean up the spill. This waste would be placed into the salvage drum (along with the original shipping container) and shipped off-site for disposal.

B.12 NR 670.015(2) *Other than B.6., if all containers do not contain free liquids, either the storage area is sloped or otherwise designed to drain and remove precipitation; or, the containers are elevated or otherwise protected from contact with accumulated liquid.*

Containers of waste are stored on pallets to protect them from contact with accumulated liquid.

B.13. NR 670.015(2)(a) *Test procedures and results or other documentation or information showing waste in B.12. does not contain free liquids.*

All containers stored in the Container Storage Area are assumed to contain free liquids so will be stored on pallets. Therefore, this section does not apply.

B.14. NR 670.015(2)(b) *Description of how the storage area for waste in B.12. is designed or operated to drain and remove liquids, or how containers with no free liquids are kept from contacting standing liquids.*

All containers of waste are stored on pallets to protect them from contact with accumulated liquid.

Part II – Container Standards – Incompatible, Reactive, Ignitable Waste

Section C NR 670.015(3) and NR 670.015(4)

C.1. NR 664.0176 *Sketches, drawings or data demonstrating containers of ignitable or reactive waste are located at least 50 feet from the facility property line.*

The facility does not receive reactive wastes. A facility diagram is included as Exhibit B-15.

C.2. NR 664.0177(3) *Sketches, drawings or data demonstrating storage containers of hazardous waste that are incompatible with other waste or materials stored nearby in other containers, piles or open tanks are separated or protected by a dike, berm, wall or other device.*

It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Safety-Kleen will store and transport any 10-day transfer incompatible wastes in accordance with 49 CFR 177.848 (segregation of hazardous materials).

C.3. NR 670.0015(4) *Description of procedures to ensure incompatible wastes are not placed in the same container unless the requirements in C.4. to C.10. are met.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.4. NR 664.0017(2)(a) *Precautions taken to prevent reactions generating extreme heat or pressure, fire or explosions or violent reactions.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.5. 664.0017(2)(b) *Precautions taken to prevent reactions producing uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.6. NR 664.0017(2(c) *Precautions taken to prevent reactions producing uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.7. NR 664.0017(2)(d) *Precautions taken to prevent reactions damaging the structural integrity of the device or facility.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.8. NR 664.0017(2)(e) *Precautions taken to prevent reactions through other means to threaten human health or the environment.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.9. NR 664.0017(3) *Documentation of compliance with C.4. to C.8., based on references to published scientific or engineering literature, data from trial tests, waste analyses or the results of treatment of similar wastes or similar treatment processes and under similar operating conditions.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

C.10. NR 664.0177(2) *Description of procedures to ensure hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material.*

All wastes stored in the Container Storage Area are shipped for off-site processing with there being no onsite mixing or commingling. Therefore, this section does not apply.

Part II – Tank Standards - General

Section D NR 670.016

D.1. NR 670.016(2) *Dimensions and capacity of each tank.*

The waste mineral spirits tank is a non-pressurized aboveground storage tank. It is constructed with a fixed roof and is 12' in diameter, with a height of 14'. Capacity calculations for the tank are included in Exhibit B-14.

D.2. NR 670.016(3) *Description of feed systems, safety cutoff, bypass systems and pressure controls.*

The Return and Fill process is a manual operation. All drums of waste solvent are manually emptied into the drum washer. The waste mineral spirits solvent is pumped through hard-pipes from the drum washer receptacle located in the Return and Fill dock to the storage tank. Movement of waste solvent into the tank can be halted simply by discontinuing the drum emptying process.

The tank system is equipped with a high level alarm which indicates when the tank is 95% full. If the level in the tank is 95% of capacity, the float activates a switch which activates both visual and audible alarms. The transfer pump is also disabled so that the tank will not overflow. The pump cannot be restarted until the level of solvent in the tank is below 95% capacity. The high level alarm is inspected daily for proper functioning of electrical and mechanical components. The tank is equipped with a pressure/vacuum vent which operates at two ounces of pressure and one ounce of vacuum. This venting prevents damage due to over- or under- pressuring of the tank.

D.3. NR 670.016(4) *Diagram of piping, instrumentation and process flow for each tank system.*

Diagrams are included as Exhibits B-21, B-22, B-23, and B-24.

D.4. NR 664.0194(2)(a) *Description of spill prevention controls, such as check valves, dry disconnect couplings.*

The Return and Fill drum washer/receptacle is underlain by steel containment pans that will capture any splashes or spills that may occur during the drum emptying process. There is a 2" threaded check valve located between the tank and Return and Fill pump that will prevent solvent from back-flowing out of the tank to the Return and Fill drum washer/receptacle.

There is also a 3" threaded check valve located near the camlock where a hose would be connected to the piping to remove solvent from the tank. This will prevent any solvent being pumped into the waste solvent tank except through the Return and Fill operations.

D.5. NR 664.0194(2)(b) *Description of overfill prevention controls, such as level sensing devices, high level alarms, automatic feed cutoff or bypass to a standby tank.*

See D.2 above

D.6. NR 664.0194(2)(c) *Description of how sufficient freeboard in uncovered tanks will be maintained to prevent overtopping by wave or wind action or precipitation.*

The permitted waste storage tank has a fixed roof. Therefore, this section does not apply.

Part II – Tank Standards - Inspections

Section E NR 670.014(2)(e)

E.1. NR 664.0195(1) *Inspection schedule for tank overfill controls.*

At a minimum, the tanks holding product and spent materials are inspected each operating day, typically Monday through Friday. The inspections include checks of the high level audible and visual alarms at the tank farm area.

E.2. NR 664.1095(2)(a) *Aboveground portions of tank systems inspected at least once each operating day to detect corrosion or releases of waste.*

The tank systems, including piping, are inspected at least once each operating day to detect for corrosion or releases of waste. All the tanks and the ancillary equipment are located above ground and are accessible.

E.3. NR 664.1095(2)(c) *Construction materials and area immediately surrounding tank systems inspected at least once each operating day to detect erosion or signs of releases.*

The construction materials of the secondary containment and the area immediately surrounding the tank systems, are inspected each operating day, to detect erosion (cracks or broken cement) or signs of releases of hazardous waste (wet spots).

E.4. NR 664.1095(2)(b) *Data gathered from monitoring and leak detection equipment inspected at least once each operating day to ensure the tank system is operated according to design.*

The facility conducts a daily visual inspection of the tank systems, looking for evidence of leaking equipment, signs of corrosion or deterioration that would threaten the integrity of the system. The tanks are not equipped with pressure or temperature gauges.

E.5. NR 664.1095(3)(a) *Proper operation of the cathodic protection system is confirmed by inspection within 6 months of initial installation and annually thereafter.*

The facility has no underground storage tanks. Therefore, this section does not apply.

E.6. NR 664.1095(3)(b) *All sources of impressed current inspected and/or tested, as appropriate, at least every other month.*

The facility has no underground storage tanks. Therefore, this section does not apply.

E.7. NR 670.014(2)(e) *Inspection schedule for subch. CC tank requirements, as stated in 664.1084 and 664.1088.*

Visual inspection of the tank closure devices will be conducted on an annual basis. In

addition, the hazardous waste storage tank is inspected during the facility's regular inspection. This inspection includes check of the high level alarm and of the volume (according to the gauge) held in the tank. Sudden deviations in the solvent volumes will be investigated and the cause determined.

E.8. NR 664.0015(2)(d) *Inspection frequencies required by subch. CC for tanks are adequate to prevent environmental or human health incidents.*

The inspection frequency is adequate to prevent environmental or human health concerns.

Part II – Tank Standards – Existing Tanks

Section E NR 670.016(1)

F.1. NR 670.016(1) through F.6 NR 664.0191(2)(e) *For each tank system installed before March 1, 1991, a written assessment reviewed and certified by an independent, qualified, registered PE as to the structural integrity and suitability for handling hazardous waste which includes the information in F.2. to F.8.*

A written assessment was completed, reviewed, and certified by an independent qualified PE. The assessment is included as Exhibit B-30.

F.7. NR 664.0191(2)(e)1. *If underground tanks cannot be entered, a leak test capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects.*

There are no underground tanks. Therefore, this section does not apply.

F.8. NR 664.0191(2)(e)2 *If other tanks cannot be entered, a leak test or other integrity examination certified by a PE that addresses cracks, leaks, corrosion, and erosion.*

There are no tanks that cannot be entered. Therefore, this section does not apply.

F.9. NR 664.0191(4) through 22 NR 664.0196(6) *If, as a result of the assessment, the tank was found to be leaking or unfit for use, steps were taken to comply with F.10. to F.22.*

The tank was not found to be leaking or unfit for use. Therefore, these sections do not apply.

Part II – Tank Standards – New Tanks

Section G NR 670.016(1) and NR 670.016(6)

G.1 – G.28

There are no New Tanks so this section does not apply

Part II – Tank Standards – Secondary Containment

Section H NR 670.016(7) and NR 670.016(8)

H.1. NR 670.016(7) *Detailed plans and description of how the secondary containment system for each tank system meets the requirements stated in H.2. to H.9.*

The secondary containment (tank farm) consists of a monolithically poured slab and dike wall. The slab is 6" and the wall in 8" thick steel reinforced concrete. A diagram is included as Exhibit B-19.

H.2. NR 664.0193(2)(a) *Designed, constructed and operated to prevent the migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during use of the tank system.*

The secondary containment system is designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during the use of the tank system.

H.3. NR 664.0193(2)(b) *Designed, constructed and operated to detect and collect releases and accumulated liquid until the material is removed.*

The secondary containment area has sufficient containment capacity, and is capable of collecting releases and accumulated liquids until the collected material is removed. The floor of the diked area is slightly sloped to drain to collection sump. Secondary containment is inspected each operating day, and if accumulated liquid is found, it is removed as quickly as possible.

H.4. NR 664.0193(3)(a) *Constructed of or lined with materials that are compatible with the wastes to be placed in the tank system.*

The secondary containment (tank farm) consists of a monolithically poured slab and dike wall. The slab is 6" and the wall in 8" thick steel reinforced concrete. The tank farm floor is coated with ChemTec One. This product is a reactive silicate concrete densifier, hardener, and sealer. The Chemtec One process is permanent. Information is included in Exhibit B-33.

H.5. NR 664.0193(3)(a) *Has sufficient strength and thickness to prevent failure due to pressure gradients, physical contact with the waste, climatic conditions and stress of daily operation.*

The containment has sufficient strength and thickness to prevent failure due to pressure gradients, physical contact with the waste, climatic conditions and stress of daily operation. A written tank assessment in included as Exhibit B-30.

H.6. NR 664.0193(3)(b) *Placed on a foundation or base capable of providing support and resistance to pressure gradients above and below the system, and preventing failure due to settlement, compression or uplift.*

The tank systems are placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression or uplift. The containment system does not place a significant load in its supporting concrete base. Maximum pressure on the concrete due to a filled tank is 100.5 pounds per square inch. Maximum pressure on supportive soils is 1706 pounds per square foot. A written tank assessment in included as Exhibit B-30.

H.7. NR 664.0193(3)(c) *Provided with a leak detection system designed and operated to detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours or at the earliest practicable time unless demonstrated that existing detection technologies or site conditions will not allow detection of a release within 24 hours.*

The containment areas are inspected each operating day for visual signs there has been a release of hazardous waste or accumulated liquid in the secondary containment system. Any release will be detected during the inspection.

H.8. NR 664.0193(3)(d) *Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills or precipitation.*

The containment system is sloped slightly downward towards the southwest where a sump is located. Any spilled solvents would tend to migrate to this end of the secondary containment structure and will be removed via suction pump.

H.9. NR 664.0193(3)(d) *Spilled or leaked waste and accumulated precipitation will be removed from the secondary containment system within 24 hours or in a timely manner that prevents harm to human health and the environment if demonstrated that the material cannot be removed in 24 hours.*

Any precipitation in the secondary containment system will be removed within 24 hours of the end of the rainfall/snow event or by the end of the next operating day, whichever comes later. In cold weather it may not be possible to totally remove all traces of snow or ice without damaging the sealant in the secondary containment or introducing a spark into the containment area. In such instances snow and ice will be removed to the best extent possible to avoid damaging the secondary containment and to maintain the ability of the containment to contain precipitation from a 24-hour rainfall and 25-year event. Per 40 CFR 264.193(c)(4) accumulated precipitation will be removed in as timely a manner as possible. Traces of ice and snow will be removed when the temperature rises sufficiently to melt them.

H.10. NR 670.016(7) *Detailed plans and description of how an external liner system for each tank system meets the requirements stated in H.11. to H.14.*

H.11. NR 664.0193(5)(a)1 *Designed or operated to contain 100% of the capacity of the largest tank within its boundary.*

The secondary containment structure is capable of holding 100% of the volume of the largest tank within the structure. Calculations are included in Exhibits B-13 and B-30.

H.12. NR 664.0193(5)(a)2 *Designed or operated to prevent run-on or infiltration of precipitation into the external liner system unless the collection system has sufficient excess capacity to contain run-on or infiltration from a 25 year, 24 hour rainfall event.*

The containment system has sufficient excess capacity to contain precipitation from a 25-year, 24-hour rainfall event.

H.13. NR 664.0193(5)(a)3 *Free of cracks and gaps.*

The secondary containment system is maintained to be free of cracks and gaps. The containment system is inspected per schedule and repaired as needed, when indicated on the daily inspection form.

H.14. NR 664.0193(5)(a)4 *Designed and installed to surround the tank completely and cover all surrounding earth likely to come into contact with the waste if a release from the tank (capable of preventing lateral and vertical migration of waste).*

The secondary containment system is designed to completely surround the tank system. There is no exposed soil within the tank farm.

H.15. – H.21. *Detailed plans and description of how a vault system for each tank system meets the requirements stated in H.16. to H.21.*

The Facility does not have vault systems for the tank system. Therefore, this section does not apply.

H.22- H25. *Double-walled tank information*

The Facility does not have double-walled tanks. Therefore, these sections do not apply.

H.26. NR 664.0193(6) *Detailed plans and description of how ancillary equipment for each tank system will be provided with secondary containment except for aboveground piping; welded flanges, joints and connections; sealless or magnetic coupling pumps and sealless valves; and, pressurized aboveground piping systems with automatic shut-off devices that are visually inspected for leaks on a daily basis.*

Most of the piping and drum washers are over secondary contained areas. Any piping that does not have secondary containment has welded joints and connections.

H.27. NR 670.016(8)(a) *If seeking an alternative to the requirements of this section, detailed plans and engineering and hydrogeologic reports describing alternate design and operating practices; and, an evaluation of location characteristics which demonstrate the migration of hazardous waste or constituents into groundwater or surface water during the life of the facility is prevented.*

The facility is not seeking an alternative to the requirements of this section. Therefore, this section does not apply.

H.28. NR 670.016(8)(b) *If seeking an alternative to the requirements of this section, a detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.*

The facility is not seeking an alternative to the requirements of this section. Therefore, this section does not apply.

Part II – Tank Standards – Ignitable, Reactive, and Incompatible Wastes

Section I NR 670.016(10)

I.1. NR 664.0198(1)(a)1 *If ignitable or reactive waste is treated, rendered or mixed before or immediately after placement in the tank system, a description of how operating procedures and tank system and facility design will ensure the resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste.*

The facility does not receive nor treat any reactive or incompatible waste. Ignitable waste is not treated, rendered or mixed before or immediately after placement in any tank system so that the resulting waste, mixture, or dissolved material no longer meets the definition of ignitable.

I.2. – I-8 NR 664.0198(1)(a)2 *If ignitable or reactive waste is treated, rendered or mixed before or immediately after placement in the tank system, a description of how operating procedures and tank system and facility design will ensure I.3. to I.7. will be met.*

See I-9 below.

I.3. – I.8 NR 664.0017(2)(a)-(e) *Precautions taken to prevent reactions generating extreme heat or pressure, fire or explosions or violent reactions.*

See I-9 below.

I.8. NR 664.0017(3) *Documentation demonstrating compliance with I.2.. to I.7., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions.*

The facility does not treat any wastes. Therefore, this section does not apply.

I.9. NR 664.0198(1)(b) *If ignitable or reactive waste is placed in the tank system, an alternative to I.2. to I.8. is to provide a description of how operating procedures and tank system and facility design will ensure the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react.*

The tank is equipped with a pressure/vacuum vent which operates at two ounces of pressure and one ounce of vacuum. The tank is further equipped with a dedicated, secondary containment system. The specific gravity of the hydrocarbon-based parts washer solvents is approximately 0.8 and the vapor pressure is less than 2mm at 68 degrees F.

The ignitable waste is stored in such a way that it is protected from any material or conditions that may cause the waste to ignite. No hot work (i.e. welding) is done in the vicinity of the tank. A portion of the waste solvent tank and related piping is insulated and heat traced in order to prevent freezing and/or rupturing. The tank is also painted white to reflect sunlight.

I.10. NR 664.0198(1)(c) *If ignitable or reactive waste is placed in the tank system, an alternative to I.2 to I.8 or I.9. is to provide a description of how operating procedures, the tank system and facility design will ensure the tank system is used solely for emergencies.*

The tank system will not be used solely for emergencies. Therefore, this section does not apply.

I.11. NR 664.0198(2) *If the facility stores or treats ignitable or reactive waste in a tank, demonstrate compliance with the requirements to maintain protective distances between the waste management area and any public ways, streets, alleys or an adjoining property line that can be built upon, as required by Tables 2-1 to 2-6 of NFPA's "Flammable and Combustible Liquids Code.*

In accordance with NFPA 30, "Flammable and Combustible Liquids Code", Table 2.1 to 2.6, the minimum buffer zone requirements for the tanks are:

1. Tanks must be located a minimum of 15 feet from the property line which is or can be built upon, including the opposite side of a public way.
2. Tanks must be located a minimum of 5 feet from nearest side of any public way or from nearest important building on the same property.

The storage tank is in compliance with the above buffer zone requirements.

I.12. NR 664.0199(1) *Incompatible wastes are not placed in the same tank system unless the requirements in I.3. to I.8. are met.*

The facility does not store incompatible wastes. Therefore, this section does not apply.

1.13. NR 664.0199(2). *Hazardous waste is not placed in a tank system that previously held an incompatible waste and has not been decontaminated unless the requirements of I.3. to I.8. are met.*

The waste storage tank is used exclusively for storage of one waste stream.

Part II – Unit Requirements – Miscellaneous Units

Section J NR 670.023

Safety-Kleen Systems, Inc. does not have any miscellaneous units on site, therefore this section does not apply.

Part III – Subpart AA – Air Emission Control Standards for Process Vents

Section K NR 670.024

The facility does not conduct distillation, fractionation, thin-film evaporation, solvent extraction, air stripping operations, or steam stripping operations. Therefore, this section does not apply.

Part III – Subpart BB – Air Emission Control Standards for Equipment

Section L NR 670.025

L.2. NR 670.025(1) *Equipment identification number and hazardous waste management unit identification.*

The following units contain descriptions and identifications for each piece of equipment and HWMU:

Unit 1: Unit 1 consists of one approximately 400-square foot, 790-gallon maximum container storage area used for the storage/accumulation of used organic and inorganic materials such as sediment from cleaning the drum washer/dumpsters in the return and fill station, solid/liquid debris generated by Service Center operations and activities, spent immersion cleaner, dry cleaning wastes, and aqueous parts cleaner solvent. Other non-hazardous materials, non-regulated wastes, and Safety-Kleen products may also be stored in this unit. See Exhibit B-15.

Unit 2: Unit 2 is comprised of one 13,500-gallon above ground storage tank with associated piping and ancillary equipment which is used to bulk spent solvent. Connecting to the above ground storage tank are two 5' by 3' drum washer units with a capacity of 163 gallons, which are located at the facility's Return and Fill Unit. For location see Exhibit. All associated piping and ancillary equipment can be found at Exhibit B-24.

Each valve, pump, and flange associated with the hazardous waste tank and its ancillary equipment is marked and listed on the respective air monitoring equipment inventory form. Exhibit B-24 shows the location and the number assigned to each piece of equipment.

L.3. NR 670.025(1)(b) *Approximate location within the facility, as identified on a facility plot plan.*

Unit 1 location: Unit 1 is located at the south side of the facility. See B-15 Site Map.

Unit 2 location: Unit 2 is located at the south side of the facility. See B-15 Site Map.

L.4. NR 670.025 *Type of equipment*

Unit 1 equipment type: According to 40 CFR Part 260.10/NR 660.010(54), Unit 1 is a container storage area.

Unit 2 equipment type: According to 40 CFR Part 260.10/NR 660.010(54), Unit 2 is a tank and its associated piping and underlying containment system as well as all ancillary equipment.

L.5. NR 670.025(1)(d) *Percent by weight total organics in the hazardous waste streams at each piece of equipment.*

Unit 1: Unit one may vary from 50% to 100% total weight organics.

Unit 2: Unit two will always contain 100% total weight organics because petroleum distillates are the only wastes stored in this unit.

L.6. NR 670.025(1)(e) *Hazardous waste state (gas, vapor, etc.) at each piece of equipment.*

HEAVY LIQUID DETERMINATION

The spent parts cleaner solvent managed in the tank system is a heavy liquid (vapor pressure less than 0.3 kilopascals at 20°C) and has a maximum concentration in the vapor phase of 2,000 ppm. The hazardous waste state at each piece of equipment is liquid. Safety-Kleen's heavy liquid determination is included in Exhibit H-2.

L.7. NR 670.025(1)(f) *Method of compliance with the applicable subch. BB standard.*

LEAK DETECTION

Compliance with the standard will be achieved through facility inspections. These inspections will be conducted each operating day, typically Monday through Friday. An example inspection form is in Exhibit D-1.

Because the spent parts cleaner solvent is a heavy liquid, a photoionizer type instrument will not detect leaks at 10,000 ppm. A leak will be observed based on visual, audible, or olfactory inspection. After a valve has been repaired, it will be visually monitored as part of the daily facility inspection. After two successive months with no leak detection, the identification may be removed. For other equipment, such as pumps, the tag may be removed after a successful repair.

L.8. NR 670.025(4) *Documentation demonstrating compliance with the equipment standards in NR 664.1052 to 664.1059, including records required by NR 664.1064.*

RECORDKEEPING

Leak detection monitoring and repair records are maintained. Records of equipment monitoring and repair are maintained on an inspection form in the operating record. Any leak or potential leak must be repaired as soon as practicable, but at least within 15 days, with the first attempt at repair made no later than 5 days after the leak is detected. The leak detection and repair record will be kept on file at the Service Center. The Environmental Compliance Manager will be contacted immediately to arrange for the equipment to be monitored (if required). The piece of equipment in question must be tagged with the I.D. number, date of potential or actual leak, and date of leak confirmation.

L.9. NR 670.025(4) *Additional documentation necessary to determine compliance with the subch. BB standards.*

No additional documentation has been requested by the Department.

L.10. NR 670.025(5) *Documentation demonstrating compliance with NR 664.1060 includes the information in L.11 to L.17.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.11. NR 670.025(5)(a) *List of all information references and sources used to prepare the documentation.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.12. NR 670.025(5)(b) *Records, including the dates, of each compliance test required by NR 664.1033(10).*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.13. NR 670.025(5)(c) *Design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of ATPI Course 415 or other engineering text that present basic control device design information.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.14. NR 670.025(5)(c) *Design analysis addresses that vent stream characteristics and control device operation parameters in NR 664.1035(2)(d)3.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.15. NR 670.025(5)(d) *Statement signed and dated by the owner/operator certifying the operating parameters used in the design analysis reasonably represent the conditions when the unit is operating at the highest capacity level reasonably expected to occur.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.16. NR 670.025(5)(e) *Statement signed and dated by the owner/operator certifying the control device is designed to operate at an efficiency of ≥95 weight %.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

L.17. NR 670.025(3) *If applying to use an alternate control device, a performance test plan if using test date.*

The waste solvent tank system has no control devices. Therefore, this section does not apply.

Part III – Subpart CC – Air Emission Control Standards for Containers and Tanks

Section M NR 670.027

M.1. NR 670.027(1)(a) *Documentation for each floating roof cover installed on a tank subject to NR 664.1084(4)(a) or (b).*

There are no floating roof covered tanks at the facility. Therefore, this section does not apply.

M.2. NR 670.027(1)(b) *Identification of each container are subject to subch. CC.*

Containerized waste can be found in the permitted container storage area, the 10-day transfer warehouse, and the 10-day storage trailer. These areas can be identified in Exhibit B-15.

M.3. NR 670.027(1)(b) *Owner/operator certification that the requirements of subch. CC are met for container storage areas.*

Safety-Kleen Systems, Inc. Kaukauna Service Center certifies that the requirements of subch. CC is being met for container storage areas.

M.4. NR 670.027(1)(c) *Documentation for each enclosure used to control air emissions from containers per NR 664.1086(5)(a)2 and tanks per NR 664.1084(4)(e).*

There are no containers or tanks that are vented inside an enclosure which is exhausted through a closed vent system to a control device. Therefore, this section does not apply.

M.5. NR 670.027(1)(c) *Records for the most recent set of calculations and measurements verifying the enclosure meets the criteria of a permanent total enclosure as specified by Procedure T in 40 CFR 52.741, appendix B.*

There are no enclosures at this facility. Therefore, this section does not apply.

M.6. NR 670.027(1)(e) *Documentation for each closed-vent system and control device installed according to NR 664.1087, including design and performance information.*

There is no closed-vent system or control device at this facility. Therefore, this section does not apply.

M.7. NR 670.027(1)(f) *An emission monitoring plan for Method 21 in 40 CFR part 60 Appendix A and control device monitoring methods.*

There is no emission monitoring plan. Therefore, this section does not apply.

WASTE DETERMINATION PROCEDURES

The Safety-Kleen Kaukauna Service Center shall control air pollutant emissions for applicable hazardous waste management units at this facility pursuant to the requirements of RCRA Subpart CC, through implementation of this compliance program.

This plan describes this facility's waste determination procedures, tank and container design/management practices, organic emission controls, inspection and monitoring, and recordkeeping and reporting requirements, pursuant to standards promulgated under RCRA Subpart CC.

Waste Determination

For purposes of waste determination, the facilities utilize knowledge developed in the Waste Characteristics portion of the sites' hazardous waste permit On an annual basis, the waste streams are re-characterized by collecting small retain samples of each waste shipment arriving at a Safety-Kleen Recycle Center for a period of several weeks. Analyses are performed on composite samples, including flash point, pH, specific gravity, and TCLP (metals, volatiles, and semi-volatiles). Other analyses are performed throughout the year as necessary. In addition, the facility may use knowledge of the waste based on information included in manifests, shipping papers, or waste certification notices to confirm waste determination for the generator or the ultimate receiving facility.

Based upon this knowledge, it has been determined that all hazardous waste managed in tanks or applicable containers at the facility may contain an average volatile organic concentration of greater than 500 ppmw at the point of waste generation. Therefore, all hazardous wastes managed in tanks or applicable containers shall be managed in accordance with applicable Subpart CC control standards. Under such a management scenario, no direct measurements will be conducted. This is consistent with 40 CFR 265.1084(a)(1).

Point of Waste Origination

The point of waste origination for all hazardous wastes generated from off-site sources and transported to a Safety-Kleen Service Center in DOT authorized containers (if required by DOT regulations) which will subsequently be managed in tanks or containers on-site, is the facility boundary at the entrance gate.

For hazardous waste generated on-site, the point of waste origination is the point of hazardous waste generation as defined under hazardous waste regulations.

CONTAINER STANDARDS

Containers managing hazardous wastes generally fall into three categories.

1. Hazardous waste containers less than 26 gallons in capacity that are wholly exempt from consideration under Subpart CC. Containers of hazardous wastes that are transferred through the facility that are "still in the course of transportation" and therefore are exempt from Subpart CC.

2. Containers with capacities between 26 gallons 122 gallons are all Level 1 containers. The Level 1 containers have covers that are designed with no gaps, holes, cracks, or other open spaces into the container. In addition, all containers used to handle hazardous waste meet U.S. DOT Performance Oriented Packaging Standards.

3. Containers of greater than 122 gallons that manage hazardous wastes at this facility are not in light service and are Level 1 covered containers designed and operated with no gaps, holes, cracks, or other open spaces into the container.

Level 1 Containers

Provided below is a summary of the criteria applicable for a container to be identified and managed as a Level 1 container.

Level	Volume	Usage	Requirements
Level 1	> 26 gallons but < 119 gallons OR ➢ 119 gallons	Any hazardous waste Not "in light material service"	- Meet DOT specs or is a lab pack - Keep closed except when adding or removing waste - Safety relief devices - Minimize exposure of waste when transferring, - Remediate defective containers within 5 days, initiate within 24 hours

A hazardous waste is a "light material" if it (1) contains at least one organic constituent with a vapor pressure above 0.3 (kPa) at 20°C, and (2) has a total concentration of such constituents of 20% or greater by weight. This definition will generally apply to all hazardous waste received at the facility in non-bulk containers.

Level 1 containers typically received and managed by this facility include, but not limited to include 5 gallon, 15 gallon, 30 gallon, 55 gallon, 250 gallon containers. These containers typically meet applicable DOT specifications and/or authorizations. Therefore, these containers are acceptable for use in accordance with Level 1 controls. Containers greater than 26 gallons managing site generated hazardous waste will be visually inspected upon their initial filling and within one year if the container is not completely emptied of its contents.

Inspections

Hazardous Waste Received from Off-Site – All hazardous waste received from offsite sources is received in containers. All Level 1 containers managing hazardous waste subject to Subpart CC received from off-site sources that will not be completely emptied within 24 hours of receipt will be inspected to ensure that all applicable covers and closure devices are closed. This inspection already occurs as part of the facility inspection. Therefore, compliance with the inspection requirements of Subpart CC is incorporated in the facility inspection plan by this reference. Defective containers will be remediated within 24 hours of observation, and initial remediation will be attempted within 12 hours of observation.

On-Site Generated Hazardous Waste – Containers greater than 26 gallons will be visually inspected upon their initial filling to ensure that all openings are properly closed and/or covered. Satellite accumulation containers managed in accordance with 40 CFR 262.34(c)(1) and NR 610.08(2) are not subject to Subpart CC requirements.

Monitoring

Containers Managing Off-Site hazardous Waste – Level 1 containers managed at the Service Center are not subject to monitoring for no detectable emissions (NDE). Therefore, no monitoring for NDE will be conducted on such containers. However, they will be closed when not involved in transfer activities.

Transferring Hazardous Waste

Container To Container – This type of transfer will typically be done at the Service Center when it is necessary to remove waste from a damaged container to a non-damaged container that will provide containment for the waste, or to place the entire container into a larger container. An example would be placing a 55 gallon container into an 85 gallon salvage drum. This may occur for both liquid and solid wastes. Only container openings that are necessary to add or remove waste from each container will be open during the transfer. This activity will be conducted in accordance with 40 CFR 265.1087(c)(3)(ii) for Level 1 containers.

Container To Tank – This type of transfer involving liquids will be done regularly for Level 1 containers. Following is an explanation of this activity.

Spent mineral spirits from parts washers is accumulated in a 13,500 gallon aboveground storage tank via the return and fill station. Typically, 5, 16, 30, and 55 gallon containers are poured into the dumpster in the return and fill station, and the material in the dumpster is pumped into the spent solvent storage tank.

TANK STANDARDS

Safety-Kleen will manage organic wastes at the Service Center in the waste mineral spirits storage tank. The waste mineral spirits storage (WMSS) tank will manage hazardous waste with 500 ppmw greater VO Concentration. Therefore, this tank is subject to Level 1 controls. Please note, there are other storage tanks at the Service Center, but are not utilized to store hazardous waste and therefore are exempt from regulation under Subpart CC.

The WMSS tank is a non-pressurized aboveground storage tank. It is constructed with a fixed roof and is 12’ in diameter, with a height of 21’8”. The WMSS tank has a 13,500 gallon storage capacity. The tank is constructed of 3/16” thick (1/4” thick in the lower third of the tank) carbon steel. The tank has an exterior coating of white paint. The tank is constructed in accordance with Underwriters Laboratories Standard 142. The waste in this tank exhibits a vapor pressure of less than 5.2 kPa (.75 psia). The measured vapor pressure of the waste managed in tanks is =0.2 psia. The maximum organic vapor pressure is determined using knowledge of the waste pursuant to 265.1084(c)(4).

All of the tanks present at this Service Center are designed so that all opening covers can be closed with no visible gaps, holes, cracks, or other open spaces into the interior of the tank. The cover and all cover openings operate with no detectable emissions when in a closed position. Cover openings are maintained in a closed position at all times except when waste is being added to or removed from the tanks, or when necessary sampling or repair/maintenance is performed on the tanks.

The tanks are vented to the atmosphere through a safety device (pressure vacuum vent) which has been designed to operate with no detectable organic emissions when the device in the closed position. These tanks have a Morrison 548 (3) inch pressure vacuum. In addition, these tanks are designed with a long-bolted manway pressure relief device which remains in the closed position when not in use to relieve pressure.

Following is a summary of the criteria that must be met in order for Safety-Kleen’s hazardous waste tank to be subject to Level 1 controls.

Tank Design Capacity	Maximum Vapor Pressure of Waste
<19,789 Gallons	11.26 psi
19,789 Gallons - < 39,841 Gallons	4.0 psi
≥39,841 Gallons	0.75 psi

Level 1 Tank

The Level 1 tank must be managed with a fixed roof. All openings in the tank systems must be closed except when adding, removing, or conducting routine maintenance on the tanks. Safety devices and conservation vents are allowed on such tanks.

The WMSS tank stores waste mineral spirits. Vapor pressure testing performed on this material in product form identifies the following: SK 150 Mineral Spirits is .004 psia at 68°F

Since the material has a vapor pressure that is significantly lower than the maximum threshold of 11.26 psia for Level 1 tanks, Safety-Kleen Systems, Inc. has determined that the hazardous waste storage tank at the Service Center has a design capacity of less than 19,789 gallons, therefore the waste materials are subject to Level 1 controls. The vapor pressure of the waste in the tank will fluctuate on a periodic basis due to the cyclic generation of hazardous waste streams by off-site generators. The maximum vapor pressure in the hazardous waste tank will not exceed the applicable Level 1 threshold. The maximum organic vapor pressure is determined using process knowledge of the hazardous waste historically managed pursuant to 40 CFR 265.1084(c)(4).

CLOSED VENT SYSTEMS AND CONTROL DEVICES (40 CFR 265.1088)

This standard is not applicable because the hazardous waste management units (i.e. tanks and containers) requiring such control equipment, in accordance with RCRA Subpart CC, are not managed at this facility.

INSPECTION AND MONITORING (40 CFR 265.1089)

Visual inspection of the tank closure devices will be conducted on an annual basis. In addition, the hazardous waste storage tank is inspected during the facility's regular inspection. This inspection includes check of the high level alarm and of the volume (according to the gauge) held in the tank. Sudden deviations in the solvent volumes will be investigated and the cause determined. If necessary, repairs will be initiated immediately. The hazardous waste solvent level must not exceed 95% of the tank volume at any time. The piping and secondary containment for tank is checked for leaks, cracks, or other deterioration. Any damage to the tank, piping (such as rust, seepage, or loose fixtures) must be noted and repairs initiated.

WASTE MINIMIZATION PLAN

PURPOSE

The very basis of Safety-Kleen's business is to provide recycling and reuse options to generators of hazardous wastes. Safety-Kleen has taken a very pro-active position of assisting our customers in reducing and minimizing their generation of hazardous wastes.

Safety-Kleen facilities comply with the certification requirement that they have a program in place that attempts to reduce the volume and toxicity of hazardous waste generated. It is important to note this Safety-Kleen facility is a commercial TSD and the hazardous waste generated on-site is minimal. Almost all of the hazardous waste managed at the facility is received from off-site generators. Safety-Kleen's philosophy is that waste minimization goals are best met by a TSD through the education of our customers on the benefits of waste minimization and by providing services to them which will assist them in reducing hazardous waste. At the same time, it is prudent business sense to increase the customer base, which augments our closed-loop recycling operations.

Safety-Kleen's primary line of business is the parts washer service. Other services include an immersion cleaner machine, paint gun cleaner, and dry cleaner service. In each of these services, hazardous waste from customers is manifested from the customer to a Safety-Kleen operated commercial TSD. It is stored at the commercial TSD until sufficient quantities are accumulated for cost-effective transportation off-site to a treatment facility. When the hazardous waste from CESQGs, SQGs, and LQGs is transported off-site, it is manifested, with Safety-Kleen as the documented generator.

A Safety-Kleen TSD does generate minimal amounts of hazardous waste during its daily operations. The wastes generated at the facility include, but are not limited to, dumpster sludge, contaminated gloves and rags. All generated wastes are sent to a properly licensed processing facility for management.

MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING

USE OF THE MANIFEST

The Safety-Kleen Kaukauna Service Center complies with 40 CFR 264.71 and Wisconsin Administrative Code NR 664.0071 by accepting hazardous waste shipments accompanied by a completed hazardous waste manifest.

When a manifested shipment is received at the Service Center:

a. Each manifest will be signed and dated
b. Any discrepancies will be noted per NR 664.0072
c. A signed copy of the manifest will be sent to the generator within 30 days of receipt
d. All manifest data will be reported to the WI DNR in an electronic format within 45 days

Many customers serviced by Safety-Kleen's Kaukauna Service Center are Very Small Quantity Generators and are exempted from complying with 40 CFR 264.71 and Wisconsin Administrative Code NR 662.020. Numerous Small Quantity Generators can apply the Conditional Manifest Exemption in Wisconsin Administrative Code NR 662.191. The wastes from these generators are documented on a shipping paper, often a sales and service document. The sales and service document, or other shipping paper, contains the following information:

- Generator name, and address
- Date of waste shipment
- US D.O.T. Description of the waste including the proper shipping name, hazard class, and identification number of the waste
- Number of containers and volume of waste
- Identification number of the transporter
- Name and address of the designated facility

Manifest copies will be retained by the Facility for at least 3 years from the date of delivery. The copies may be stored in an electronic format.

OPERATING RECORD

The operating record is maintained at the facility and consists of documentation stored in numerous locations throughout the facility and may also be stored electronically. All wastes (hazardous and non-hazardous) received at the Kaukauna Facility are recorded in the Facility Waste Log. This log details the type and amount of waste received on site, when it was received on site, where it was stored on site, when the waste was shipped off site, and what facility it was shipped to. This record is maintained electronically and is producible upon request. This document is kept throughout the life of the facility.

REPORTING

Annual Report

The Kaukauna Facility will prepare and submit an annual report to the WI DNR. This report will be submitted in a format prescribed by the DNR.

Unmanifested Waste Report

If the Service Center inadvertently accepts any hazardous waste from an off-site source without an accompanying manifest, an unmanifested waste report will be prepared and submitted in accordance with NR 630.30(2) / NR 664.0076(1).

Additional Reporting

The Facility will prepare and submit additional reports as required by NR 664.0077.

HISTORY OF LICENSING ACTIVITIES

Following is a history of the licensing activities

KEY: WDNR-Wisconsin Department of Natural Resources SKSI-Safety-Kleen Systems, Inc.

Date of Documentation	Description of Document
1/07/2003	WDNR-Issuance of Feasibility and Plan of Operation
4/15/2003	WDNR-Renewal of the Hazardous Waste Storage License
6/17/2003	SKSI-Class 1 Modification request to update the list of emergency coordinators
3/19/2004	SKSI-Class 1 Modification request to update the list of emergency coordinators
12/05/2007	SKSI-Class 1 Modification request to update the list of emergency coordinators
1/26/2011	SKSI-Class 1 Modification request to update the list of emergency coordinators

CORRECTIVE ACTION

In conjunction with US EPA's issuance of the Facility's operating permit in 1990, Safety-Kleen Systems, Inc. was required to conduct a release assessment (RA). This RA consisted of the installation of monitoring wells, sampling of the wells, and collection of soil samples.

The Wisconsin Department of Natural Resources issued a Case-Close out letter July 18, 2001 with no further action required. Exhibit I-1 contains the Release Assessment Report and a Corrective Action Summary and case close out documentation.

Exhibit A-1

Part A Permit

OMB# 2050-0024; Expires 12/31/2014

SEND COMPLETED FORM TO: The Appropriate State or Regional Office.	United States Environmental Protection Agency **RCRA SUBTITLE C SITE IDENTIFICATION FORM**	

1. Reason for Submittal (MARK ALL BOX(ES) THAT APPLY)

Reason for Submittal:

- ☐ To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)
- ☐ To provide a Subsequent Notification (to update site identification information for this location)
- ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application
- ☒ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____)
- ☐ As a component of the Hazardous Waste Report (If marked, see sub-bullet below)
  - ☐ Site was a TSD facility and/or generator of ≥1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)

2. Site EPA ID Number

EPA ID Number W I D 9 8 1 1 8 7 2 9 7

3. Site Name

Name: SAFETY-KLEEN SYSTEMS, INC.

4. Site Location Information

Street Address: 2100 BADGER ROAD

City, Town, or Village: KAUKAUNA | **County:** OUTAGAMIE

State: WISCONSIN | **Country:** USA | **Zip Code:** 54130

5. Site Land Type

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

NAICS Code(s) for the Site (at least 5-digit codes)

A. 5 6 2 1 1 2 | C. 4 8 4 2 2 0

B. 5 3 2 4 9 0 | D.

7. Site Mailing Address

Street or P.O. Box: 2201 BADGER ROAD

City, Town, or Village: KAUKAUNA

State: WI | **Country:** USA | **Zip Code:** 54130

8. Site Contact Person

First Name: KELLY | **MI:** D | **Last:** TAYLOR

Title: ENVIRONMENTAL, HEALTH & SAFETY MANAGER

Street or P.O. Box: 2201 BADGER ROAD

City, Town or Village: KAUKAUNA

State: WI | **Country:** USA | **Zip Code:** 54130

Email: KELLY.D.TAYLOR@SAFETY-KLEEN.COM

Phone: 608-298-6420 | **Ext.:** | **Fax:** 608-221-9865

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner: B & B ENTERPRISES OF OUT. CO. WI | **Date Became Owner:** UNK

Owner Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street or P.O. Box: W3118 CREEKVIEW LANE

City, Town, or Village: APPLETON | **Phone:** 920-202-3742

State: WI | **Country:** USA | **Zip Code:** 54915

B. Name of Site's Operator: SAFETY-KLEEN SYSTEMS, INC. | **Date Became Operator:** 04/11/1985

Operator Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

10. Type of Regulated Waste Activity (at your site)
Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

Y[✓] N[ ] **1. Generator of Hazardous Waste**
If "Yes", mark only one of the following – a, b, or c.

- [✓] a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; **or** Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; **or** Generates, in any calendar month, **or** accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- [ ] b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- [ ] c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

Y[ ] N[✓] **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.

Y[ ] N[✓] **3. United States Importer of Hazardous Waste**

Y[ ] N[✓] **4. Mixed Waste (hazardous and radioactive) Generator**

Y[✓] N[ ] **5. Transporter of Hazardous Waste**
If "Yes", mark all that apply.

- [✓] a. Transporter
- [✓] b. Transfer Facility (at your site)

Y[✓] N[ ] **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.

Y[ ] N[✓] **7. Recycler of Hazardous Waste**

Y[ ] N[✓] **8. Exempt Boiler and/or Industrial Furnace**
If "Yes", mark all that apply.

- [ ] a. Small Quantity On-site Burner Exemption
- [ ] b. Smelting, Melting, and Refining Furnace Exemption

Y[ ] N[✓] **9. Underground Injection Control**

Y[✓] N[ ] **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

Y[ ] N[✓] **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**

- a. Batteries [ ]
- b. Pesticides [ ]
- c. Mercury containing equipment [ ]
- d. Lamps [ ]
- e. Other (specify) _____ [ ]
- f. Other (specify) _____ [ ]
- g. Other (specify) _____ [ ]

Y[✓] N[ ] **2. Destination Facility for Universal Waste**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

Y[✓] N[ ] **1. Used Oil Transporter**
If "Yes", mark all that apply.

- [✓] a. Transporter
- [ ] b. Transfer Facility (at your site)

Y[ ] N[✓] **2. Used Oil Processor and/or Re-refiner**
If "Yes", mark all that apply.

- [ ] a. Processor
- [ ] b. Re-refiner

Y[ ] N[✓] **3. Off-Specification Used Oil Burner**

Y[ ] N[✓] **4. Used Oil Fuel Marketer**
If "Yes", mark all that apply.

- [ ] a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- [ ] b. Marketer Who First Claims the Used Oil Meets the Specifications

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

❖ You can **ONLY** Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y☐ N☑ 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories **See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:**

☐ a. College or University

☐ b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university

☐ c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y☐ N☑ 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

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

D001	D018	D029	D039	F005		
D004	D019	D030	D040			
D005	D021	D032	D041			
D006	D022	D033	D042			
D007	D023	D034	D043			
D008	D024	D035	F001			
D009	D025	D036	F003			
D010	D027	D037	F003			
D011	D028	D038	F004			

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

12. Notification of Hazardous Secondary Material (HSM) Activity

Y ☐ N ☑ Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

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

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
Thomas G. Bergfuis	Thomas G. Bergfuis Site Owner	8/6/12

EPA ID Number | W | I | D | 9 | 8 | 1 | 1 | 8 | 7 | 2 | 9 | 7 |

OMB#: 2050-0024; Expires 12/31/2014

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact	**First Name:** KELLY	**MI:** D	**Last Name:** TAYLOR	
	Contact Title: ENVIRONMENTAL, HEALTH & SAFETY MANAGER			
	Phone: 608-298-6420	**Ext.:**	**Email:** KELLY.D.TAYLOR@SAFETY-K	
2. Facility Permit Contact Mailing Address	**Street or P.O. Box:** 2201 BADGER ROAD			
	City, Town, or Village: KAUKAUNA			
	State: WI			
	Country: USA	**Zip Code:** 54130		
3. Operator Mailing Address and Telephone Number	**Street or P.O. Box:** 2201 BADGER ROAD			
	City, Town, or Village: KAUKAUNA			
	State: WI	**Phone:** 920-766-4266		
	Country: USA	**Zip Code:** 54130		
4. Facility Existence Date	**Facility Existence Date (mm/dd/yyyy):** 04/11/1985			

5. Other Environmental Permits

A. Facility Type *(Enter code)*	B. Permit Number	C. Description
R	WID981187297	STATE OF WI PLAN OF OPERATION & USEPA PARTB

6. Nature of Business: This facility is a local office and distribution/accumulation warehouse and tanks for spent solvents and other industrial wastes. All wastes are sent offsite for processing and disposal. The facility also supplies parts cleaners, various industrial cleaning solvents & degreasers, hand cleaners, and absorbent materials.

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.

B. PROCESS DESIGN CAPACITY – For each code entered in Item 7.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.**
2. **UNIT OF MEASURE – For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.**

C. PROCESS TOTAL NUMBER OF UNITS – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
Storage		
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
Treatment		
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
Miscellaneous (Subpart X)		
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D
Short Tons Per Day	N
Metric Tons Per Hour	W
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	X
Million BTU Per Hour	X
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
BTU Per Hour	I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	1	S	0	2	533.788	G	001	
	1	s	0	1	790	G	001	
	2	S	0	2	13,500	G	001	
	3							
	4							
	5							
	6							
	7							
	8							
	9							
1	0							
1	1							
1	2							
1	3							

ote: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)

Line Number (Enter #s in sequence with Item 7)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	2	T	0	4	100.00	U	001	

9. Description of Hazardous Wastes - Enter Information in the Sections on Form Page 5

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 40 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 Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.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 Item 9.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 Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.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 possess that characteristic or toxic contaminant.

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

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item 9.D(1).
3. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.

2. PROCESS DESCRIPTION: If code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(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:

1. Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.
2. In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 9 (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 operations. 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 Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter Code)									D. PROCESSES (2) PROCESS DESCRIPTION (If code is not entered in 9.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

Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
	1	D	0	0	1	6392	T	S	0	1	S	0	2				INCLUDED WITH ABOVE
	2	D	0	0	4												
	3	D	0	0	5												
	4	D	0	0	6												
	5	D	0	0	7												
	6	D	0	0	8												
	7	D	0	0	9												
	8	D	0	1	0												
	9	D	0	1	1												
1	0	D	0	1	8												
1	1	D	0	1	9												
1	2	D	0	2	1												
1	3	D	0	2	2												
1	4	D	0	2	3												
1	5	D	0	2	4												
1	6	D	0	2	5												
1	7	D	0	2	6												
1	8	D	0	2	7												
1	9	D	0	2	8												
2	0	D	0	2	9												
2	1	D	0	3	0												
2	2	D	0	3	2												
2	3	D	0	3	3												
2	4	D	0	3	4												
2	5	D	0	3	5												
2	6	D	0	3	6												
2	7	D	0	3	7												
2	8	D	0	3	8												
2	9	D	0	3	9												
3	0	D	0	4	0												
3	1	D	0	4	1												
3	2	D	0	4	2												
3	3	D	0	4	3												
3	4	F	0	0	2	171	T	S	0	1							
3	5	F	0	0	3	69	T	S	0	1							INCLUDED WITH ABOVE
3	6	F	0	0	5												

EPA ID Number | W | I | D | 9 | 8 | 1 | 1 | 8 | 7 | 2 | 9 | 7 |

OMB#: 2050-0024; Expires 12/31/2014

Description of Hazardous Wastes ***(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)***

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
								(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)
3	7	F	0	0	2	26	T	S	0	1						INCLUDED WITH ABOVE
3	8	F	0	0	4											
3	9	F	0	0	1											

10. Map

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

11. Facility Drawing

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

12. Photographs

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

13. Comments

Photo 1. Container Storage Area 2.28.2013

Photo 2. Container Storage Area Entrance 2.28.2013

Photo 3. Tank Access Box/Contains Connections to Spent Solvent Tank and Product Tanks by Delivery/Pick-Up Fleet 2.28.2013

Photo 4. Tank Access Box/Contains Connections to Fill Product Storage Tanks and to Remove Spent Solvent From Tank Used by Delivery/Pick-Up Fleet 2.28.2013

Photo 5. Solvent Lines To/From the Tank Access Box 2.28.2013

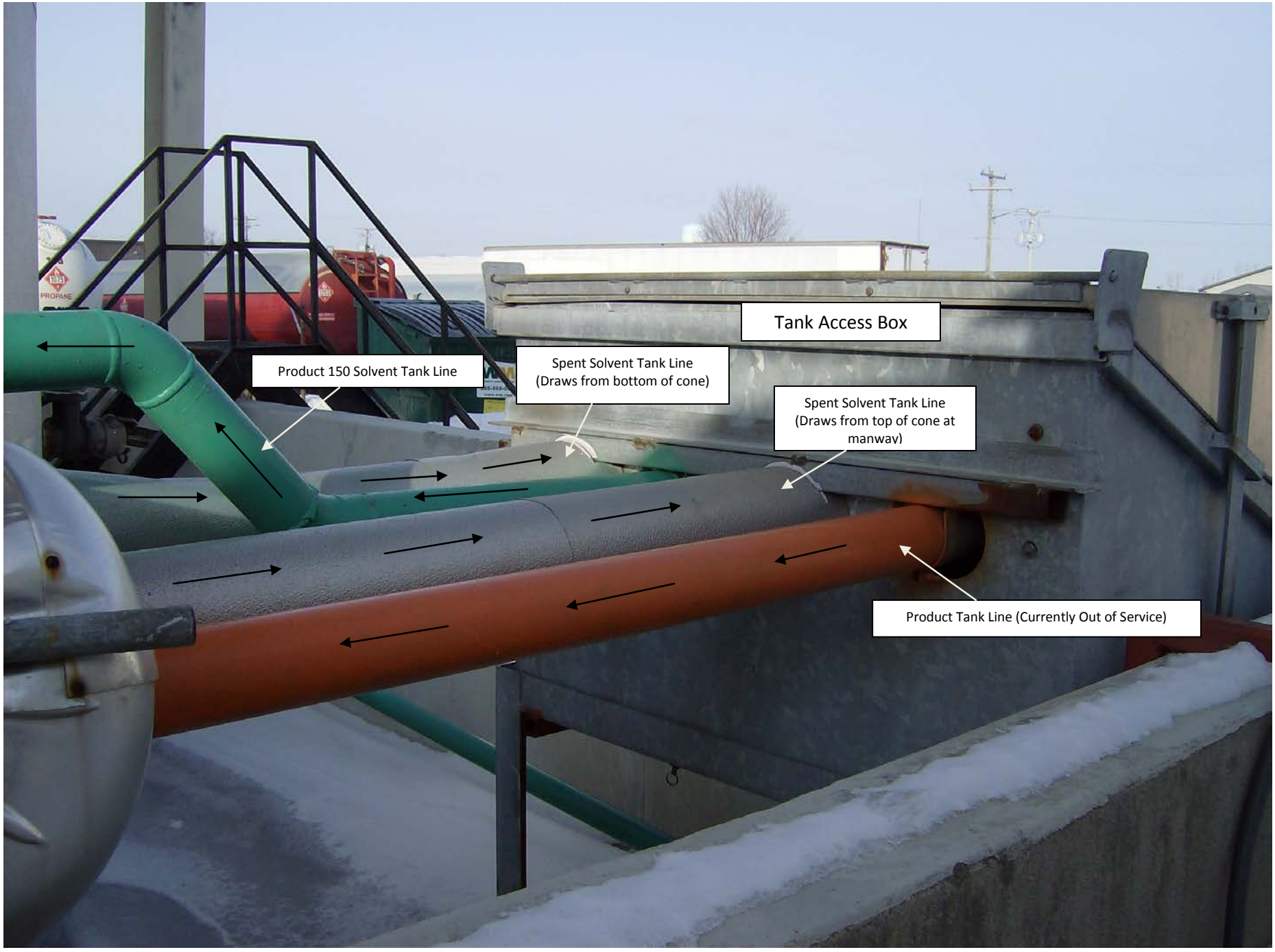
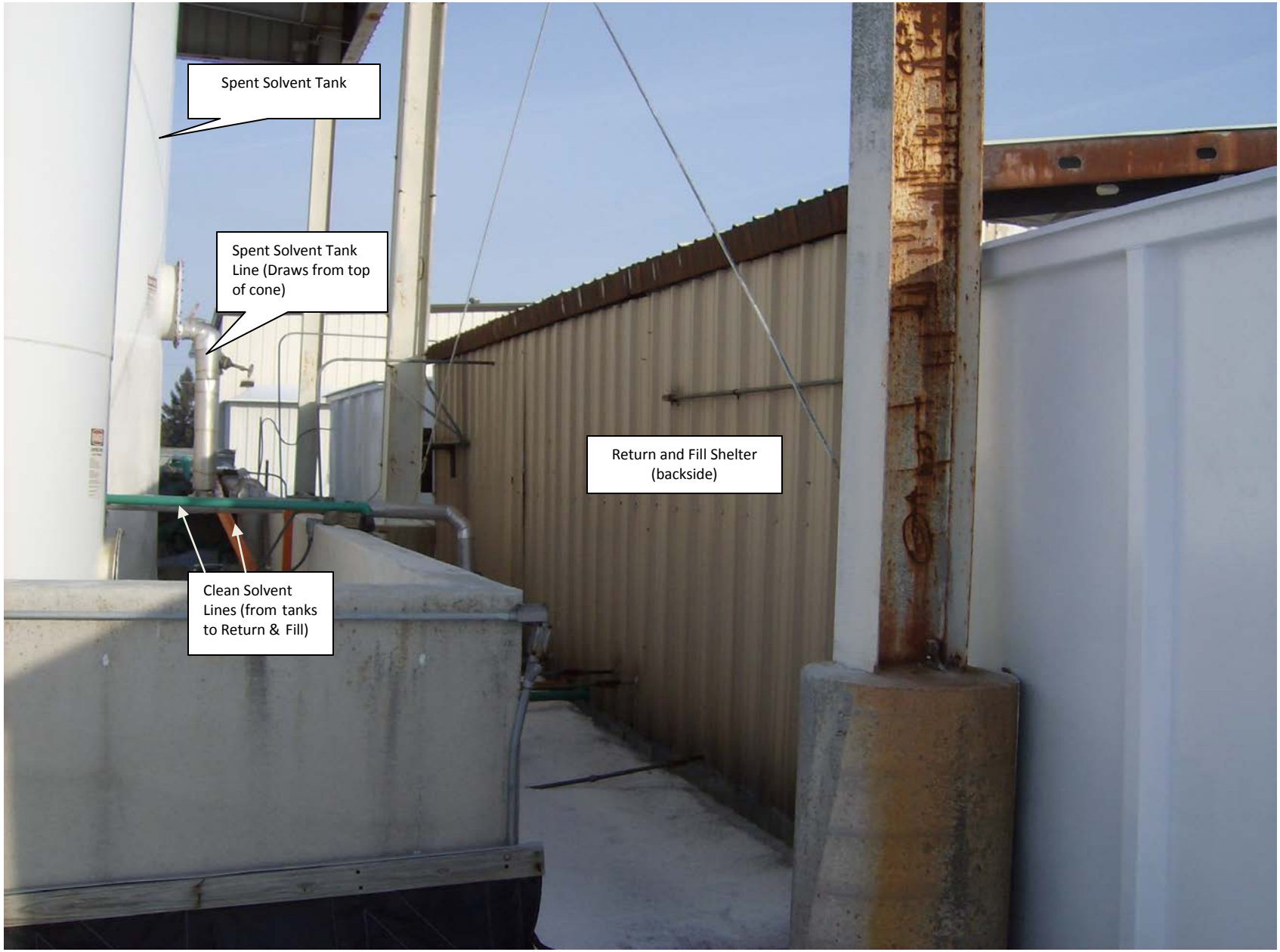


Photo 6. Tank Farm 2.28.2013



N

Photo 7. Tank Farm 2.28.2013

Photo 8. Solvent Tank Farm 2.28.2013

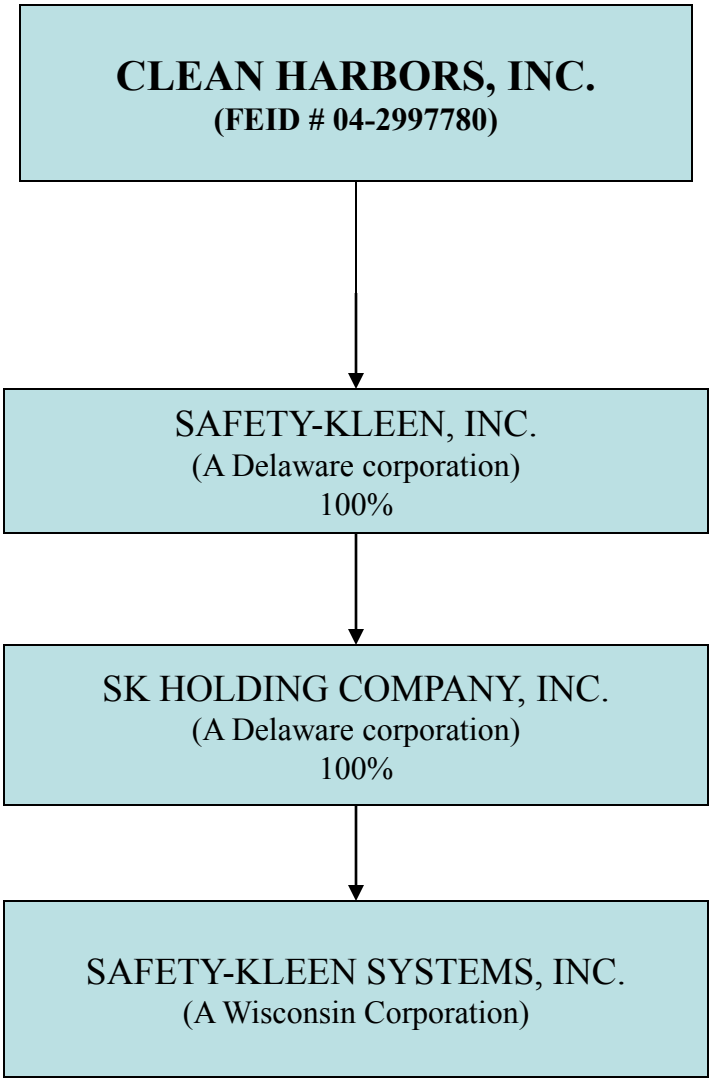
Photo 9. Return and Fill Shelter 2.28.2013

Photo 10. Drum Washer (Contained in the Return and Fill Shelter) 2.28.2013

Exhibit A-2

Safety-Kleen Organization

SAFETY-KLEEN CURRENT ORGANIZATIONAL CHART



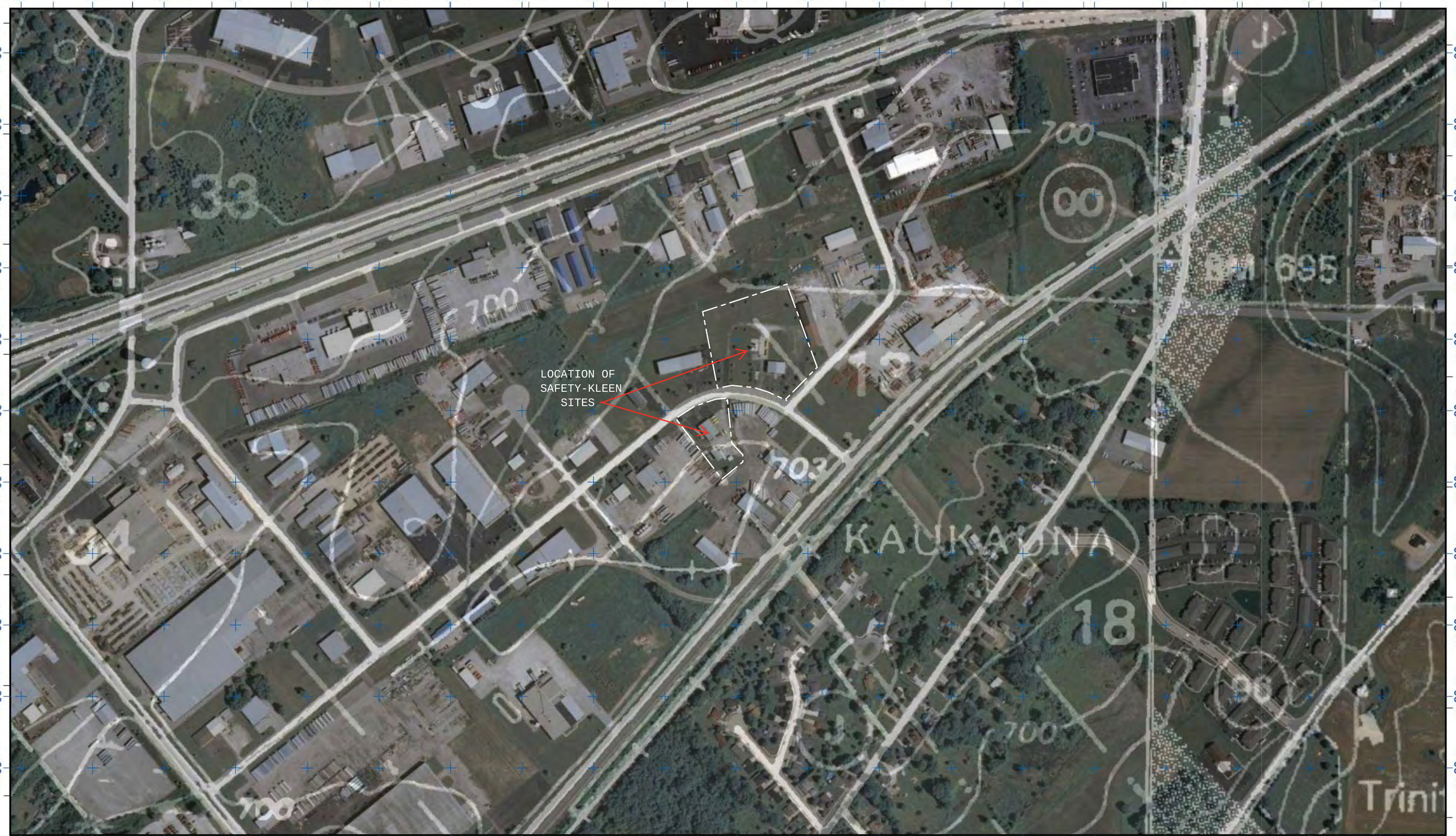
All entities are 100% owned by their parent companies, unless otherwise indicated on the chart. Clean Harbors, Inc. is the ultimate parent corporation.

PLACEHOLDER PAGE 1 – A-2

PLACEHOLDER PAGE 1 – A-2

Exhibit B-1

Site Location Map
Aerial Topographic



Universal Transverse Mercator (UTM) Projection Zone 16
North American Datum of 1983
100 meter UTM / USNG / MGRS
Grid Zone Designation: 16T
100,000-m Squares:CQ

1:5000 scale

0 100 200 300 400 500 Feet

0 50 100 150 Meters

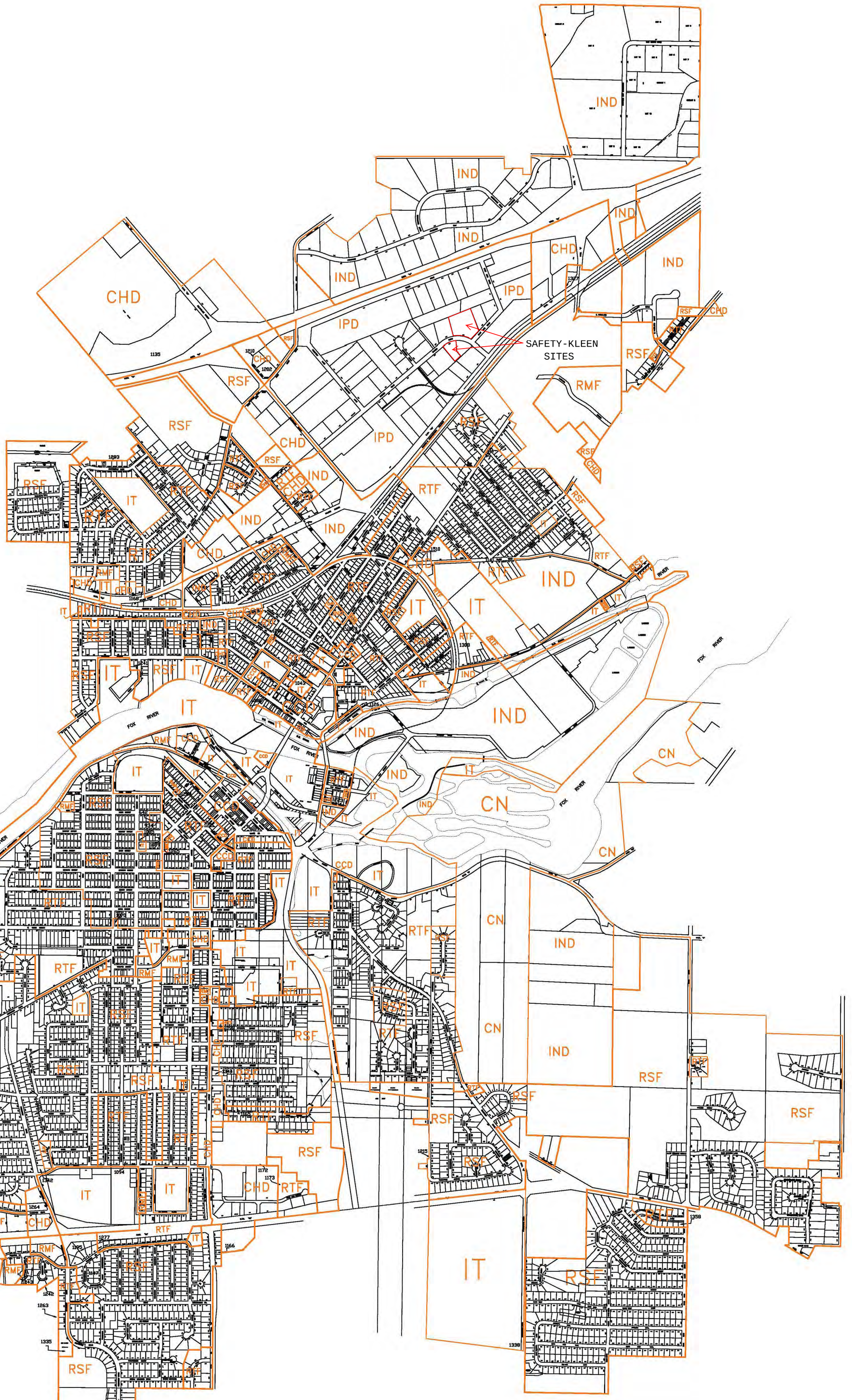
SAFETY-KLEEN TOPOGRAPHIC MAP
KAUKAUNA, WI. 54130
DWG # 7022-SPOO-026

Magnetic declination of 4W at center of map
on March 17, 2011

FIGURE B-1

Exhibit B-3

Kaukauna Zoning District Map



RSF RESIDENTIAL SINGLE-FAMILY
RTF RESIDENTIAL TWO-FAMILY
RMF RESIDENTIAL MULTI-FAMILY
CCD COMMERCIAL CORE
CHD COMMERCIAL HIGHWAY

IT INSTITUTIONAL
IND INDUSTRIAL
IPD INDUSTRIAL PARK
CN CONSERVANCY

FIGURE B-3

OFFICIAL ZONING MAP
CITY OF KAUKAUNA
OUTAGAMIE COUNTY, WISCONSIN

SCALE - 1" = 400'
DRAWN BY JASON HOLMES
CHECKED & APPROVED BY
DATE - OCT. 15, 1985

REVISIONS

9-16-87 UP TO DATE	J.S.
1098 & 1107 1-18-88	J.S.
UP TO DATE THROUGH 1210 7-10-92	S.B.
UP TO DATE THROUGH 3-20-02	J.H.
UP TO DATE THROUGH 1-15-04	J.H.
UP TO DATE THROUGH 9-6-05	J.H.

ALL PARCELS ARE COVERED BY ORDINANCE NO - 1042
EXCEPT AS NOTED ON THE MAP

Exhibit B-4

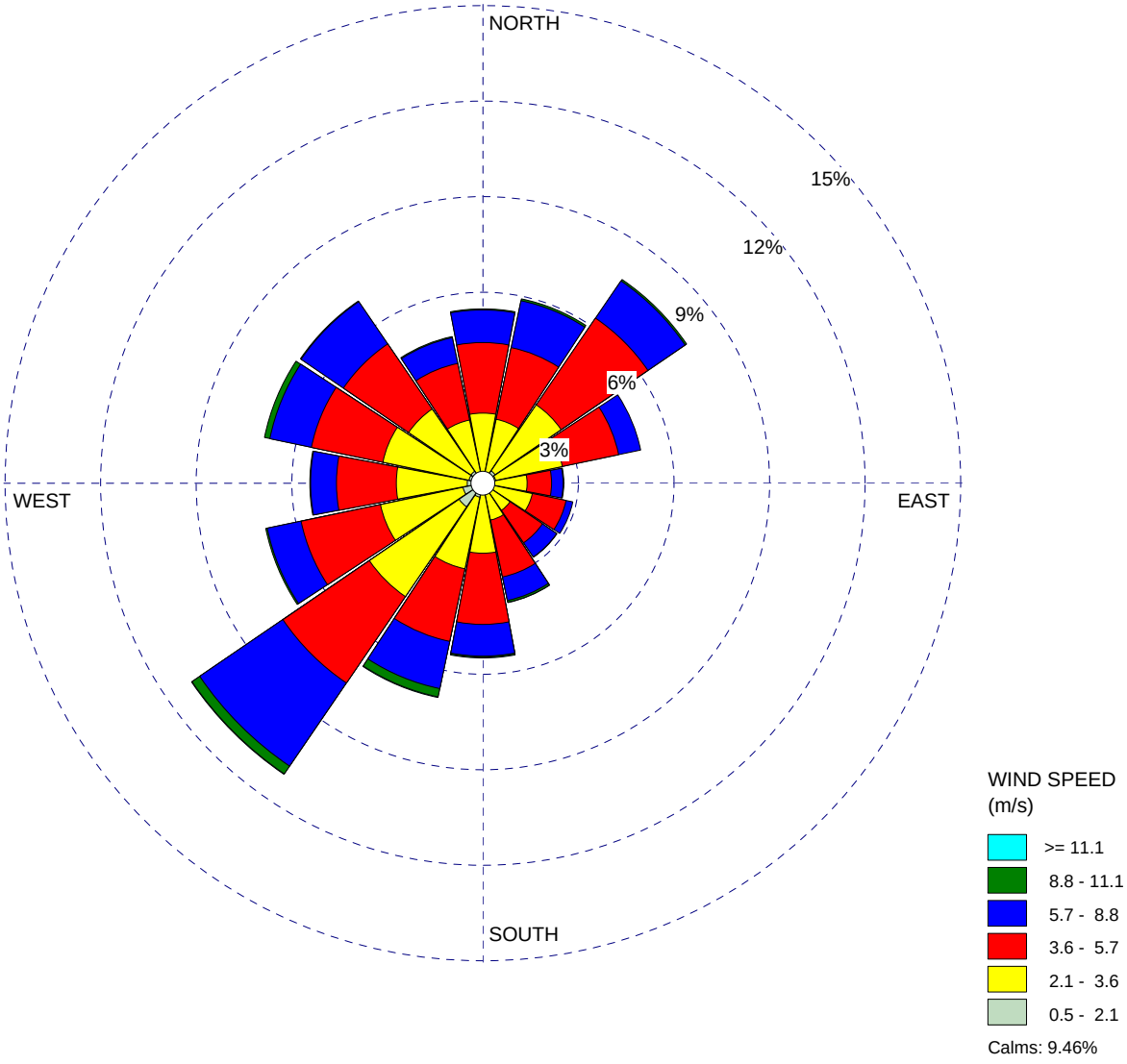
Wind Rose
Green Bay/Austin Straubel Airport

WIND ROSE PLOT:

Station #14898 - GREEN BAY/AUSTIN STRAUBEL FIE, WI

DISPLAY:

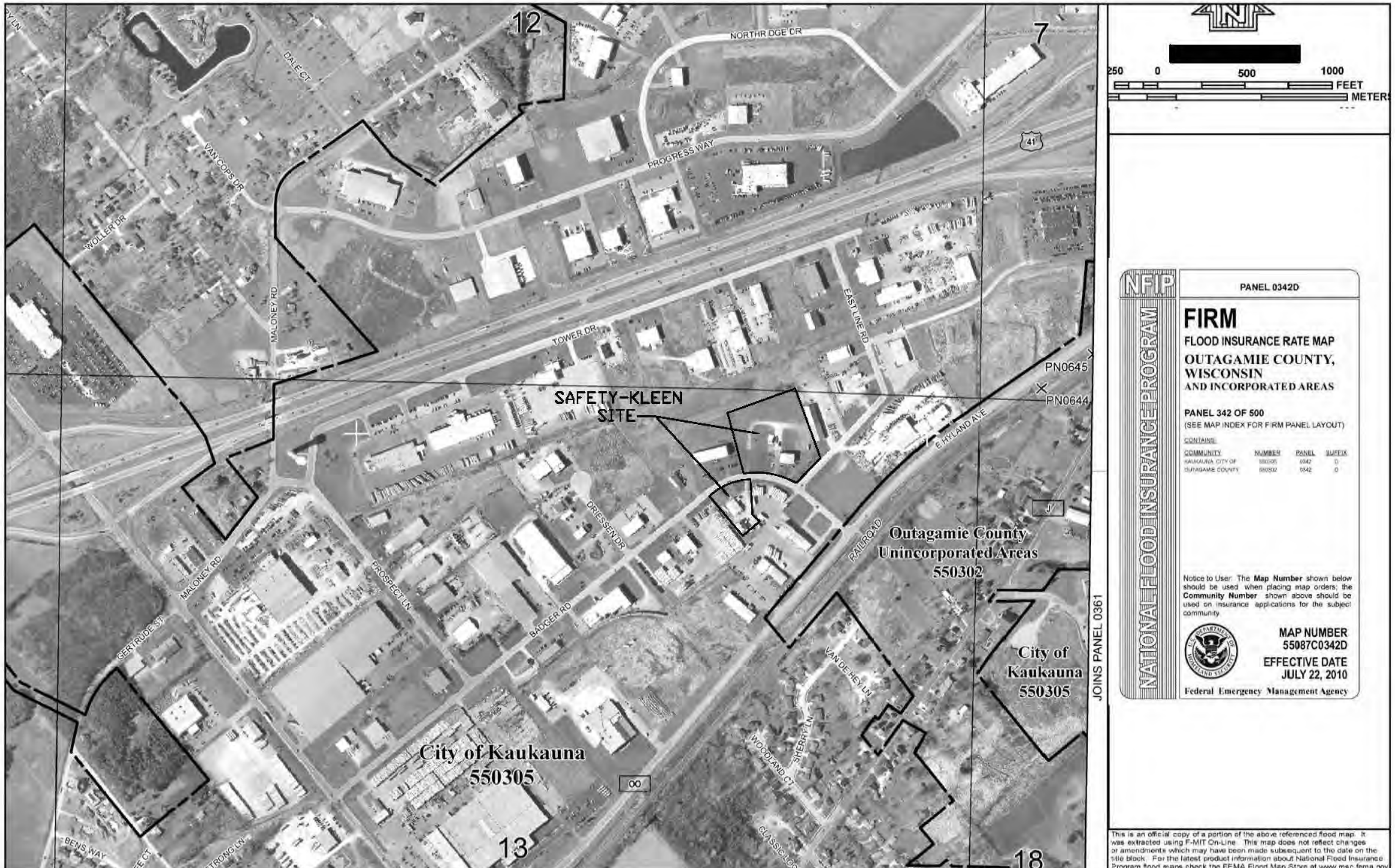
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **1992** **Jan 1 - Dec 31** **00:00 - 23:00**	COMPANY NAME: **SAFETY-KLEEN SYSTEMS INC. KAUKAUNA, WI.**	
		MODELER: **JEK**	Project Solutions Engineering, Inc.
	CALM WINDS: **9.46%**	TOTAL COUNT: **8784 hrs.**	
	AVG. WIND SPEED: **3.63 m/s**	DATE: **7/25/2012**	DRAWING # **7022-SPOO-049**

Exhibit B-5

Flood Insurance Rate Map (Flood Plain Map)



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- ~~513~~ Base Flood Elevation line and value; elevation in feet*
- (EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetical Vertical Datum of 1929

- A—A Cross section line
- 23 - - - 23 Transect line
- 45° 02' 08", 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT 5000-foot ticks: Wisconsin State Plane South Zone (FIPS Zone 4803), Lambert Conformal Conic projection
- 1000-meter Universal Transverse Mercator grid values, zone 16N
- DX5510 × Bench mark (see explanation in Notes to Users section of this FIRM panel)
- • M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
November 19, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

GENERAL NOTES

PROPRIETARY STATEMENT

P Solutions Companies
2800 West Broadway • Suite 200 • Columbia • MO 65203
• Phone (573) 443-7100 • Fax (573) 443-7101 •

TITLE
FLOOD PLAIN MAP

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG. 2 SUITE 100 PLANO, TX 75024
PHONE 800-669-5740

SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
NONE	JEK	KDT	KDT	KDT	8/14/12

BRANCH LOCATION: KAUKAUNA, WI.
STD-DWG-REV NO.: 7022-SPDD-025

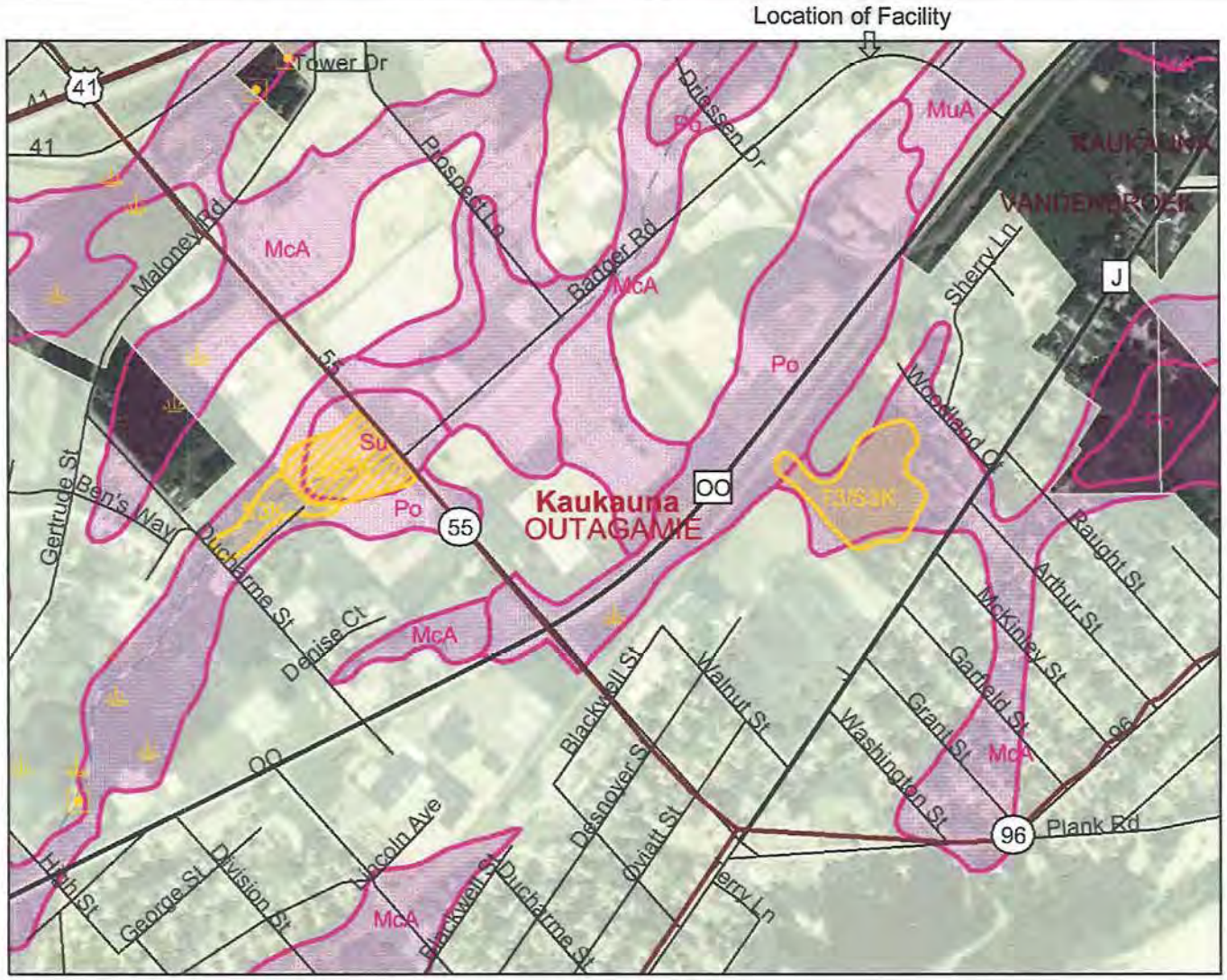
NO.	DESCRIPTION	BY	CHK	APPR	DATE
0	ISSUED FOR PERMIT	JEK	KDT	KDT	081412

REVISIONS

Exhibit B-6

Wisconsin Department of Natural Resources Wetlands Map

Map Created on Sep 25, 2012



Map created on Sep 25, 2012

Legend

Major Highways
- Interstate
- State Highway
- U.S. Highways
- County Roads
- Local Roads
- 24K County Boundaries

Civil Towns
- Civil Town
- USDA Wetspots

DNR Wetland Points
- Excavated Pond
- Dammed Pond
- Wetland Too Small to Delineate
- Filled Excavated Pond
- Filled Dammed Pond
- Filled Wetland Too Small to Delineate
- Filled or Drained Wetland

DNR Wetland Areas
- Upland
- Wetland
- Filled or Drained Wetland
- Wetland Indicator Soils
- 24K Open Water

24K Rivers and Shorelines
- Intermittent
- Fluctuating
- Perennial

Cities and Villages
- Village
- City

N

Scale: 1:9,617

Exhibit B-7

Wisconsin Department of Natural Resources Endangered Resources Review

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott Walker, Governor
Cathy Stepp, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

October 19, 2012

Kelly Dale Taylor
Saftey-Kleen Systems, Inc.
Safety-Kleen Systems, Inc
3715 Lexington Ave.
Madison WI 53714

SUBJECT: Endangered Resources Review (ERR Log # 12-634)
Saftey-Kleen Systems, Inc. - Kaukauna License, Outagamie County

Dear Ms. Taylor:
The Bureau of Endangered Resources has reviewed the proposed project described in the Endangered Resources (ER) Review Request received September 25, 2012. The ER Review for this proposed project is attached. Please keep in mind that the ER Review does not exempt the project from the requirements of state and federal endangered species laws. Rather, it is to be used as additional information to ensure that the project complies with both state and federal endangered species regulations. Additional consultation with the Department of Natural Resources (DNR) and/or US Fish and Wildlife Service may be necessary if follow-up actions are indicated.

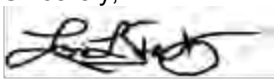
The ER Review itself is divided into five sections: A) Location and brief description of the proposed project, B) Endangered resources recorded from within the project area and/or surrounding area, C) Follow-up actions, including those that need to be taken to comply with state and federal endangered species laws, D) Next steps, and E) Information about endangered resource protection.

This ER Review may contain Natural Heritage Inventory data, including specific locations of endangered resources, which are considered sensitive and are not subject to Wisconsin's Open Records Law. As a result, please remember that the information contained in this ER Review may be shared only with individuals who need this information in order to carry out specific roles in the planning and implementation of the proposed project. Specific locations of endangered resources may not be released or reproduced in any publicly disseminated documents. To improve coordination regarding endangered resources issues for the proposed project, a copy of this ER Review will also be provided to individuals and DNR staff who may be involved in permitting, licensing, or approval of the proposed project.

The attached ER Review is for informational purposes and only addresses endangered resources issues. This ER Review does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities.

Please contact me at (608)264-6057 or via email at lori.steckervetz@wisconsin.gov if you have any questions about this ER Review.

Sincerely,



Lori Steckervetz
Endangered Resources Program

dvea_12-634.pdf

Endangered Resource Review for the Proposed Manitowoc Tributary Valders Branch Wetland Restoration Project Saftey-Kleen Systems, Inc. - Kaukauna License in Outagamie County (ERR Log # 12-634)

Section A. Location and brief description of the proposed project

Based on information provided by in the ER Review Request form and attached materials, the proposed project consists of the following:

The proposed project is located in the Outagamie County, T21N R18E Section 13.

Request is to verify facility is not located in a critical habitat for listed species for re-licensing. Property was developed around 1984.

It is best to request ER Reviews early in the project planning process. However, some important project details may not be known at that time. Details related to project location, design, and timing of disturbance are important for determining both the endangered resources that may be impacted by the project and any necessary follow-up actions. Please contact the ER Review Program whenever project plans change or new details become available to confirm if results of this ER Review are still valid.

Section B. Endangered resources recorded from within the project area and/or surrounding area

Plants

Hairy Wild-petunia (Ruellia humilis), a State Endangered plant, is found in prairies and upland oak woods. Blooming occurs late May through early October; fruiting occurs late June through early October. The optimal identification period for this species is late May through early October.

For additional information on the rare species, high-quality natural communities, and other endangered resources listed above, please visit our Biodiversity page.

Section C. Follow-up actions

If your project changes (e.g., a change in location, size, design, disturbance footprint and timing, or construction sequence), please call the ER Review Program to confirm if these results are still valid.

Actions that need to be taken to comply with state and/or federal endangered species laws:

NONE

.

Actions recommended to help conserve Wisconsin's rare species and high-quality natural communities:

- To avoid negatively impacting any sensitive aquatic species that may be in neighboring wetlands and waterways, the Department highly recommends the implementation of strict sedimentation and erosion practices for any ground disturbing work.
  Please note that erosion control netting (also known as erosion control blankets, erosion mats or erosion mesh netting) used to prevent erosion during the establishment of vegetation can have detrimental effects on local snake and other wildlife populations. Plastic netting without independent movement of strands can easily entrap snakes moving through the area, leading to dehydration, desiccation, and eventually mortality. Netting that contains biodegradable thread

with the “leno” or “gauze” weave (contains strands that are able to move independently) appears to have the least impact on snakes.

At this time and per the project information provided, no action will need to be taken to avoid take of the following species:

- **Hairy Wild-petunia** is a listed plant that was recorded within a mile of the property site; however due to the lack of suitable habitat is unlikely to be present at the site and impacts are not anticipated.

Remember that although these actions are not required by state or federal endangered species laws, they may be required by other laws, permits, granting programs, or policies of this or another agency. Examples include the federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, State Natural Areas law, DNR Chapter 30 Wetland and Waterway permits, DNR Stormwater permits, and Forest Certification.

Section D. Next Steps

1) Evaluate whether the **‘Brief description of the proposed project’** is still accurate. All recommendations in this ER Review are based on the information supplied in the ER Review Request. If the proposed project has changed, please contact the ER Review Program to determine if the information in this ER Review is still valid.

2) Determine whether the project can incorporate and implement the **‘Follow-up actions’** identified above:

‘Actions that need to be taken to comply with state and/or federal endangered species laws’ represent the Department’s best available guidance for complying with state and federal endangered species laws based on the project information that you provided and the endangered resources information and data available to us. If the proposed project has not changed from the description that you provided us and you are able to implement all of the ‘Actions that need to be taken to comply with state and/or federal endangered species laws’, your project should comply with state and federal endangered species laws. Please remember that if a violation occurs, the person responsible for the taking is the liable party. Generally this is the landowner or project proponent. For questions or concerns about individual responsibilities related to Wisconsin’s Endangered Species Law, please contact the ER Review Program.

If the project is unable to incorporate and implement one or more of the ‘Actions that need to be taken to comply with state and/or federal endangered species laws’ identified above, the project may potentially violate one or more of these laws. Please contact the ER Review Program immediately to assist in identifying potential options that may allow the project to proceed in compliance with state and federal endangered species laws.

‘Actions recommended to help conserve Wisconsin’s rare species and high-quality natural communities’ may be required by another law, a policy of this or another Department, agency or program; or as part of another permitting, approval or granting process. Please make sure to carefully read all permits and approvals for the project to determine whether these or other measures may be required. Even if these actions are not required by another program or entity for the proposed project to proceed, the Department strongly encourages the implementation of these conservation measures on a voluntary basis to help prevent future listings and protect Wisconsin’s biodiversity for future generations.

Section E. Endangered resource protections:

Species listed as Threatened or Endangered under Wisconsin's Endangered Species Law (s. 29.604, Wis. Stats.):

- State-listed animals (vertebrate and invertebrate) are protected on all lands and waters of the state
- State-listed plants are protected on public lands and on lands that the person does not own or lease, except in the course of forestry, agriculture or utility actions (s. 29.604, Wis. Stats.).

Species protected by the Federal Endangered Species Act of 1973 as amended, including those federally-listed as Endangered or Threatened, those Proposed for federal listing, and their Proposed or Designated Critical habitats:

- Federally-protected animals are protected on all lands.
- Federally-protected plants are protected on federal lands and in the course of projects that include federal funding. They are also protected on other lands if they are removed, cut, dug up or damaged in knowing violation of any law or regulation of any state or in violation of a criminal trespass law.

Special Concern species, high-quality examples of natural communities (sometimes called High Conservation Value areas), and unique natural features (e.g., caves and animal aggregation sites) are not legally protected by state or federal endangered species laws. However, other laws, policies (e.g., related to Forest Certification or master planning), or granting/permitting processes may require or strongly encourage protection of these resources. The main purpose of the Special Concern classification is to focus attention on species about which some problem of abundance or distribution is suspected before they become endangered or threatened.

State Natural Areas (SNAs) protect outstanding examples of Wisconsin's native landscape of natural communities, and significant geological formations. Endangered species are often found within SNAs. SNAs are protected by law from any use that is inconsistent with or injurious to their natural values (s. 23.28, Wis. Stats.).

Thank you for helping to protect Wisconsin's endangered resources! Please contact the ER Review Program if you have any questions about this ER Review.

Exhibit B-8

Area Soils Map

N

B-7

MAP SOURCE: SOILWEB, UC DAVIS, USDA NATURAL RESOURCES CONSERVATION SERVICE

GENERAL NOTES

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DISCLOSED, REPRODUCED, COPIED, RELEASED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

TITLE

SOILS SURVEY MAP

B-7

SAFETY-KLEEN SYSTEMS, INC.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
0	ISSUED FOR PERMIT				

SCALE	BY	CHKD	APPROVED	DATE
AS SHOWN				1/14/14

		REV. NO.
KAUKAUNA, WI.	7022-SP00-035	0

GUIDE TO MAPPING UNITS

For a full description of a mapping unit, read both the description of the mapping unit and the description of the soil series to which the mapping unit belongs. Capability units are described on pages 47 to 53. Woodland group symbols are described on page 54.

Map symbol	Mapping unit	Page	Capability unit	Woodland group
			Symbol	Symbol
AdA	Allendale loamy fine sand, 0 to 3 percent slopes	8	IIIw-6	3w
Ax	Angelica silt loam	10	IIw-1	4w
Bc	Bellevue silt loam	11	IIw-11	3o
BnA	Bonduel silt loam, 0 to 3 percent slopes	12	IIw-2	3o
BoA	Borth silt loam, 0 to 3 percent slopes	12	IIs-7	3c
BrB	Boyer loamy sand, 2 to 6 percent slopes	13	IIIs-4	2s
BrC2	Boyer loamy sand, 6 to 12 percent slopes, eroded	13	IIIe-7	2s
BrD2	Boyer loamy sand, 12 to 20 percent slopes, eroded	13	IVe-7	2s
BtA	Briggsville silt loam, 0 to 2 percent slopes	14	IIs-7	2c
BtB	Briggsville silt loam, 2 to 6 percent slopes	14	IIe-6	2c
Ca	Carbondale muck	15	IVw-9	3w
CcB	Casco loam, 2 to 6 percent slopes	15	IIIe-3	3s
CcC2	Casco loam, 6 to 12 percent slopes, eroded	15	IVe-3	3s
CcD2	Casco loam, 12 to 20 percent slopes, eroded	16	VIe-3	3s
Cm	Cathro muck	16	IVw-8	3w
CnB	Channahon silt loam, 2 to 6 percent slopes	17	IIIe-3	3d
De	Deford loamy fine sand	17	IVw-5	5w
ElB	Eleva fine sandy loam, 2 to 6 percent slopes	18	IIIs-4	3o
ElC2	Eleva fine sandy loam, 6 to 15 percent slopes, eroded	18	IIIe-7	3o
Fu	Fluvaquents	18	Vw-14	4w
Gp	Gravel pits	18	------	--
GrA	Grays silt loam, 0 to 2 percent slopes	19	I-1	1o
GrB	Grays silt loam, 2 to 6 percent slopes	19	IIe-1	1o
HeB	Hebron loam, 2 to 6 percent slopes	20	IIe-6	2o
HnB	Hortonville fine sandy loam, 2 to 6 percent slopes	20	IIe-1	1o
HnC2	Hortonville fine sandy loam, 6 to 12 percent slopes, eroded	21	IIIe-1	1o
HrB	Hortonville silt loam, 2 to 6 percent slopes	21	IIe-1	1o
HrC2	Hortonville silt loam, 6 to 12 percent slopes, eroded	21	IIIe-1	1o
HrD2	Hortonville silt loam, 12 to 20 percent slopes, eroded	21	IVe-2	1r
HrE	Hortonville silt loam, 20 to 30 percent slopes	21	VIe-1	1r
HsB	Hortonville silt loam, limestone substratum, 2 to 6 percent slopes	21	IIe-1	1o
HsC2	Hortonville silt loam, limestone substratum, 6 to 12 percent slopes, eroded	21	IIIe-1	1o
HtB	Hortonville-Symco silt loams, 2 to 6 percent slopes	22	IIe-1	1o
KaA	Kaukauna silty clay loam, 0 to 3 percent slopes	23	IIs-7	2c
Ke	Keowns silt loam	23	IIIw-3	1w
KhB	Kewaunee silt loam, 2 to 6 percent slopes	24	IIe-6	2c
KhC2	Kewaunee silt loam, 6 to 12 percent slopes, eroded	24	IIIe-6	2c
KhD2	Kewaunee silt loam, 12 to 20 percent slopes, eroded	24	IVe-2	2c
KkE3	Kewaunee soils, 20 to 45 percent slopes, severely eroded	25	VIIe-6	2c
KlB	Kewaunee-Manawa complex, 2 to 6 percent slopes	25	IIw-2	2c
KoB	Kolberg silt loam, 1 to 6 percent slopes	25	IIe-2	2c
KoC2	Kolberg silt loam, 6 to 12 percent slopes, eroded	26	IIIe-2	2c
Ln	Limestone quarries	26	------	--
Lo	Lobo peat	26	VIIw-10	4w
McA	Manawa silty clay loam, 1 to 3 percent slopes	27	IIw-2	2c
MeB	Manistee loamy fine sand, 2 to 6 percent slopes	28	IIIe-4	2s
MeC2	Manistee loamy fine sand, 6 to 12 percent slopes, eroded	28	IVe-4	2s
MfB	Manistee fine sandy loam, 2 to 6 percent slopes	28	IIIe-4	2s
Mk	Markey muck	29	IVw-7	3w
MsB	Menominee loamy fine sand, loamy substratum, 2 to 6 percent slopes	29	IIIe-4	1s
MsC2	Menominee loamy fine sand, loamy substratum, 6 to 12 percent slopes, eroded	30	IVe-4	1s
MtA	Mosel silt loam, 0 to 3 percent slopes	30	IIw-2	2o
MuA	Mundelein silt loam, 0 to 3 percent slopes	31	IIw-4	4o
NaB	Namur silt loam, 1 to 6 percent slopes	31	VIs-5	4d

Map symbol	Mapping unit	Page	Capability unit	Woodla group
			Symbol	mbo
NfA	Nichols very fine sandy loam, 0 to 2 percent slopes	32	I-1	1o
NfB	Nichols very fine sandy loam, 2 to 6 percent slopes	32	IIe-1	1o
NsA	Nichols very fine sandy loam, clayey substratum, 0 to 2 percent slopes	32	I-1	1o
NsB	Nichols very fine sandy loam, clayey substratum, 2 to 6 percent slopes	32	IIe-1	1o
OhB	Onaway loam, 2 to 6 percent slopes	33	IIe-2	2d
OhC2	Onaway loam, 6 to 12 percent slopes, eroded	33	IIIe-2	2d
OhD2	Onaway loam, 12 to 20 percent slopes, eroded	33	IVe-2	2d
OlB	Onaway-Solona complex, 2 to 6 percent slopes	33	IIe-2	--
	Onaway part	--	--------	2d
	Solona part	--	--------	2o
Pe	Pella silt loam	34	IIw-1	3w
Pf	Poy silty clay loam	35	IIw-5	2w
Po	Poygan silty clay loam	36	IIw-1	2w
Ra	Rock outcrop	36	VIIIs-10	--
Rd	Rondeau muck	36	IVw-7	5w
RoB	Rousseau loamy fine sand, 2 to 6 percent slopes	37	IVs-3	2s
SeC	Shawano fine sand, rolling	38	VIIs-9	2s
SeD	Shawano fine sand, hilly	38	VIIs-9	2s
ShA	Shiocton silt loam, 0 to 3 percent slopes	39	IIw-4	1o
SkA	Shiocton silt loam, clayey substratum, 0 to 3 percent slopes	39	IIw-4	1o
SnB	Shiocton-Nichols complex, 2 to 6 percent slopes	39	IIe-1	1o
SoA	Solona silt loam, 1 to 3 percent slopes	40	IIw-2	2o
Su	Suamico muck	40	IVw-8	3w
SyA	Symco silt loam, 1 to 3 percent slopes	41	IIw-2	1o
SzA	Symco variant, 0 to 3 percent slopes	41	IIw-5	2w
Uf	Udifluvents	42	IIw-11	3o
Uo	Udorthents	42	--------	--
WaA	Wainola loamy fine sand, 0 to 3 percent slopes	42	IVw-5	3w
Wb	Will silt loam	43	IIw-5	4w
WnA	Winneconne silty clay loam, 0 to 2 percent slopes	44	IIs-7	2c
WnB	Winneconne silty clay loam, 2 to 6 percent slopes	44	IIe-6	2c
WnC2	Winneconne silty clay loam, 6 to 12 percent slopes, eroded	44	IIIe-6	2c
ZtA	Zittau silty clay loam, 0 to 3 percent slopes	45	IIw-5	3c

* U.S. GOVERNMENT PRINTING OFFICE: 1978—230-119/37

Exhibit B-9

Regional Hydrogeology Map

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

UNIVERSITY EXTENSION—THE UNIVERSITY OF WISCONSIN
GEOLOGICAL AND NATURAL HISTORY SURVEY

HYDROLOGIC INVESTIGATIONS
ATLAS HA-321 (SHEET 1 OF 4)

PHYSICAL SETTING

PURPOSE AND SCOPE

The purposes of this report are to (1) describe the geohydrology of the basin, (2) describe and relate the surface- and ground-water systems, (3) discuss existing and possible future water problems in the basin, and (4) to suggest means of possible solutions.

The scope of the study was to interpret and relate streamflow, climatic, geologic, and ground-water information.

Because of its reconnaissance nature, this report should serve as background information. More specific water information for many areas of the Fox-Wolf River basin is available at the offices of the U.S. Geological Survey and the University of Wisconsin Geological and Natural History Survey in Madison.

This study is part of a planned investigation of the geology and water resources of the rapidly developing Fox River valley industrial complex and municipal region extending from Green Bay to Fond du Lac. The related studies in this region cover Fond du Lac County (Newport, 1962), Outagamie County (LeRoux, 1957), Brown County (Druscher, 1953), the Green Bay area (Knowles and others, 1964; Knowles, 1964), Waupaca County (Berkstresser, 1964), Waushara County (Summers, 1965), and Winnebago County (Olcott, 1966).

LOCATION AND EXTENT

The Fox River and its principal tributary, the Wolf River, drain an area of approximately 6,500 square miles in east-central and northeastern Wisconsin. The basin includes all or significant parts of the following 18 counties: Columbia, Adams, Marquette, Green Lake, Fond du Lac, Waushara, Winnebago, Calumet, Portage, Waupaca, Outagamie, Brown, Shawano, Marathon, Langlade, Oneida, Forest, and Menominee.

TOPOGRAPHY AND DRAINAGE

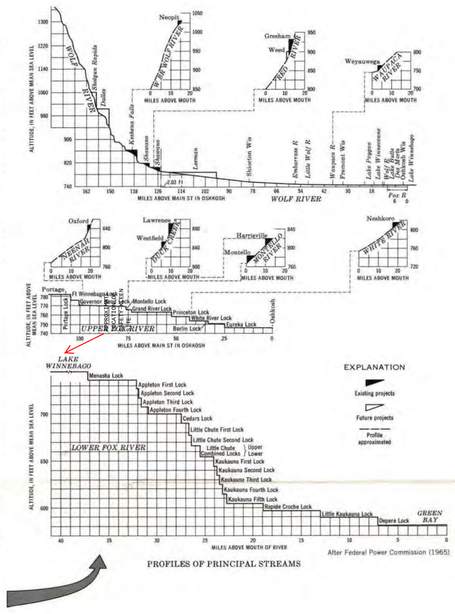
The topography and drainage of the Fox-Wolf basin is controlled by the topography of the bedrock surface, and modified by glacial erosion and deposition. The general topography of the basin includes broad relatively flat plains and some generally north-south ridges. Altitudes in the basin range from about 585 feet at Green Bay to about 1800 feet in the northern part of the Wolf basin. Regional highland and lowland areas on the bedrock surface generally underlie and control the present-day highland and lowland areas in the basin. Glacial sediments cover the bedrock surface with a relatively thin veneer.

The preglacial bedrock valleys, being the lowest topographic areas, held a large glacial lake as the glacier receded (Thwaites, 1943, figs. 19 and 21). Large amounts of sediment, chiefly silt and clay, deposited in this glacial lake formed a flat lake plain and lowland area. The Wolf River from Shawano to Butte des Morts Lake, and the upper part of the Fox River from Portage to Lake Winnebago, flow over this flat lake plain. Consequently, the gradients of both rivers in this area are very flat, the Wolf River dropping only 56 feet in 114 miles and the upper Fox dropping 37 feet in 82 miles.

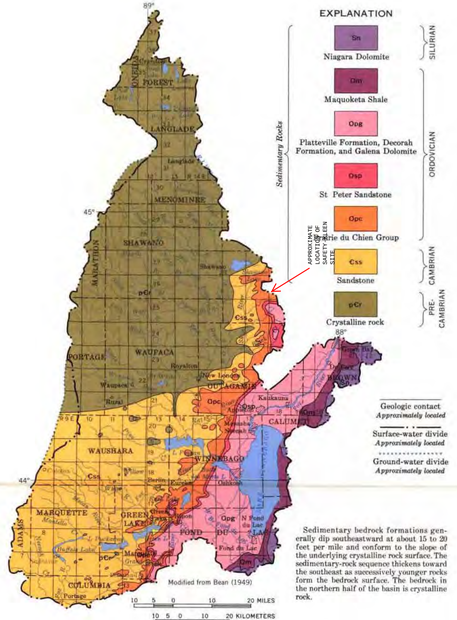
The lower part of the Fox River from Menasha to Green Bay also flows over glacial-lake sediments. However, this area, which probably had a steep preglacial gradient, was modified by glacial gouging that provided an even steeper bedrock gradient. The glacial-lake sediments have only slightly modified this gradient. The lower Fox River falls about 185 feet in 37 miles in the controlled reach from Menasha to Green Bay.

Two northeast-southwest bedrock ridges dominate the topography in the southeastern part of the basin. One ridge extending in a broad arc between Portage and Shawano has a bedrock valley adjacent to its west edge. Another ridge trends northeastward from Fond du Lac to Green Bay, and the Winnebago trough is parallel to the west edge of the ridge.

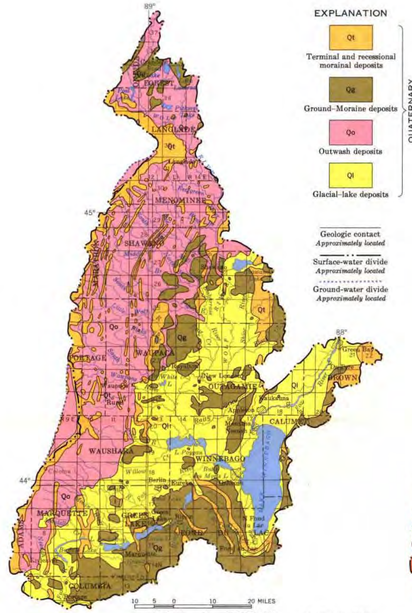
Topography in the northern and western parts of the basin is characterized by broad plains mixed with low hills and generally north-south oriented ridges. The plains slope toward the southeast following the slope of the bedrock surface.



PROFILES OF PRINCIPAL STREAMS

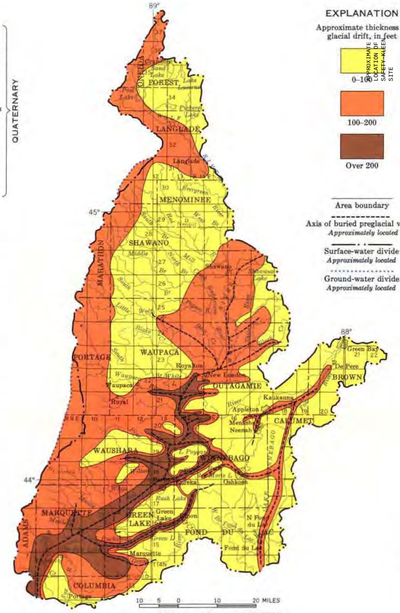


BEDROCK GEOLOGY

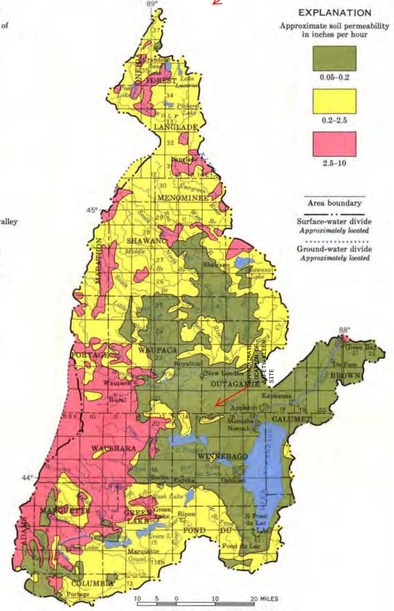


GLACIAL GEOLOGY

After Thwaites (1956)
Open file The University of Wisconsin Geological and Natural History Survey



THICKNESS OF GLACIAL DRIFT



SOIL PERMEABILITIES

GLACIAL GEOLOGY AND DRIFT THICKNESS

Glacial sediments in the Fox-Wolf basin include morainal deposits of unsorted silt, clay, sand, and gravel; outwash deposits of sand and gravel; and lake deposits consisting mainly of silt and clay. The general distribution of these sediments is shown on the glacial geologic map.

Glacial deposits in the Fox-Wolf River basin range in thickness from 0 feet, in small areas where bedrock crops out at the land surface, to 300 feet or more. The glacial deposits are thickest (see thickness of glacial drift map) in deeply incised preglacial bedrock valleys underlying parts of the Wolf and Fox Rivers. The pre-glacial bedrock valleys show the major drainage before glaciation.

An ancient river probably followed the approximate course of the present Wolf River from Shawano to Lake Poygan. From there it followed a southward course adjacent to the Winnebago-Waushara County line, joined the valley of the upper Fox River, and flowed southwestward. The river apparently emptied into the Wisconsin River near the lower narrows of the Baraboo Range, as suggested by Alden (1918, p. 111). Significant tributary valleys to this ancient river valley include the deep valleys in Marquette, Green Lake, and Fond du Lac Counties, which form bedrock basins for Lake Puckaway and Green Lake, and the valley in Winnebago County from Eureka to Butte des Morts Lake, which forms the present course of the Fox River.

The drainage system underlying Lake Winnebago was suggested by Alden (1918) and was extended by bedrock maps in Winnebago County (Olcott, 1966).

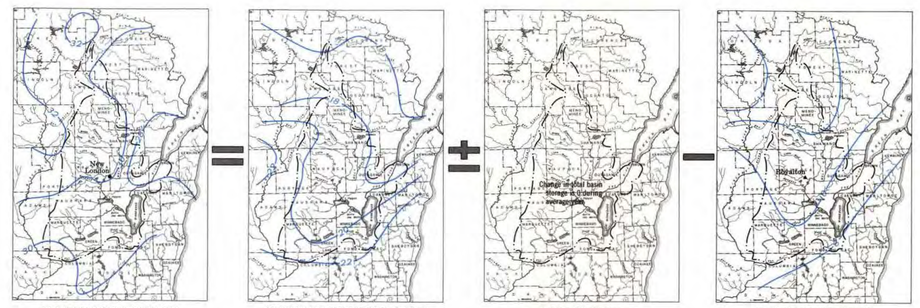
SOILS

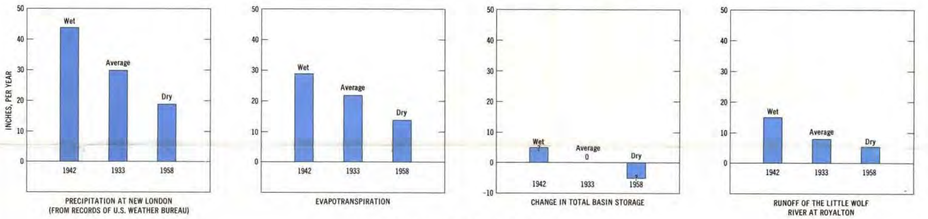
Soils are important because ground-water recharge must pass through the soil zone. The type of soil influences the amount of runoff to streams and the amount of infiltration into the ground. A soil permeability map, prepared from a soils map by the Soil Survey Division of the University of Wisconsin Geological and Natural History Survey (F.D. Hole, written commun. 1965), is shown above. Soil types were assigned permeabilities from information taken from a soils engineering publication (U.S. Department of Agriculture, Soil Conservation Service, 1964). Permeabilities are estimates of downward percolation through the least permeable major soil zone.

The most permeable soils generally are in the sandy outwash plains. The soils of intermediate permeability generally are in the outwash plains and morainal areas. The least permeable soils generally are in the silty and clayey lake plains.

Soil information is used here only as background material. More intensive studies of the influence of soil type on hydrology can be made by soil scientists to define the relationship of soil to hydrology.

WATER SYSTEM





GENERALIZED HYDROLOGIC BUDGET

The principal source of water in the Fox-Wolf River basin is precipitation. Part of the precipitation runs off directly to streams and flows out of the basin. Part of the water evaporates directly from the land and water surfaces or transpires from plants. Part infiltrates the soil where it replaces soil moisture; the remainder moves downward to the ground-water reservoir.

Water stored in the ground-water reservoir is not static and moves from areas of recharge toward areas of discharge. The amount of water stored in the aquifer changes with the amount of precipitation that recharges the aquifer. During periods of abundant rainfall, ground-water storage increases, and the water table rises causing a rise of water levels in wells and lakes and increased discharge to streams. Conversely, the amount of water in storage decreases during periods of scanty rainfall; and lake levels, water levels in wells, and discharge to streams decline.

A generalized accounting of the water inflow, outflow, and storage in the Fox-Wolf basin is shown above. Although this account is simplified, the figures are basically correct. Mean annual precipitation ranged from about 28 to 32 inches in the basin for the period 1931-55 (Waite, 1960, p. 11). Mean annual evapotranspiration (precipitation less runoff) ranged from about 18 to 22 inches in the basin for the same period. Records are not available to determine changes in basin storage, but during an average year the net change in storage is zero. Mean annual runoff ranged from about 8 to 13 inches per year in the basin. Underflow, water moving into or out of the basin through the aquifer, is not considered in the budget. Some water probably moves out of the basin through the sandstone aquifer eastward under the Niagara escarpment, but the amount of this underflow probably is negligible.

Runoff in the basin increases from south to north as evapotranspiration decreases.

Precipitation, evapotranspiration, storage, and runoff deviate considerably from the long-term mean values throughout the basin. For example, precipitation at New London ranged from 44.63 inches in 1942 to 19.02 inches in 1958. Runoff of the Little Wolf River at Royalton in these years ranged from 15.05 to 4.90 inches.

CLIMATIC AND HYDROLOGIC CHANGES AND SIGNIFICANCE

Seasonal and long-term climatic variations cause fluctuations in both the streamflow and ground-water levels.

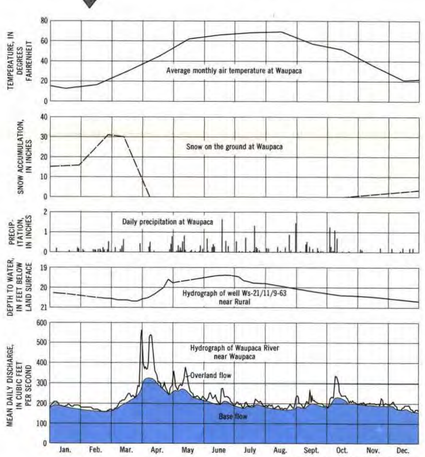
Streamflow in the Fox-Wolf basin fluctuates during the year because of the annual climatic cycle, and changes from year to year because of variations in precipitation. The amount of water stored in the ground-water reservoir that determines the amount of ground-water discharge to the streams follows a similar cycle because of changes in the amounts of recharge that reach the reservoir.

Streamflow is made up of overland flow, water from precipitation or snowmelt that moves directly to the streams, and base flow, water that discharges from the ground-water reservoir. Large volumes of water come to streams by overland flow but leave the basin in a relatively short time after rainstorms or periods of snowmelt. Base flow, continuously discharging from the ground-water reservoir, makes up the streamflow most of the time. The 1962 hydrograph of the Waupaca River near Waupaca illustrates the approximate amount of overland and base flow contributed to the stream.

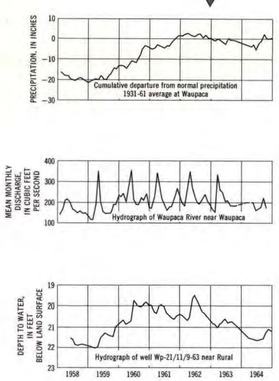
The 1962 hydrographs of flow of the Waupaca River, water levels in a well near Rural, and daily precipitation at Waupaca show the annual fluctuations. Streamflow and ground-water levels are highest in late winter and early spring, diminish throughout the late spring and summer, may increase slightly in the fall, and then subside through the winter until the cycle starts again in the early spring. Abundant water is available in the spring from snowmelt and rainfall. The amount of water available diminishes during the late spring and summer growing season because of evapotranspiration, although rainfall temporarily increases available water during this period. Evapotranspiration nearly stops after the first killing frost in the fall, thus increasing available water. During the winter, precipitation is stored on the land surface as snow and ice. Air temperature also is shown to correlate with spring snowmelt, ground-water recharge, and runoff.

The dependence of streamflow on ground-water storage and its relationship to precipitation are demonstrated by the 1958–64 hydrographs of the Waupaca River near Waupaca, well Wp-21/11/9-63, and a cumulative departure from normal precipitation curve at Waupaca. Each curve generally rises during 1958–60, levels off or falls in 1961, rises in 1962, and falls in 1962–64.

The annual cycle of streamflow fluctuations and long-term variations also are shown in the hydrographs of streamflow at the principal gaging stations.



COMPARISON OF TEMPERATURE, SNOW DEPTH, PRECIPITATION, GROUND-WATER LEVELS, AND STREAMFLOW, IN 1962



COMPARISON OF PRECIPITATION, STREAMFLOW, AND GROUND-WATER LEVELS

Base from U.S. Geological Survey
State base map, 1911

WATER RESOURCES OF WISCONSIN–FOX-WOLF RIVER BASIN

By
Perry G. Olcott

1968

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1968—W62280

For sale by U. S. Geological Survey, price $2.00 per set

Exhibit B-10

Area Traffic Route

BI–10

Project Solutions
Companies

2005 W. Broadway • Suite 210 •
Columbia • MO 65203
Phone: (573) 443–7100
Fax: (573) 443–7181

PROPRIETARY STATEMENT

SAFETY–KLEEN SYSTEMS, INC.
2100 BADGER RD.
KAUKAUNA, WI. 54130
AREA TRAFFIC ROUTES

SAFETY–KLEEN SYSTEMS, INC.
2600N. CENT. EXPRESSWAY STE.400 RICHARDSON, TX. 75080
800–669–5740

SCALE	BY	CHKD	APPR	OP. APPR	DATE
AS SHOWN	JEK	KDT	KDT	KDT	1/18/13

STANDARD BRANCH LOCATION	SC–DWG NUMBER	REV. NO.
KAUKAUNA, WI.	7022–SP00–034	0

Exhibit B-11

Secondary Containment Calculations Container Storage Area (CSA)

QUESTEC CORPORATION

CONSULTING ENGINEERS
Mechanical • Electrical • Civil • Environmental

Client SAFETY-KLEEN Pg 3 of 5

Project No. 9538.1 Date 8-11-95

Project Title KAUKAUNA, WI

Subject SECONDARY CONTAINMENT CALCS.

Designer RAB Cx By SD Prelim _____ Final _____

D-7B Certification of Secondary Containment Capacity:

Container Storage Area

SECONDARY CONTAINMENT CALCULATIONS- CONTAINER STORAGE AREA

SECONDARY CONTAINMENT BY SUMP

VOLUME = (8)(2.04)(.65)(7.48 GAL/CF) = 79 GAL.

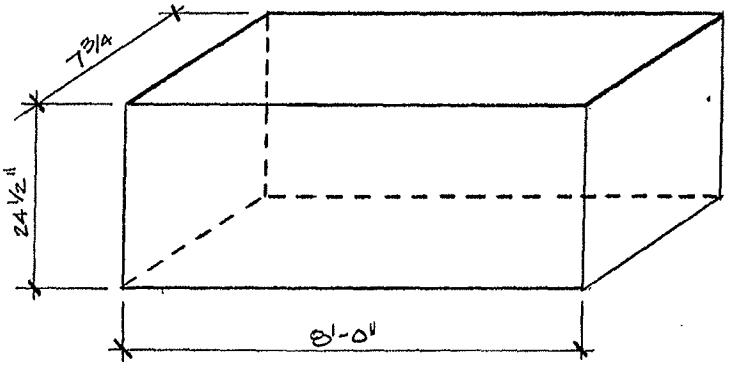


Exhibit B-12

Secondary Containment Calculations Return and Fill

QUESTEC CORPORATION

CONSULTING ENGINEERS
Mechanical • Electrical • Civil • Environmental

D-7A Certification of Secondary Containment Capacity:

Return/Fill Shelter

Client SAFETY - KLEEN Pg 1 of 5

Project No. 9538.1 Date 8-11-95

Project Title KAUKAUNA, WI.

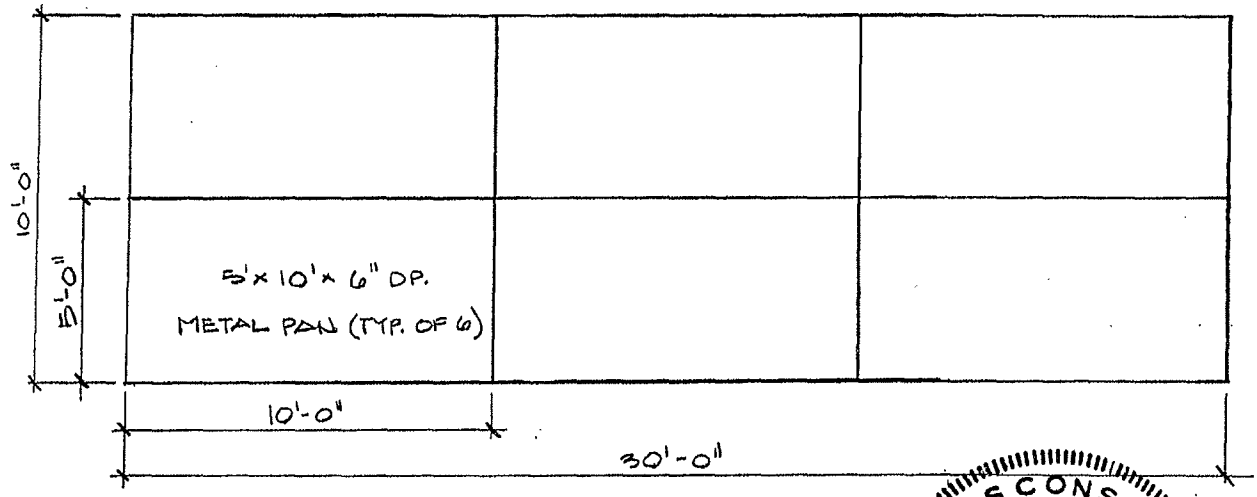
Subject SECONDARY CONTAINMENT CALCS.

Designer RAB Cx By SD Prelim _____ Final _____

SECONDARY CONTAINMENT CALCULATIONS - RETURN/FILL SHELTER

SECONDARY CONTAINMENT BY METAL PANS

VOLUME = (5)(10)(6/12)(7.48 GAL/CF)(6 PANS) = 1,122.00 GAL



PLAN VIEW
NO SCALE

WISCONSIN
RICK A. BARTELT
E-27684
COLUMBIA, MISSOURI
PROFESSIONAL ENGINEER

EXCESS CONTAINMENT CAPACITY = CONTAINMENT CAPACITY - VOLUME OF LARGEST CONTAINER

SWIC DRUM WASHER VOLUME = 163 GAL

∴ EXCESS CONTAINMENT CAPACITY = 1,122 - 163 = (+) 959 GAL

Exhibit B-13

Secondary Containment Calculations Solvent Tank Farm

QUESTEC CORPORATION

CONSULTING ENGINEERS
Mechanical • Electrical • Civil • Environmental

4812 SANTANA CIRCLE, COLUMBIA, MO 65203

Client SAFETY - KLEEN Pg 4 of 5

Project No. 9538.1 Date 8-11-95

Project Title KAUKAUNA, WI.

Subject SECONDARY CONTAINMENT CALCS.

Designer RAB Cx By SD Prelim ____ Final ____

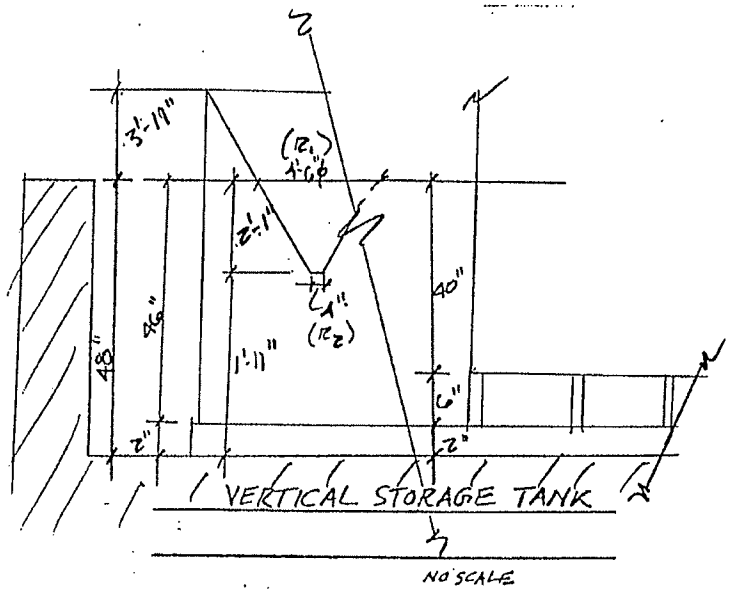
D-7C Certification of Secondary Containment Capacity:

3 Pack Tank Farm

SECONDARY CONTAINMENT CALCULATIONS

3 Pack Tank Farm Vertical Tank(s)

SAFETY KLEEN REF. DWGS. ____



Data :

L [inside wall length]	49.58	ft.
W [inside wall width]	18.42	ft.
l [pad length]	45.08	ft.
w [pad width]	14.92	ft.
R [tank radius]	VARIES	ft.
r [dish radius]	N/A	ft.
H [inside wall height]	4.0	ft.
h1 [pad height]	0.17	ft.
h2 [support height]	VARIES	ft.
h3 [dish height]	N/A	ft.
h [tank segment height]	VARIES	ft.
** rainfall	4.2	in.

* Note: Sump and sloped concrete slab volume not included (conservative).

** U.S. Dept. of Comm. Tech. Paper No. 40

Tank Sizes:

1 - 15,000 GAL., F+D BOT., 10'-6" ϕ

1 - 13,500 GAL., CONE BOT., 12'-0" ϕ, R=6', h=2.08

1 - 12,000 GAL., FLAT BOT., R=5.25', h=3.33'

Formulas Used :

TANK SEGMENT HT. = h = H - h1 - h2

* DIKE CONTAINMENT VOLUME = (L)(W)(H)(7.48 gal/cf)

PAD DISPLACEMENT VOLUME = (l)(w)(h1)(7.48 gal/cf)

TANK DISPLACEMENT VOLUME

dished bottom = $[0.333(\pi)(h3)^2 (3r - h3) + \pi R^2 h](7.48 \text{ gal/cf})$(number of tanks)

flat bottom = $(\pi R^2 h)(7.48 \text{ gal/cf})$(number of tanks)

cone bottom = $[0.333(\pi)(h)(R1^2 + R2^2 + R1(R2)) + \pi R^2 h](7.48 \text{ gal/cf})$(number of tanks)

MISC. DISPLACEMENT VOLUME (Pumps, Piping, Supports, etc.) = 2% of dike volume

LOCAL RAINFALL ALLOWANCE (25 yr./24 hr.) = (rainfall/12)(L)(W)(7.48 gal/cf)

WISCONSIN PROFESSIONAL ENGINEER
RICK A. BARTELT
E-27684
COLUMBIA, MISSOURI

QUESTEC CORPORATION

CONSULTING ENGINEERS
Mechanical • Electrical • Civil • Environmental

4812 SANTANA CIRCLE, COLUMBIA, MO 65203

Client SAFETY - KLEEN Pg 5 of 5

Project No. 9538.1 Date 8-11-95

Project Title KAUKAUNA, WI

Subject SECONDARY CONTAINMENT CALCS

Designer RAR Cx By SO Prelim _____ Final _____

SECONDARY CONTAINMENT CALCULATIONS

Calculations :

(a) DIKE CONTAINMENT VOLUME $= (49.58)(18.42)(4.0)(7.48)$

(+) 27,325 gal.

(b) VOLUME OF LARGEST TANK WITHIN DIKED AREA =

(-) 15,000 gal.

(c) PAD DISPLACEMENT VOLUME $= (45.08)(14.92)(.17)(7.48)$

(-) 855 gal.

(d) TANK DISPLACEMENT VOLUME =

$\left[(1/3)(\pi)(2.08)(.33^2 + 4.5^2 + (.33)(4.5)) + \pi(5.25)^2(3.33)\right](7.48)$ (-) 2513 gal.

(e) MISC. DISPLACEMENT VOLUME = $(.02)(27,325)$

(-) 547 gal.

(f) LOCAL RAINFALL ALLOWANCE $= (4.2/12)(49.58)(18.42)(7.48)$

(-) 2391 gal.

TOTAL EXCESS CONTAINMENT VOLUME [sum (a)-(f)] (+) 6019 **gal.**

Exhibit B-14

Spent Solvent Tank Capacity Calculation

QUESTEC CORPORATION

CONSULTING ENGINEERS
Mechanical • Electrical • Civil • Environmental

4812 SANTANA CIRCLE COLUMBIA, MO 65203

Client SAFETY-KLEEN CORP Pg 5 of 6

Project No. 9290.8 Date 06-16-92

Project Title CHICAGO REGION HLA REPAIR/CERTIFICATION

Subject TANK CAPACITIES & PROBE LENGTH DETERM.

Designer McCURRY Cx By _____ Prelim X Final _____

Exhibit D-7c
Kaukauna Waste
Tank Calculations

KAUKAUNA, WI
FARM B

TANK SERVICE: # 2 - WASTE SOLVENT

TANK TYPE: Horizontal - (Vertical) NO VENDOR LABEL

Self contained Flat Bottom - F&D bottom CONE BOTTOM

TANK DIAMETER: $r = 6'$, $r_{in} = 5.984'$

TANK HEIGHT: $H_{CYL} = 14'1" = 14.0833'$; $H_{CON} = 70" = 5.8333'$; $F = 2\frac{1}{2}"$

PERMITTED CAPACITY: 15,000 GAL 95% = 14,250 GAL

NOMINAL CAPACITY: 12,000 GAL 95% = 11,400 GAL

ACTUAL CALCULATED CAPACITY:

$$V_{ACT} \approx V_{CYL} + V_{CON} = (7.48 \text{ gal/ft}^3)\,\pi r^2 H_{CYL} + (7.48 \text{ gal/ft}^3)\,\frac{1}{3}\pi r^2 H_{CON}$$

$$= (841.46)(14.0833) + (280.49)(5.8333)$$

$$\approx 11,851 + 1636 = 13,487 \text{ GAL}$$

$V_{95} = 12,813$ GAL

PROBE LENGTH REQUIRED:

$$P = (H_{CYL} - H_{95}) + 3" + F$$

$$H_{95} = \frac{V_{95} - V_{CON}}{7.48\,\pi r^2} = \frac{12,813 - 1636}{841.46} = 13.282' \approx \underline{13'3\frac{1}{2}"}$$

$$P = (14'1" - 13'3\frac{1}{2}") + 3 + 2\frac{1}{2}" = 16"$$

TANK LABEL:

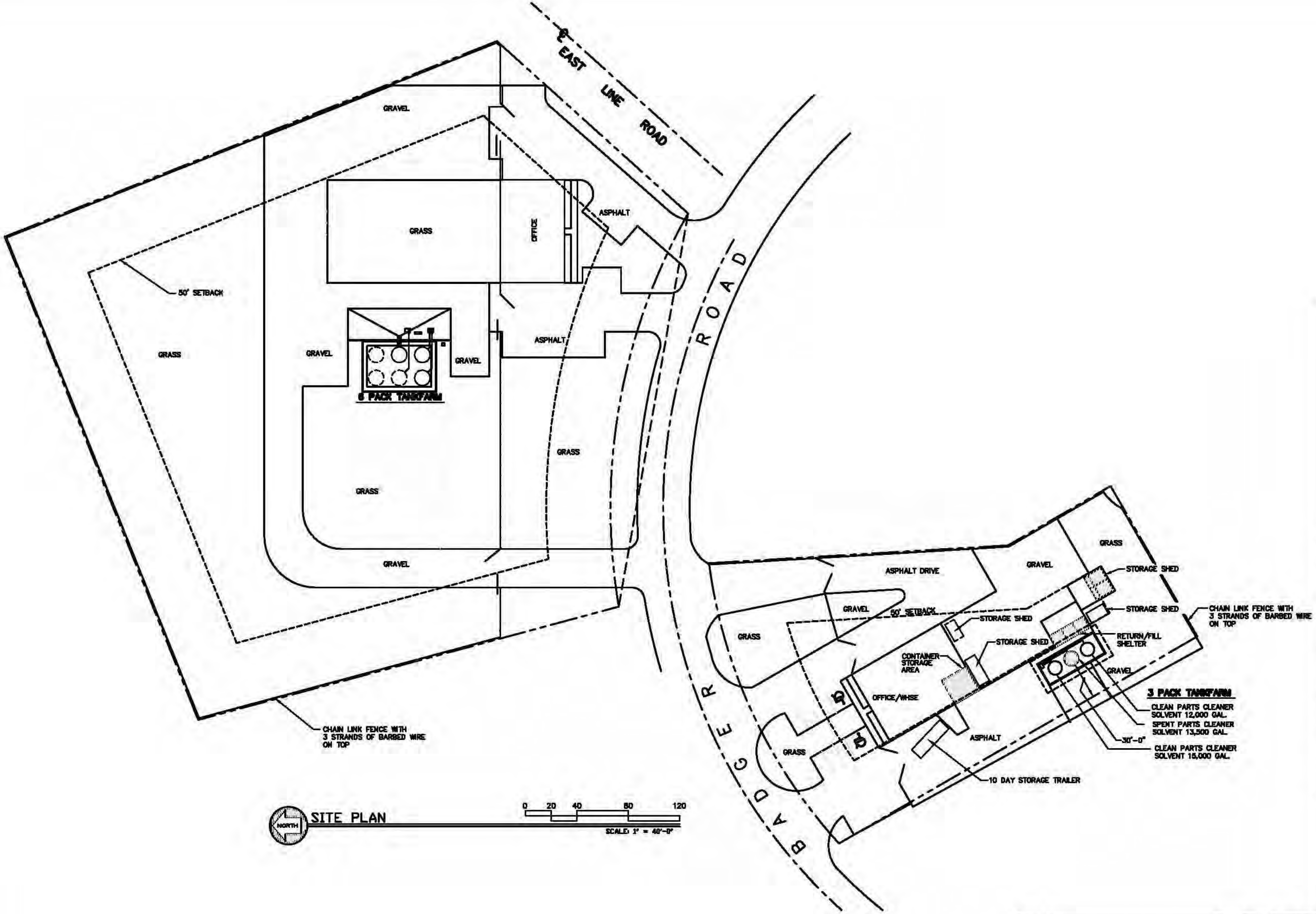
CAP. = 11,999 GAL.

CAP 95%

169" = 14' 1"

Exhibit B-15

Site Plan



CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. SITE PLAN AS INDICATED WAS FIELD VERIFIED ON 6-1-12 BY S-K.

PROPRIETARY STATEMENT

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
5	REVISE FOR PERMIT	JEK	KDT	KDT	080912
4	RELOCATE ACCESS CONTAINER	KJK	RAB		103096
3	REVISED PER SITE OBSERVATION ON 7-31-95	TDB	RAB		081095
2	RELABEL TRANSFER WASTE STORAGE	RJ	GPM		102792
1	TANK VOLUME V.M.S.	TYJ	GPM		092592

REVISIONS

TITLE

SITE PLAN

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG 2 SUITE 100 PLANO, TX 75024 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1" = 40'-0"	QuesTec				9-9-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV NO.
KAUKAUNA, WI	7022-SP00-001	5

Exhibit B-16

Site Plan-Aerial View

B–16

Project Solutions
Companies
2005 W. Broadway • Suite 210 •
Columbia • MO 65203
Phone: (573) 443-7100
Fax: (573) 443-7181

PROPRIETARY STATEMENT

SAFETY-KLEEN SYSTEMS, INC.
2100 BADGER RD.
KAUKAUNA, WI. 54130
AERIAL SITE PLAN

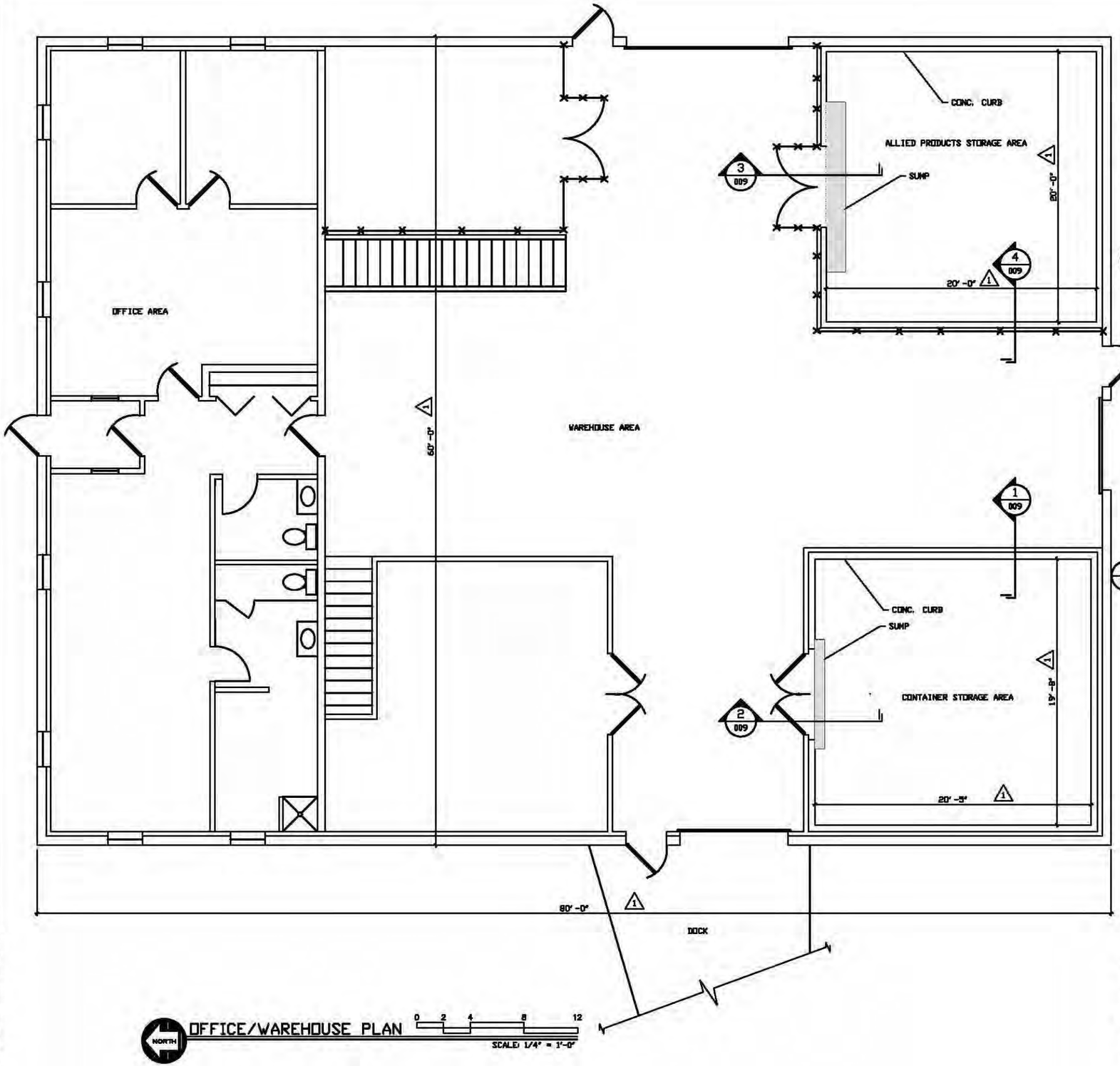
SAFETY-KLEEN SYSTEMS, INC.
2600N. CENT. EXPRESSWAY STE.400 RICHARDSON, TX. 75080
800-669-5740

SCALE	BY	CHKD	APPR	OP. APPR	DATE
AS SHOWN	JEK	KDT	KDT	KDT	1/15/13

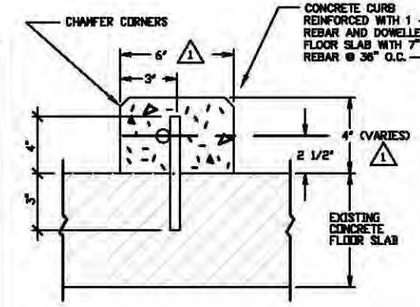
STANDARD BRANCH LOCATION	SC-DWG NUMBER	REV. NO.
KAUKAUNA, WI.	7022-SP00-033	0

Exhibit B-17

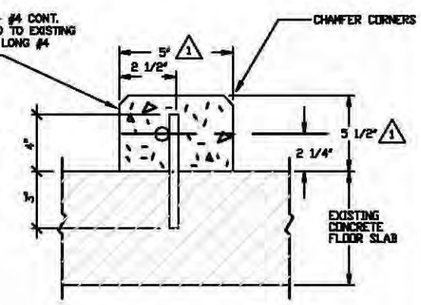
Office/Warehouse Plan and Details



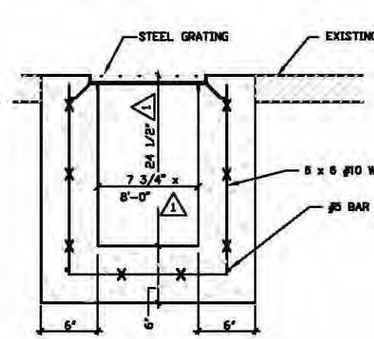
OFFICE/WAREHOUSE PLAN



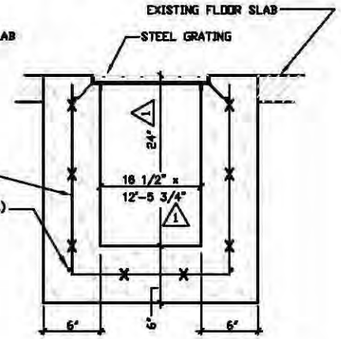
1/009 CURB SECTION TYPICAL CONSTRUCTION NO SCALE



4/009 CURB SECTION TYPICAL CONSTRUCTION NO SCALE



2/009 SUMP SECTION TYPICAL CONSTRUCTION NO SCALE



3/009 SUMP SECTION TYPICAL CONSTRUCTION NO SCALE

GENERAL NOTES

1. AS BUILT MEASUREMENT OR FIELD VERIFICATION OF EXISTING CONDITION ON 8-1-12 BY SK.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.

PROPRIETARY STATEMENT

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
3	REVISED FOR PERMIT	JEK	KDT	KDT	081312
2	REVISED PER SITE CONDITIONS ON 7-31-95	TDD	RAB		081095
1	MISCELLANEOUS REVISIONS	TYJ	RAB		101492

REVISIONS

TITLE: OFFICE/WAREHOUSE PLAN AND DETAILS

SAFETY-KLEEN SYSTEMS, INC.
5380 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

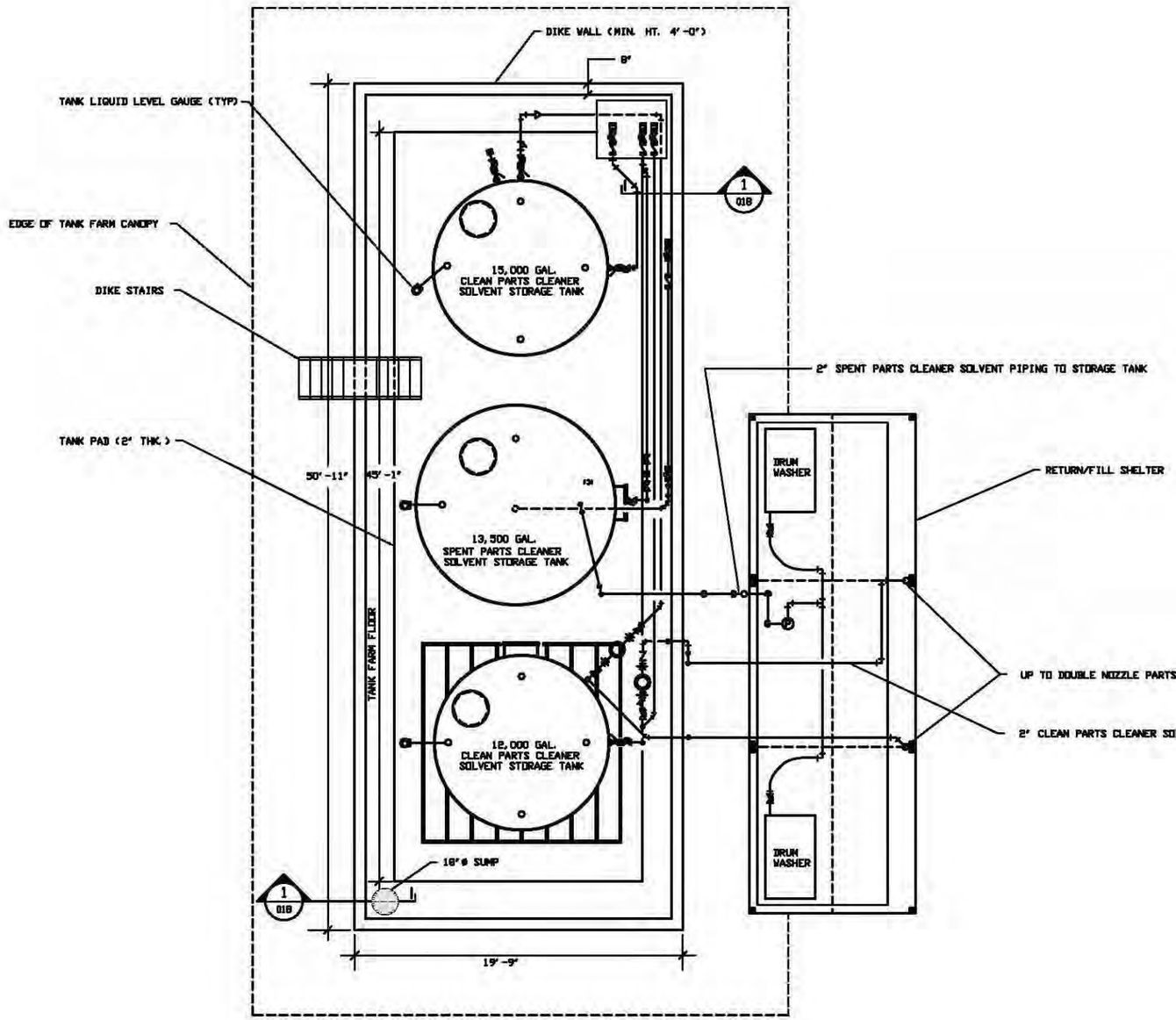
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	QuoeTec				8-9-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI	7020-0800-001	3

11-6-95 1:00 PM KHPB0092.DWG 9338.1

Exhibit B-18

Tank Farm / Shelter Plan



NORTH

3-PACK TANK FARM PLAN

SCALE: 1/4" = 1'-0"

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. PIPING CONFIGURATIDN AS INDICATED WAS FIELD VERIFIED ON 8-1-12.

PROPRIETARY STATEMENT

Safety-Kleen Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
	REVISIONS				
4	REVISED FOR PERMIT	KJT	KJT	KJT	081312
3	RELOCATE ACCESS CONTAINER	KJK	RAB		103096
2	REVISED PER SITE CONDITIONS ON 7-31-95	TBD	RAB		081095
1	ADD DIMENSIONS	TYJ	GPM		102992

TITLE: TANK FARM / SHELTER PLAN

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

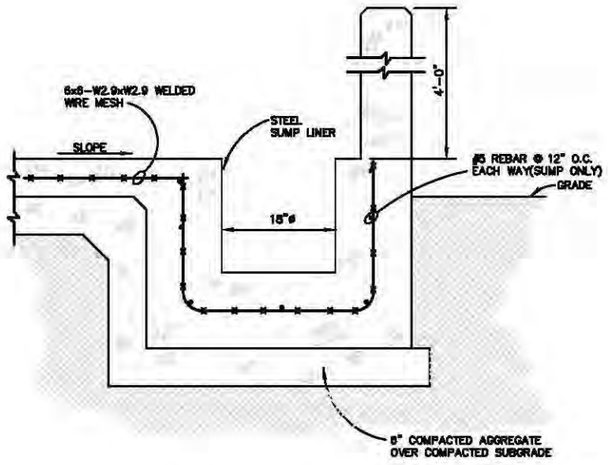
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	QuoeTec				8-12-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI	7022-4100-500	4

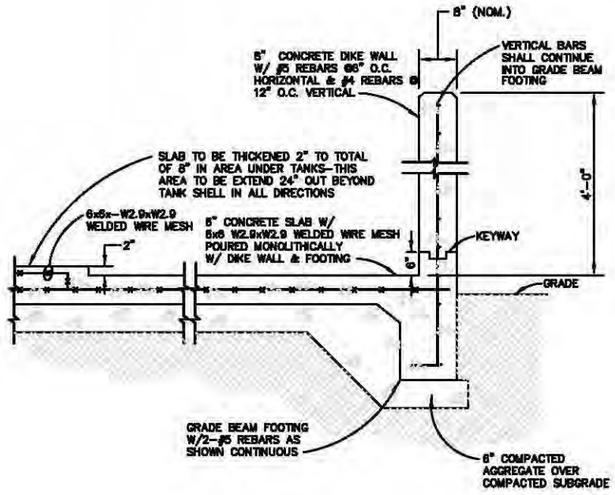
10-30-96 1:20 PM KHPB0172.DWG 9684.1

Exhibit B-19

3-Pack Tank Farm Concrete Sections



2/015 3-PACK TANK FARM SUMP SECTION
TYPICAL CONSTRUCTION
NO SCALE



1/015 3-PACK TANK FARM SLAB & DIKE WALL SECTION
TYPICAL CONSTRUCTION
NO SCALE

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. AS BUILT MEASUREMENT OR FIELD VERIFICATION OF EXISTING CONDITION ON 8-1-12.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.

PROPRIETARY STATEMENT

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
	REVISIONS				
3	REVISED FOR PERMIT	JEK	KDT	KDT	081412
2	REVISED PER SITE OBSERVATION ON 7-31-95	TDD	RAB		081095
1	REVISE DRAWING	TYJ	GPM		102892

TITLE
3 PACK TANKFARM CONCRETE SECTIONS

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

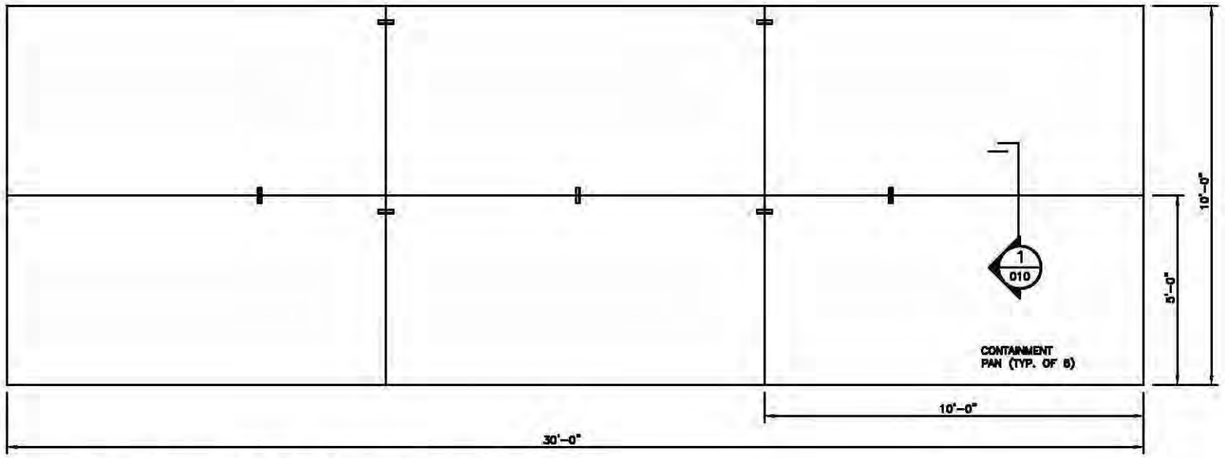
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NONE	QuesTes				9-15-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI	7022-4100-501	3

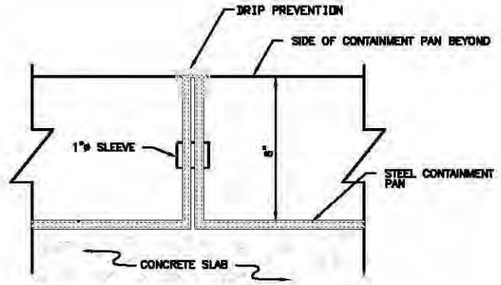
11-6-95 1:00 PM KHP90182.DWG 9538.1

Exhibit B-20

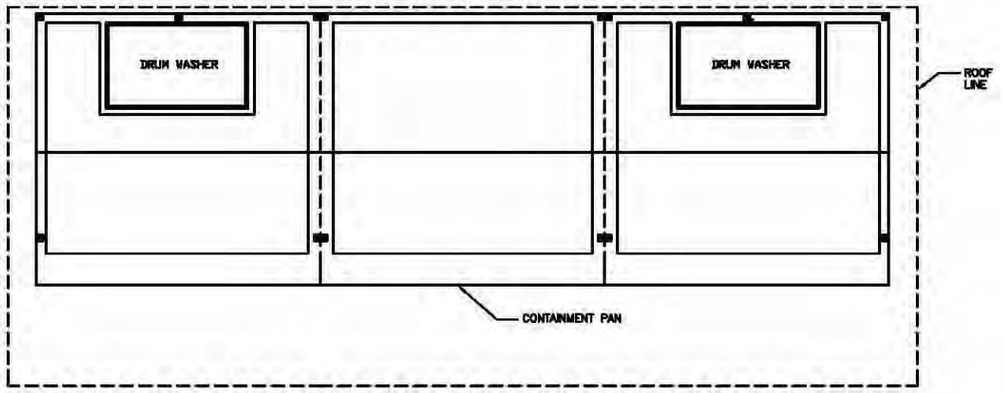
3-Bay Return and Fill Shelter



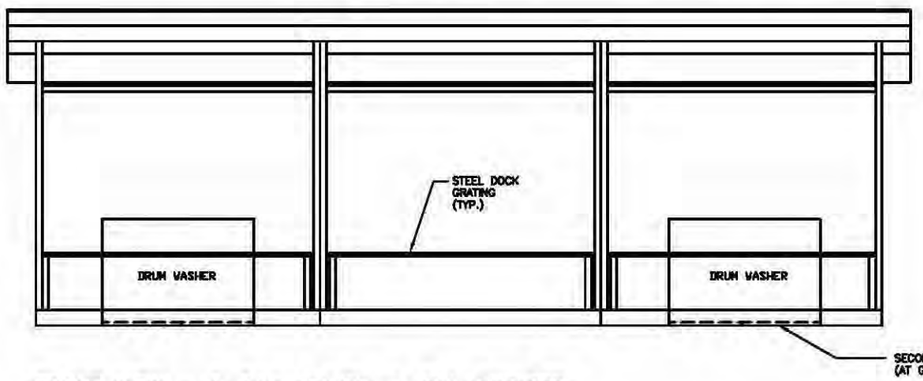
3-BAY R/F SHELTER CONTAINMENT PAN LAYOUT
TYPICAL CONSTRUCTION
NO SCALE



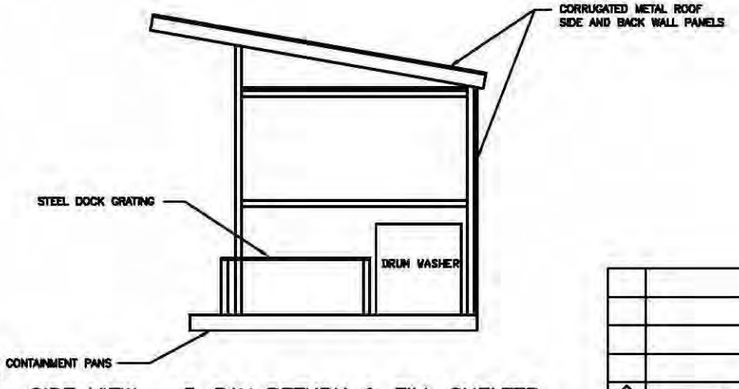
1/010 SECONDARY CONTAINMENT PAN SECTION
TYPICAL CONSTRUCTION
NO SCALE



TOP VIEW – 3-BAY RETURN & FILL SHELTER
TYPICAL CONSTRUCTION
NO SCALE



FRONT VIEW – 3-BAY RETURN & FILL SHELTER
TYPICAL CONSTRUCTION
NO SCALE



SIDE VIEW – 3-BAY RETURN & FILL SHELTER
TYPICAL CONSTRUCTION
NO SCALE

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. INDICATES AS BUILT MEASUREMENT OR FIELD VERIFICATION OF EXISTING CONDITION ON 8-1-12.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.

PROPRIETARY STATEMENT

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
2	REVISED FOR PERMIT	KDT	KDT	KDT	081312
1	REVISED PER SITE CONDITIONS ON 7-31-95	TDD	RAB		081095

REVISIONS

TITLE
3-BAY RETURN/FILL SHELTER

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

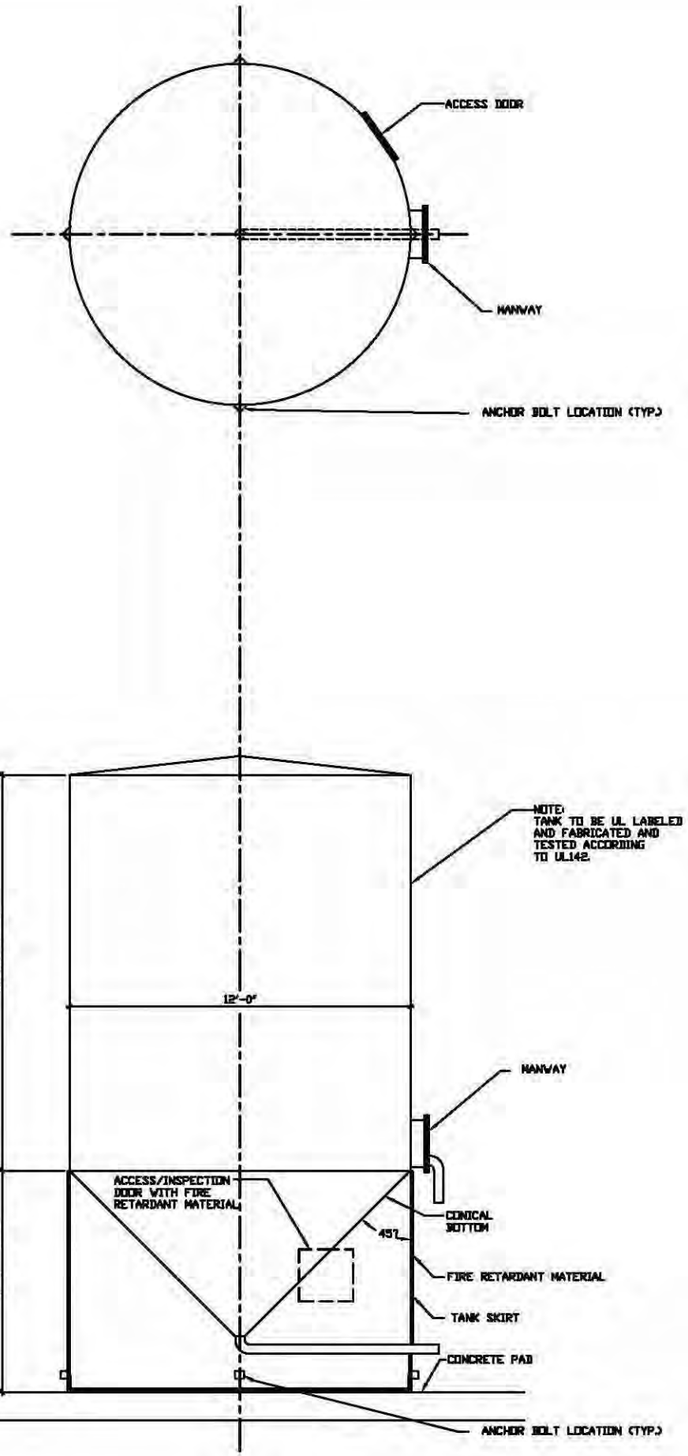
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NONE	QuesTec				8-12-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI	7022-5600-700	2

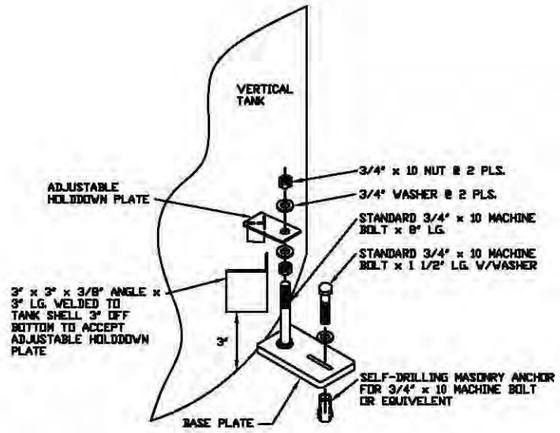
11-6-95 1:00 PM K:\PROJECT\DWG 9536.1

Exhibit B-21

13,500 Gallon Vertical Storage Tank



TANK PLAN AND ELEVATION
TYPICAL CONSTRUCTION
NO SCALE



TANK ANCHORING DETAIL
TYPICAL CONSTRUCTION
SCALE: NONE

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. INDICATES AS BUILT MEASUREMENT OR FIELD VERIFICATION OF EXISTING CONDITION ON 8-1-12.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.
3. TANK SURFACES ARE TYPICALLY PREPARED IN ACCORDANCE WITH STEEL STRUCTURE PAINTING COUNCIL CODE #SSPC-SP3-63T.
4. TANKS TYPICALLY RECEIVE ONE COAT WHITE OXIDE PAINT AND TWO COATS OF ALKYD BASE GLOSS WHITE STRUCTURAL ENAMEL.

PROPRIETARY STATEMENT

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
3	REVISED FOR PERMIT	JEK	KDT	KDT	081412
2	REVISED PER SITE CONDITIONS ON 7-31-95	TDD	RAB		081095
1	ADD PAINT NOTES AND ANCHORS	TYJ	GPN		102892

REVISIONS

TITLE
13.5K GALLON
VERTICAL STORAGE TANK

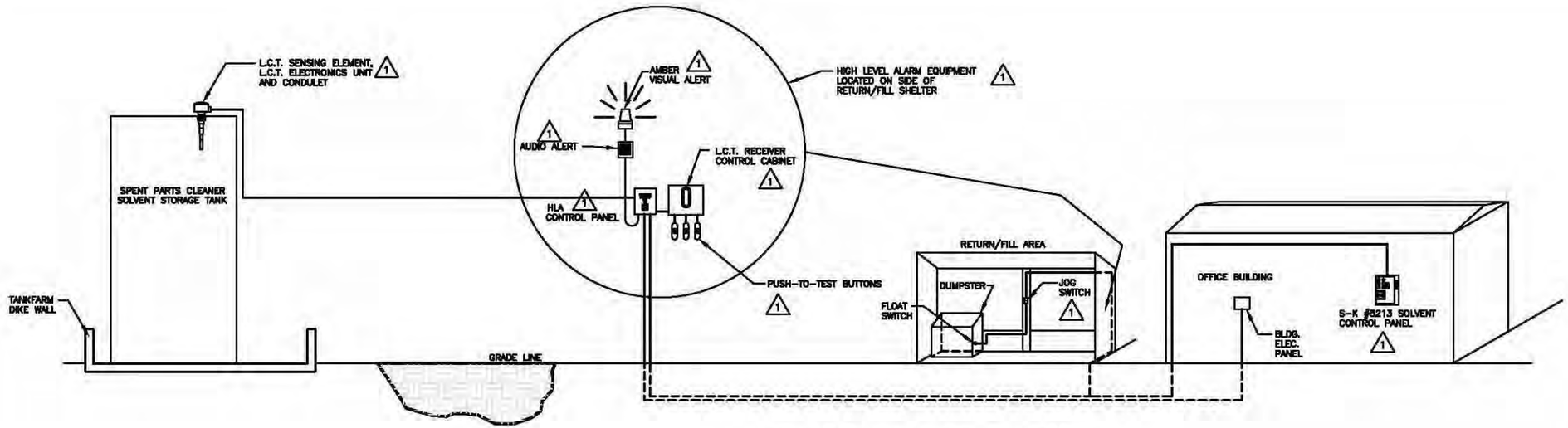
SAFETY-KLEEN SYSTEMS, INC.
5380 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NO SCALE	GuseTec				8-12-92
SERVICE CENTER LOCATION			SC-DWG. NO.		REV. NO.
KAUKAUNA, WI			7022-4100-900		3

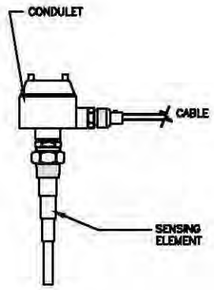
11-6-95 1:00 PM KHP80212.DWG 9538.1

Exhibit B-22

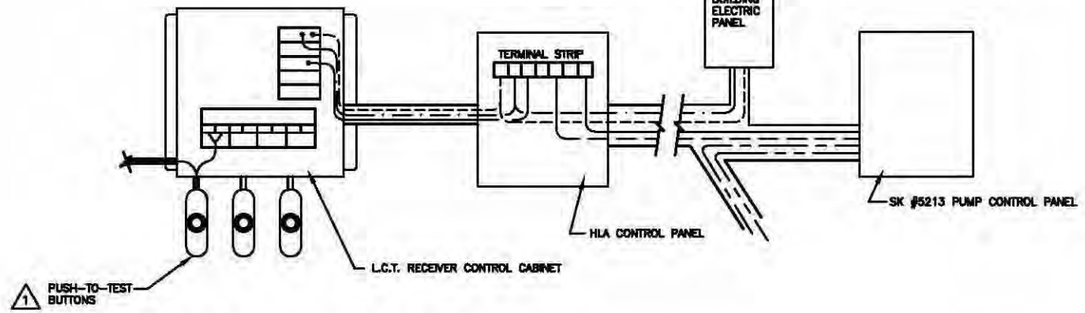
Spent Part Cleaner Solvent High Level Alarm System Diagram



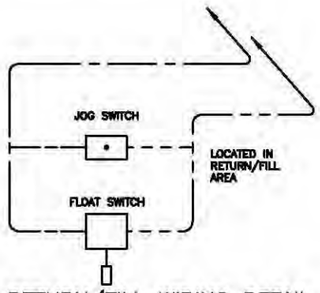
HIGH LEVEL ALARM SYSTEM DIAGRAM
TYPICAL CONSTRUCTION SCALE: NONE



L.C.T. SENSING ELEMENT AND CONDULET DETAIL
TYPICAL CONSTRUCTION SCALE: NONE



TANK HLA SYSTEM CONTROL WIRING LAYOUT
TYPICAL CONSTRUCTION SCALE: NONE



RETURN/FILL WIRING DETAIL
TYPICAL CONSTRUCTION SCALE: NONE

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. AS BUILT MEASUREMENT OR FIELD VERIFICATION OF EXISTING CONDITIONS ON 8-1-12 BY SK.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.

PROPRIETARY STATEMENT

project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
3	REVISED FOR PERMIT	JEK	KDT	KDT	081412
2	REVISED PER SITE OBSERVATION ON 7-31-95	TDD	RAB		081095
1	CHANGED SOLVENT TO USED M.S.	TYJ	GPM		103092

REVISIONS

TITLE
SPENT PARTS CLEANER SOLVENT HLA SYSTEM DIAGRAM

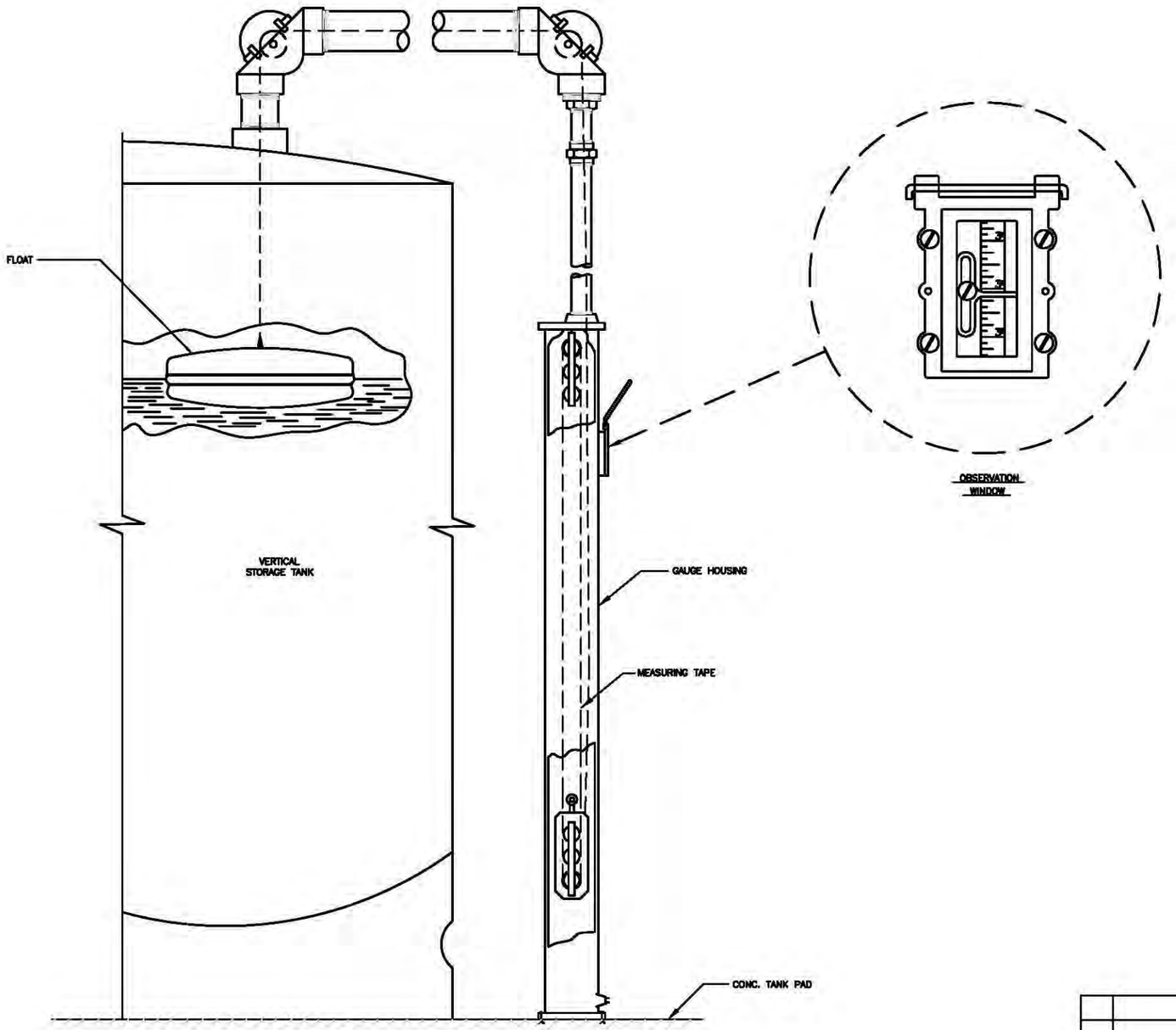
SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG 2 SUITE 100 PLANO, TX 75024 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
AS SHOWN	QuesTec				9-15-92

SERVICE CENTER LOCATION	SC-DWG NO.	REV. NO.
KAUKAUNA, WI	7022-4100-450	3

Exhibit B-23

Moorman Brothers
Tank Gauge Details



VERTICAL STORAGE TANK – GAUGE DETAIL
TYPICAL CONSTRUCTION

NO SCALE

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. ALL DIMENSIONS AND DETAILS ON THIS SHEET ARE TYPICAL PER MANUFACTURER.
2. DETAILS INDICATED AS TYPICAL CONSTRUCTION IDENTIFY TYPICAL SAFETY-KLEEN CONSTRUCTION PRACTICES WHICH WERE NOT FIELD VERIFIED UNLESS SPECIFICALLY INDICATED.
3. FIELD VERIFIED ON 8-1-12 BY SK.

PROPRIETARY STATEMENT

PES Solutions Companies
2950 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7180 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
2	REVISED FOR PERMIT	JRK	KDT	KDT	080812
1	REVISED PER SITE OBSERVATIONS ON 7-28-95	TDD	RAB		080795

REVISIONS

TITLE

MOORMANN BROS. TANK GAUGE DETAILS

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG. 2 SUITE 100 PLANO, TX. 75024
PHONE 800-669-5740

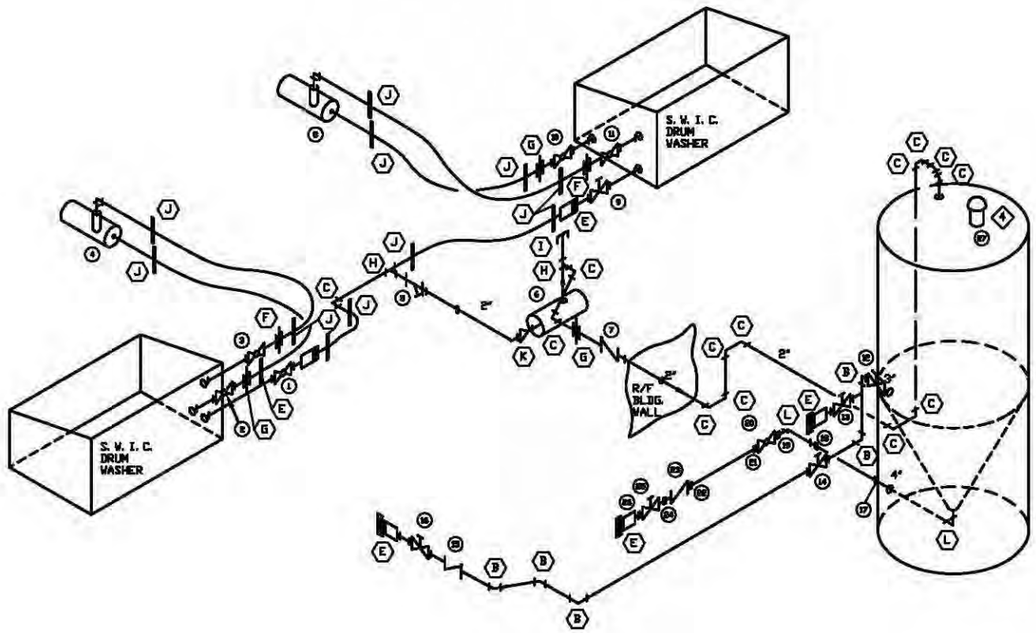
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
AS SHOWN	CMA	RAB			12-12-94

SERVICE CENTER LOCATION	SC-DWG. NO.-REV. NO.	REV. NO.
KAUKAUNA, WI	7022-4100-298	2

11-2-95 4:30 pm K:\PROJ\231.DWG 8536.1

Exhibit B-24

Environmental Piping Schematic



ENVIRONMENTAL SPENT PARTS CLEANER SOLVENT PIPING SCHEMATIC

NO SCALE

FITTING SCHEDULE

1	2" THREADED GATE VALVE
2	1 1/2" THREADED BALL VALVE
3	1 1/4" THREADED BALL VALVE
4	SPENT PARTS CLEANER SOLVENT RECIRCULATION PUMP
5	2" FLANGED CONNECTION
6	SPENT PARTS CLEANER SOLVENT PUMP
7	2" THREADED CHECK VALVE
8	SPENT PARTS CLEANER SOLVENT RECIRCULATION PUMP
9	2" THREADED GATE VALVE
10	1 1/2" THREADED BALL VALVE
11	1 1/4" THREADED BALL VALVE
12	3" THREADED INTERNAL EMERGENCY VALVE
13	3" THREADED GATE VALVE
14	3" THREADED VALVE
15	3" THREADED CHECK VALVE
16	3" THREADED GATE VALVE
17	4" FLANGED CONNECTION
18	4" FLANGED CONNECTION
19	4" FLANGED CONNECTION
20	4" FLANGED VALVE
21	4" FLANGED CONNECTION
22	4" FLANGED CONNECTION
23	4" FLANGED CHECK VALVE
24	4" FLANGED CONNECTION
25	4" FLANGED VALVE
26	4" FLANGED CONNECTION
27	THREADED PRESSURE/VAC VENT

WISCONSIN DNR TAGS

A	2" 22.5° ELBOW
B	3" 22.5° ELBOW
C	2" 90° ELBOW
D	3" 90° ELBOW
E	CAMLOCK
F	1-1/4" UNION
G	1-1/2" UNION
H	2" TEE
I	2" CAP
J	HOSE CLAMP
K	REDUCER
L	4" 90° ELBOW

GENERAL NOTES

1. PIPING CONFIGURATION AS INDICATED WAS FIELD VERIFIED ON 8-1-12 BY SK.
2. NUMBERS IN CIRCLES INDICATE TAGS ATTACHED TO EQUIPMENT OR FITTING AS SHOWN.
3. NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE.
4. ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE AND/OR UPKEEP OF FACILITY.
5. ADDED THREADED PRESSURE/VAC VENT PER INFORMATION PROVIDED BY S-K ON 4/02

SYMBOL LIST

- CAMLOC COUPLING
- 90° CAMLOC COUPLING
- GATE VALVE
- INTERNAL EMERGENCY VALVE
- BALL VALVE
- SCREWED COUPLING
- CHECK VALVE
- STRAINER
- PUMP
- REDUCER/INCREASER
- SCREWED UNION
- CAP
- HOSE CLAMP
- FLEXIBLE HOSE
- PIPE PENETRATION/ATTACHMENT TO EQUIPMENT
- DIRECTION OF FLOW

CONNECTION TYPES

- FLANGED
- SCREWED
- WELDED

PROPRIETARY STATEMENT

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
6	REVISED FOR PERMIT	JEK	KDT	KDT	061412
5	DNR TAGS	JEK	KLS	KLS	120202
4	ADDED THREADED PRESSURE/VAC VENT	JEK	KLS	KLS	42902
3	REVISED PER SITE OBSERVATION ON 7-31-95	TDD	RAB		081095
2	ADD PROPOSED TO # 17, 21 AND 22	TYJ	RAB		112592
1	CHANGED WASTE TO USED	TYJ	GPM		103092

REVISIONS

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE

ENVIRONMENTAL
PIPING SCHEMATIC
(SPENT PARTS CLEANER SOLVENT)

SAFETY-KLEEN SYSTEMS, INC.
5380 LEGACY DR. BLDG 2 SUITE 100 PLANO, TX. 75024 800-669-5740

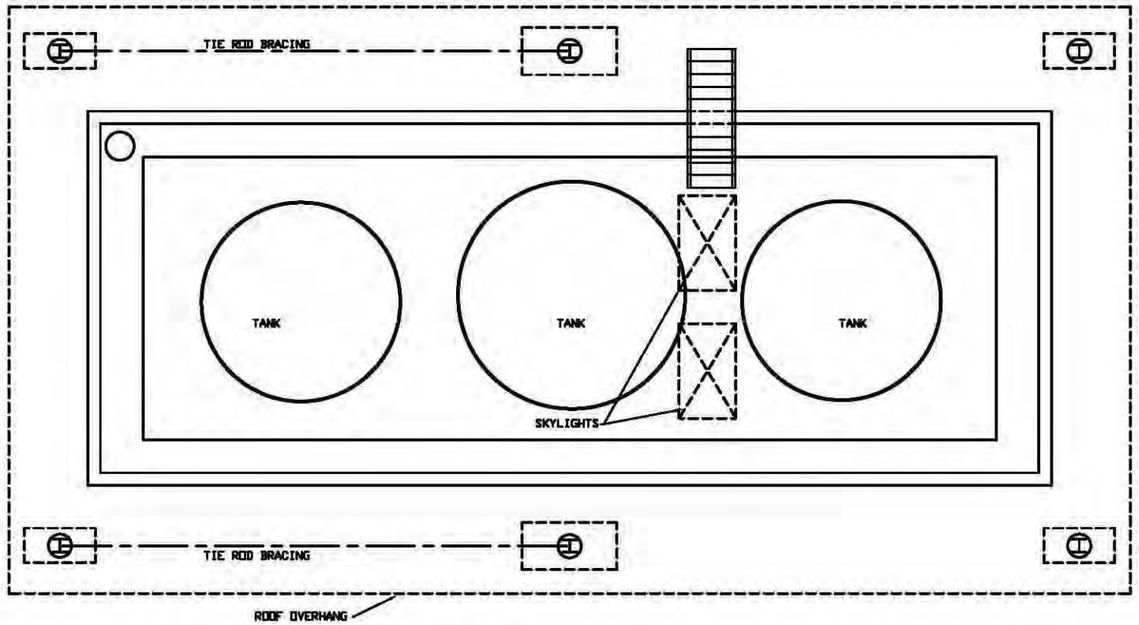
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NO SCALE	PROJSOL				5-12-92

SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI	7022-4100-300	6

06-06-01 3:30 AM KHPB0283.DWG 9538.1

Exhibit B-25

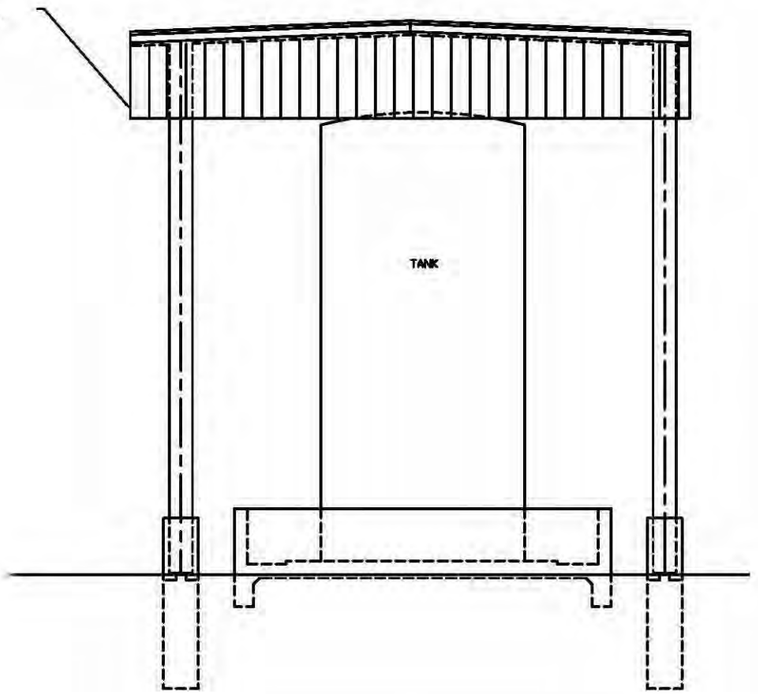
Tank Farm Canopy Details



NORTH

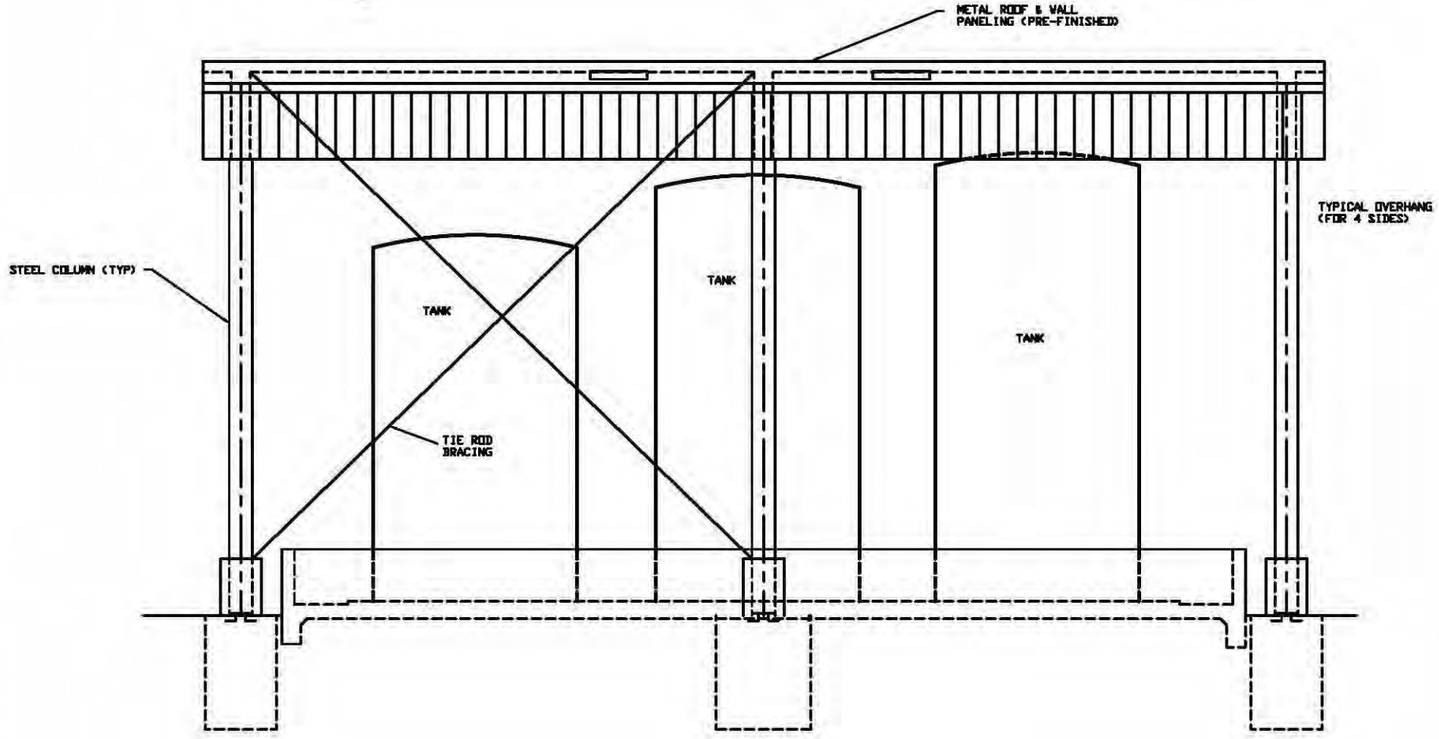
TANK FARM CANOPY PLAN

SCALE: NONE



END ELEVATION

SCALE: NONE



SIDE ELEVATION

SCALE: NONE

GENERAL NOTES

1. SITE DETAILS WERE FIELD VERIFIED ON 8-1-12 BY SK.

PROPRIETARY STATEMENT

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
2	REVISED FOR PERMIT	JEK	KDT	KDT	081412
1	REVISED PER SITE CONDITIONS ON 7-31-95	TDD	RAB		081095

REVISIONS

TITLE

TANK FARM CANOPY DETAILS

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG.2 SUITE 100 PLANO, TX 75024
PHONE: 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4"=1'-0"	QuestTec	-			5-12-92

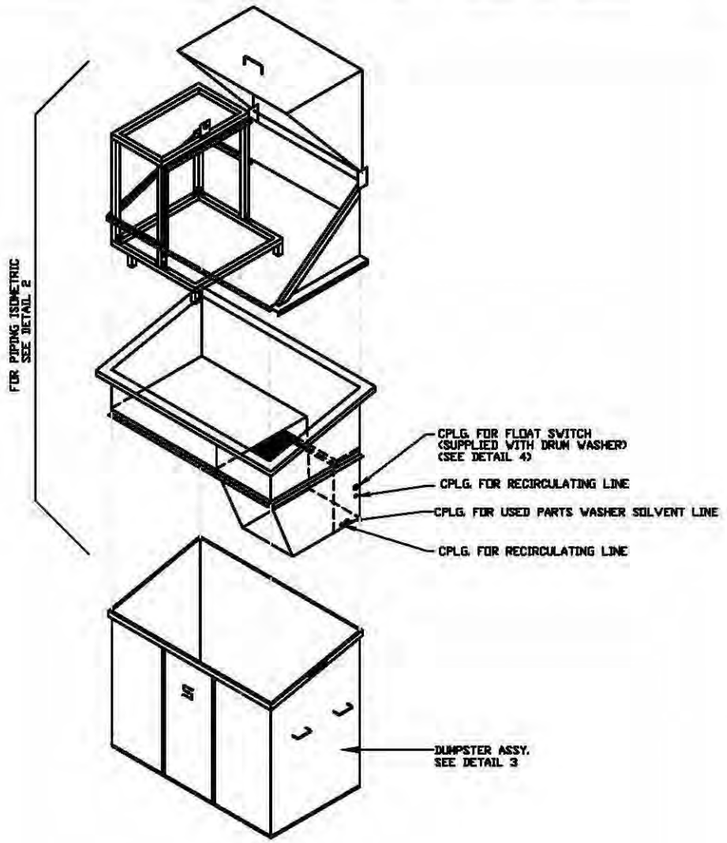
SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.
KAUKAUNA, WI.	7022-4100-700	2

11-6-95 1:00 PM K:\PB0191.DWG 9538.1

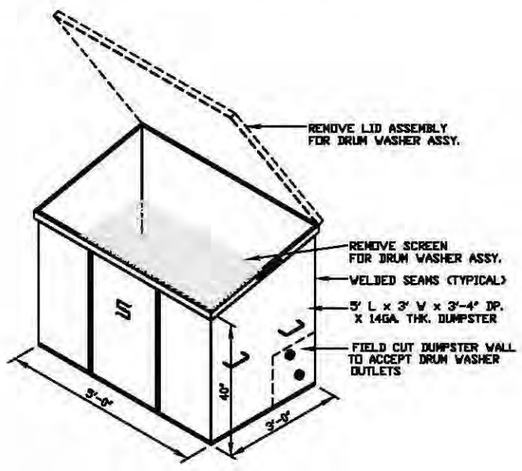
Exhibit B-26

Drum Washer/Dumpster Isometric

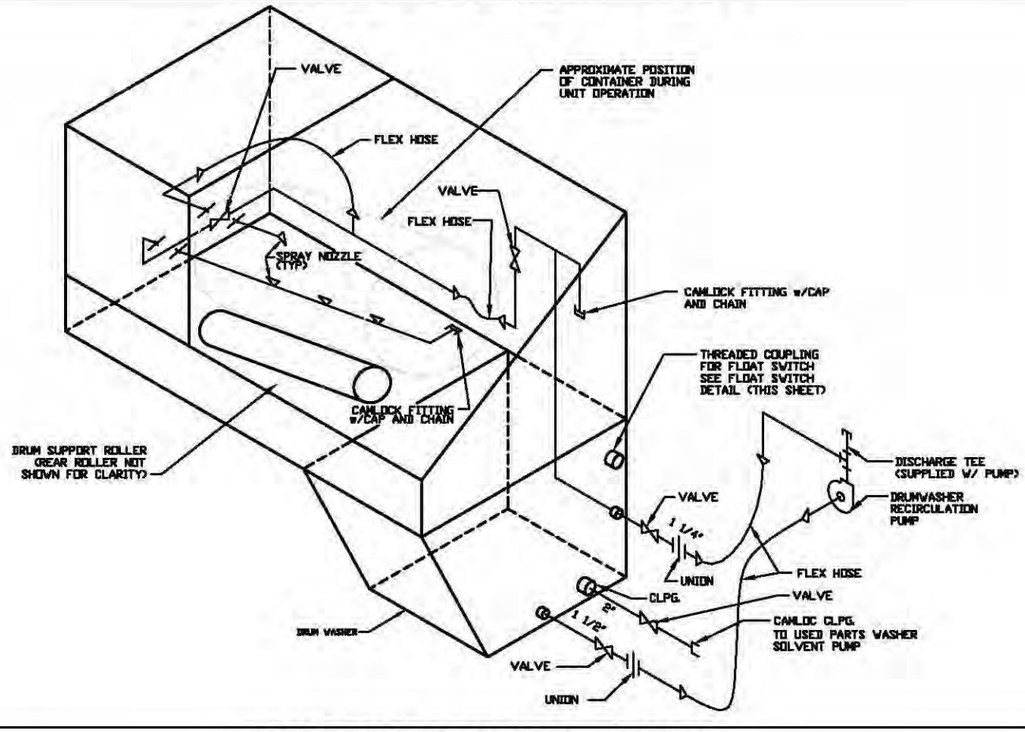
DUMPSTER/BARREL WASHER ASSY – DETAIL 1



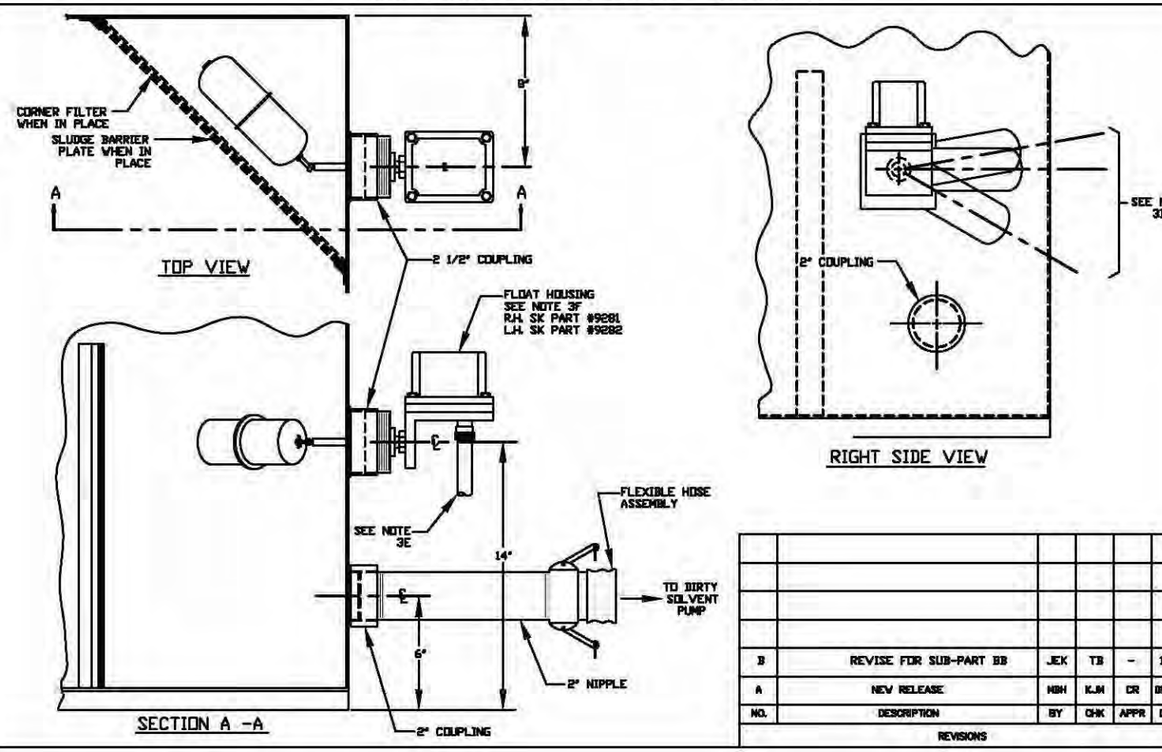
DUMPSTER ASSY. – DETAIL 3



BARREL WASHER PIPING ISOMETRIC – DETAIL 2



FLOAT SWITCH INSTALLATION – DETAIL 4



GENERAL NOTES

1. THE BARREL WASHER UNIT AND DUMPSTER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND COMBINED BY CONTRACTOR. RECIRCULATING PUMP, AND VALVES FOR DRUM WASHER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND INSTALLED WITH CONTRACTOR SUPPLIED PIPE UNIONS AND HOSES.
2. ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL BE SUPPLIED TO CONTRACTOR.
3. FLOAT SWITCH INSTALLATION INSTRUCTIONS
   - A. TAKE FLOAT SWITCH AND WRAP CLOCKWISE WITH 2 TEFLON WINDS OF TAPE AND INSTALL INTO 2 1/2" COUPLING ON OUTSIDE OF DUMPSTER
   - B. TAKE FLOAT AND THREAD IT INTO THE FLOAT SWITCH FROM THE INSIDE SHAFT OF THE DUMPSTER AND TIGHTEN SECURELY.
   - C. RELEASE SHIPPING BRACKET BY REMOVING SCREW AND DISCARDING BRACKET.
   - D. FLOAT TRAVEL SETTING ADJUSTMENTS CAN BE ACCOMPLISHED BY LOOSENING ADJUSTMENT SCREWS. THE FLOAT TRAVEL ARC SHOULD BE SET AT 10° TRAVEL UP AND 30° TRAVEL DOWN. (SEE CALIBRATION ON DIAL), SEE RIGHT SIDE VIEW.
   - E. FLOAT SWITCH SHOULD BE WIRED UP ACCORDING TO MFGRS. SPECS AND IN COMPLIANCE WITH ANY LOCAL CODES. (USE RIGID CONDUIT THROUGHOUT).
   - F. FLOAT SWITCH TO BE INSTALLED ON SAME SIDE OF DUMPSTER AS DRAIN LINE. INSTALLATION SHOWN IS FOR RIGHT HAND SIDE OF DUMPSTER. FLOAT SWITCH IS SQUARE D CLASS 9037 HR – 3 (RIGHT HAND) OR HR – 4 (LEFT HAND).
   - G. RE-ADJUST FLOAT STOPS TO THOSE SHOWN ON RIGHT SIDE VIEW.
   - H. WHEN DUMPSTER DOES NOT HAVE A 2 1/2" COUPLING, ONE SHOULD BE ON (LIQUID TIGHT) TO DIMENSIONS SHOWN.

PROPRIETARY STATEMENT

Project Solutions Companies
2000 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7121 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE FOR SUB-PART BB	JEK	TB	–	13104
A	NEW RELEASE	MBH	KJM	CR	021595

REVISIONS

TITLE: DRUM WASHER/DUMPSTER ISOMETRIC

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR., BLDG. 2 SUITE 100 PLANO, TX. 75024 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NONE	MBH	KJM	CR		02-06-95

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
KAUKAUNA, WI	7022-5600-299	B

051094

Exhibit B-27

Branch Personal Protective Equipment Requirements

BRANCH PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

WORKPLACE HAZARD ASSESSMENT SUMMARY 2013

TASK							
AQUEOUS BLENDING (MANUAL)	Yes (Np)	Yes		S.T w/M	Goggles	Yes, w/pneumatic	
AQUEOUS SERVICE - COLD	Yes (Np)	Yes		S.T w/M	Yes		
AQUEOUS SERVICE - HEATED	Yes (Np)	Yes		S.T w/M	Yes		
AQUEOUS TEST ANALYSIS	Yes (Nr or Cp)	Yes		S.T w/SR	Yes		
BRAKE CLEANING (ABC)	Yes (Np)	Yes		S.T w/M	Yes		
COOLANT SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
CONTAINERIZED WASTE (CWS)	Yes (Np)	Yes		S.T w/M	Yes		
DRY CLEANER SERVICE	Yes (Np)*	Yes		S.T w/M	Yes		
GUN CLEANERS - UNVENTED	Yes (Np/ Cp)*	Yes		S.T w/M	Yes		APR=HF or FF/Organic vapor
GUN CLEANERS - VENTED	Yes (Np/ Cp)*	Yes		S.T w/M	Yes		
IMAGING SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
IMMERSION CLEANER SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
LIGHT BULB SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
MATERIAL HANDLING	Yes (Cr)	Yes		S.T w/M	Yes		
OIL SERVICE	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
PARTS WASHER SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
RETURN/FILL OPERATIONS	Yes (Np)	Yes	Yes*, w/short sleeves uniform	S.T w/SR	Yes	Yes, w/pneumatic	

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BRANCH PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

WORKPLACE HAZARD ASSESSMENT SUMMARY 2013

TASK							
RETURN PRODUCT SERVICE	Yes (Np)	Yes		S.T w/M	Yes		Dusk Mask (Voluntary)
SAMPLING - FIELD	Yes (Nr)	Yes	Yes*	S.T w/SR	Yes		APR=FF/ ORG. vapor/acid gas
SPILL RESPONSE (INCIDENTAL)	Yes (Np)	Yes	Yes*	S.T w/SR	Yes		APR=HF or FF/ ORG. vapor/acid gas
TANK TRUCK LOAD/UNLOAD	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
TANK TRUCK TOP SAMPLING	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
VAC SERVICE	Yes (PVC or Np)	Yes		S.T w/SR	Yes	Yes, w/pump on	
VISITOR IN OPS AREAS				Closed toe	Yes		
WWF SERVICE	Yes (Nc)*	Yes		S.T w/SR	Yes		

Service Reps – must have hard Hat and Safety Vest available

GLOVES

Cr = Cut Resistant glove (work glove)
Np = Supported Neoprene Glove (Outer Glove)
Cp = Chloroprene (5ml) (Inner Glove)
PVC = Poly Vinyl Chloride (Insulated option)
Nc = Nitrile Coated (work glove)

Cr* = Cut Resistant glove (if chemical present – Supported Neoprene)
Nr = Nitrile (8ml) glove
(Np)* = discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)
PVC = Poly Vinyl Chloride (Insulated option)
(Nc/Cp)* = discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)

APRON
Tychem QC apron w/ sleeves*= discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)

FOOTWEAR
S.T. w/M = Steel Toes with Metatarsal Guard
S.T. w/SR=Steel Toes with Slip Resistant Soles

RESPIRATOR / CARTRIDGE TYPE
APR = half face (HF) or full face (FF) air purifying respirator
(facial hair shall not come in contact with the face piece seal)

Parts Number - Arbill

Gloves - Cr – Leather A179800, Kevlar Shell Nitrile Palm A14240, Kevlar Shell and Leather Palm A17992, Np-SK 612, CP-151433, PVC - A141360, Nc-14056, Nr - 151943. **Respirator/Cartridge Type** – HF-A500603, FF - A505820, Organic Vapor/Acid Gas/HEPA - A500790, Organic Vapor/HEPA - A500780, HEPA - A504195, Dusk Mask - A502098,.
Apron – Tychem QC apron w/sleeves – Medium – QC275BYLMD002500, Large – QC275BYLLG002500, Ex. Large – QC275BYLXL002500. **Hard Hat –** 475360-BL27128 - BL6400. **Safety Vest –** A209283. **Goggles** – A303630. **Hearing Protection –** Muffs – A401800, Plugs – A403770.

Parts Number – Century Vallen

Gloves - Cr – Leather GAN30-1-W10EL-C, Kevlar Shell Nitrile Palm EDM 11-500, Kevlar Shell and Leather Palm SUP SKGLPLC-L, Np-SK 612, Cp – GLONPG888-M, PVC-EDM 4-412, Nc-EDM 37-145, Nr-BST 8005PF-L
Respirator/Cartridge Type – HF-3MS 6200, FF-3MS 6800, Organic Vapor/Acid Gas/HEPA-3MS 60923, Organic Vapor/HEPA-3MS 60921, HEPA - 3MS 2096, Dusk Mask - 3MS8511.
Apron – Tychem QC apron w/sleeves - LAK 527. **Hard Hat –** DSI HP542R -02 – SK Logo. **Safety Vest –** NORTV52B4/(SIZE). **Goggles** – UVXS700C. **Hearing Protection –** Muffs – PLT H10A. Plugs – EAR 312 – 1201.

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Exhibit B-28

Branch Process for Handling Spent Parts Washer Solvent

Unit Process for the Handling of Spent Parts Washer Solvent

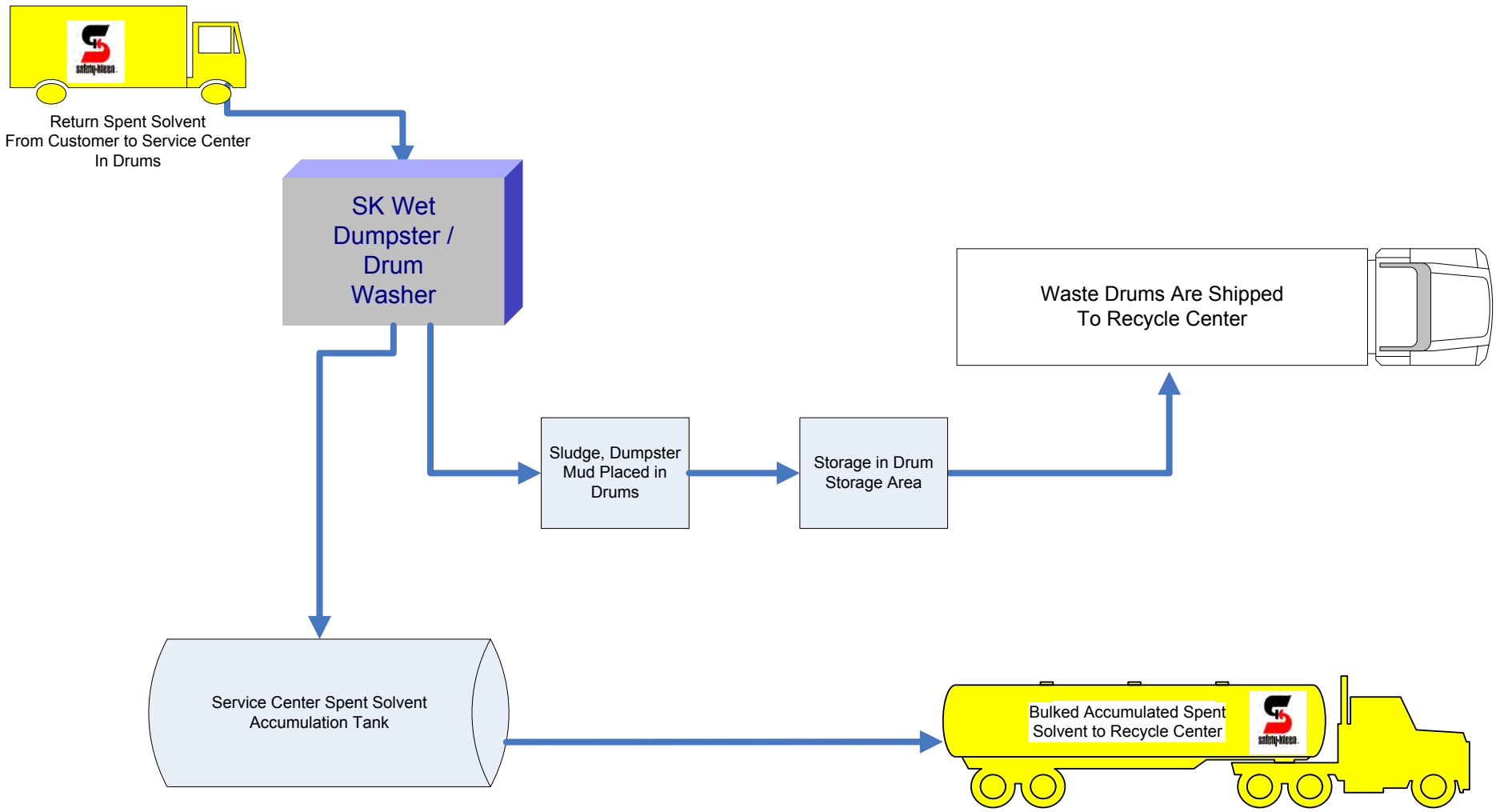


Exhibit B-29

Solvent Use and Regeneration Loop

Safety-Kleen Solvent Use & Regeneration Loop

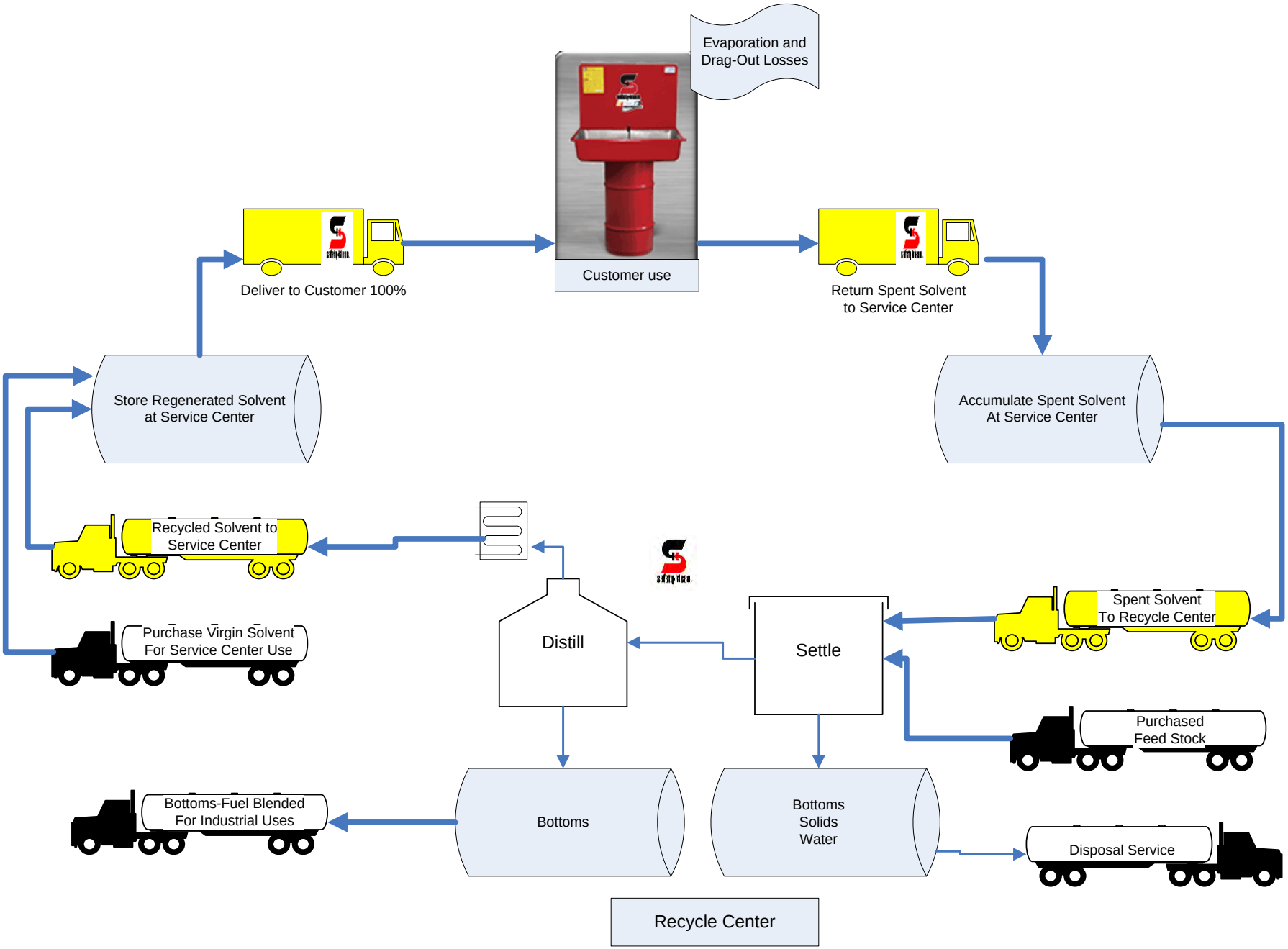


Exhibit B-30

Written Tank Assessments (Initial and 5-Year Evaluation)

GRAEF ANHALT SCHLOEMER & ASSOCIATES INC. CONSULTING ENGINEERS

MILWAUKEE ENGINEERING CENTER
345 North 95th Street
Milwaukee, Wisconsin 53226
Telephone (414) 259-1500
FAX (414) 259-0037

April 13, 1990

Mr. Paul Pederson
Safety-Kleen Corporation
777 Big Timber Road
Elgin, Illinois 60123

RE: Kaukauna WI. Facility Post-Construction Assessment

Dear Mr. Pederson,

Graef, Anhalt, Schloemer & Associates, Inc., Consulting Engineers (GAS), has been requested by Safety-Kleen Corporation to certify that the design (as built) and installation plan of Safety-Kleen Corporation's existing aboveground hazardous waste storage tank system and secondary containment at the Kaukauna, Wisconsin service center are in compliance with Federal Regulation 40 CFR 265.191 (Assessment of Existing Tank System's Integrity) and 40 CFR 265.193 (Containment and Detection of Releases). Local and state codes concerning aboveground hazardous waste storage were also considered.

This letter will present those aspects of the design and installation plan of the tank system which are necessary to determine compliance with 40 CFR 265.191, 40 CFR 265.193, and with local codes.

The City of Kaukauna was contacted and GAS was verbally informed that the tank location must conform with local zoning requirements. The State of Wisconsin was also contacted to confirm that the state regulations conform with 40 CFR 265.191 and 40 CFR 265.193.

Safety-Kleen Corporation's Kaukauna, Wisconsin facility contains one (1) 15,000-gallon vertical tank for storage of waste oil, one (1) 12,000-gallon vertical tank for storage of waste mineral spirits, one (1) 12,000-gallon vertical tank for storage of clean mineral spirits. This post-construction assessment addresses the waste mineral spirits tank, only.

The following is a discussion of each item as it occurs in the regulation:

40 CFR 265.191 Assessment of Existing Tank System Integrity

An assessment that the foundation, structural support, seams, and connections are adequately designed and that the tank system does have sufficient structural strength, compatibility with the wastes to be stored, and corrosion protection to prevent collapse, rupture or failure.

(1) According to Safety-Kleen specifications, the tank is be designed and constructed in accordance with Underwriters Laboratories, Inc., "Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids," UL 142(1987). GAS has not evaluated the tank design or the specifications of UL 142, and does not take responsibility for them. The UL 142 standard is intended to prevent the collapse or rupture of tanks designed to that standard. The tank shell thickness is specified as 1/4-inch hot-rolled carbon steel (H.R.C.S.) and the tank ends 5/16-inch H.R.C.S. The tank operating pressure is atmospheric and the operating temperature is ambient. The specific gravity of mineral spirits ranges between .775 and .795. The specific gravity of waste oil ranges between .910 and .940. The maximum height of liquid in the tank will be at 95 percent capacity and is monitored by a high level alarm.

(2)

i. The three 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°F.

The used mineral spirits to be stored in this tank has a typical flash point in the range of 100°F to 110°F, and therefore is ignitable (D001).

B. EP Toxicity due to Cadmium Content (D006) - A waste is considered to be EP toxic due to cadmium content if its concentration exceeds 1.0 ppm (parts per million).

A typical value for cadmium concentration for used mineral spirits is 0.93 ppm. Since this value is close to 1.0 ppm, it may be considered to be EP toxic due to cadmium content.

C. EP Toxicity due to Lead Content (D008) - A waste is considered to be EP toxic due to lead content if concentration exceeds 5.0 ppm.

A typical value for lead concentration for used mineral spirits is 5.0 ppm. Therefore, the used mineral spirits is considered to be EP toxic due to lead content.

Of those three hazardous waste characteristics, none would affect the compatibility of the mineral spirits waste with the carbon steel tank material. In fact, mineral spirits is often used as a light hydrocarbon coating to prevent rusting of metal parts, and therefore acts to preserve the carbon steel.

There is a slight potential for corrosion at the water/mineral spirits interface near the bottom of the waste storage tank. Because this interface is submerged, there is little oxygen available to promote corrosion. Wastes are removed at the bottom of the tank typically every one to two weeks, so water does not accumulate in the tank. Also, the tank will seldom be completely empty even after a pickup of wastes so that the tank shell at the water/mineral spirits interface will seldom be exposed to air. Because there is only slight potential for corrosion at this interface, there is no need to modify the tank design.

ii. The National Fire Protection Agency identifies three types of fire hazards by degree. These ratings for the spent mineral spirits are 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°F, but not exceeding 200°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 Kaukauna, Wisconsin 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 is above ground, there will be no contact with the soil, and the only contact with water is from precipitation.

Protection of the tank was achieved by preparing the surface in compliance with the Steel Structure Painting Code SSPC-SP3-63T, and then painted with one coat of white oxide paint and two coats of alkyd base gloss white structural enamel to insure proper sealing.

The steel tank does not have a liner, but the tank shell thickness will not be affected internally by the mineral spirits. The mineral spirits is compatible with the carbon steel; therefore, minimum corrosion potential exists. All piping is specified Schedule 40 galvanized steel. Piping not located within the secondary containment areas is welded.

(4) This section of the regulations applies to underground tank systems only.

(5) Designs have been analyzed for the following:

i. Tank foundation maintain the load of the full tank. An analysis of this design was performed, resulting in the following stresses:

	MAX STRESS	ALLOWABLE STRESS
a. Concrete	100.5 psi	750 psi
b. Soil	1706 psf	2,000 psf

A copy of this analysis is enclosed.

ii. The tank system need not be anchored for flotation since it will not be placed in a saturated zone (i.e., this applies to underground tanks only). Also, because the facility location is not listed in Appendix VI of part 264, the EPA does not require compliance with seismic standards [264.18(a)].

iii. The dike containment walls and slab are reinforced concrete constructed over 6 inches of compacted gravel according to Safety-Kleen drawing No. C10248. Frost heave and periodic freeze-thaw cycles may cause some differential movements and settlements of the slab which could result in cracking. Routing and sealing of cracks on a periodic basis may be necessary in the future to ensure the integrity of the secondary containment.

It therefore can be concluded that the tank is compatible with the hazardous waste being stored.

iv. Existing Corrosion Protection Measures

The tanks are painted white in order to reflect sunlight and to inhibit corrosion. The tanks are periodically repainted as needed.

v. Documented Age of Tank System

The 12,000-gallon used mineral spirits tank was placed in service in 1984 according to Safety-Kleen records.

vi. Results of Tank Integrity Examination

It is possible to visually detect very minor tank leaks (less than 0.05 gallons per hour) if they exist, due to the sharp contrast between the dark waste mineral spirits and the lighter colored tanks. GAS visually inspected the tank, piping, and ancillary equipment, and no leaks were observed. In addition to visual inspection, wall-thickness testing was performed on the tanks. A grid system testing procedure was followed using a UTM-110 hand-held ultrasonic digital thickness meter.

The thickness tests yielded the following results:

	Minimum Required Thickness (Inches)	Measured Thickness (Inches)
12,000-gallon tank (used mineral spirits)		
Shell thickness	.167	.198-.284
10,000-gallon tank (clean mineral spirits)		
Shell thickness	.167	.287-.311

The results of the thickness tests indicate that the tanks meet the minimum thickness requirements set forth by Underwriters Laboratories (UL 142), "Standards for Safety--Steel Aboveground Tanks" at the areas tested (see attached tank-test sheets).

40 CFR 265.193 Containment and Detection of Releases

This part of the Code of Federal Regulations addresses the compliance dates, applicability, design characteristics, and structural integrity of secondary containment for hazardous waste storage tank systems.

The following is a discussion of each item as it occurs in the Regulation.

40 CFR 265.193(a)

This paragraph of the regulation establishes the compliance dates for secondary containment.

- For the Kaukauna, Wisconsin facility, compliance is required at the time of construction.

40 CFR 265.193(b)

The secondary containment system must be:

1. Designed, installed, and operated to prevent migration of wastes or accumulated liquids out of the system to the soil, groundwater, or surface water at any time during the use of the tank system.

2. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

   - The secondary containment structure at the Kaukauna, Wisconsin facility, in regards to the requirements of 40 CFR 265.193(b), are discussed in the following Paragraphs (c) and (e).

40 CFR 265.193(c)

To meet the requirements of Paragraph (b), secondary containment systems must be at a minimum:

1. Constructed of materials which are compatible with the wastes, have sufficient strength and thickness to prevent failure owing to pressure gradients, climatic conditions, physical contact with the stored waste, and daily operational stresses.

   - The secondary containment walls are made of concrete which is nonreactive with the used mineral spirits to be stored. The dike walls are constructed of 8-inch thick reinforced concrete which would be sufficient to withstand the anticipated fluid pressures generated when the diked area is filled to its maximum containment volume (see attached stress calculations).

   - The dike containment walls and slab are reinforced concrete constructed over 6 inches of compacted gravel according to Safety-Kleen specifications. Due to frost penetration (35" average in the Kaukauna area), frost heave is considered to be a problem at the Kaukauna, Wisconsin, facility. Routing and sealing of any cracks or gaps as a result of weathering will be necessary in the future to ensure the integrity of the secondary containment.

2. Placed on a base capable of supporting the secondary containment system.

   - The concrete slab and tank support foundation were designed by others. GAS engineers have reviewed the as built construction documents to verify that environmental concerns have been properly addressed in the design documents.

- The secondary containment system does not place a significant load on its supporting concrete base. Maximum pressure on the concrete due to a filled tank is 100.5 pounds per square inch. Maximum pressure on supportive soils is 1706 pounds per square foot (see attached stress calculations).

3. Provided with leak-detection system that will detect failure in either the primary or secondary containment structure or detect the presence of a hazardous waste released or accumulated liquid in the secondary containment system within 24 hours.

   - Currently, there is no electronic leak detection equipment at the Kaukauna, Wisconsin, facility. The vertical waste tank is raised above the concrete floor on steel support structures and the bottom of the tank can be observed. Therefore, a visual inspection must be conducted at least every 24 hours to meet this requirement.

4. Sloped or otherwise designed to drain and remove liquids resulting from leaks, spills, or precipitation within 24 hours of occurrence.

   - The containment system is sloped slightly downward towards the southwest where a sump is located. Any spilled solvents would tend to migrate to this end of the secondary containment structure and could be removed via suction pump.

<u>40 CFR 265.193(d)</u>

The secondary containment for tanks must be one or more of the following:

1. A liner (external to the tank)
2. A vault
3. A double-walled tank
4. An equivalent device as approved by the Regional Administrator

   - The secondary containment at the Kaukauna, Wisconsin, facility is considered a concrete liner.

40 CFR 265.193 (e)

This paragraph deals with the specific design requirements of the secondary containment structures mentioned in Paragraph (d).

1. Pertains to exterior liners

   i. Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary.

      - The secondary containment structure in question is capable of holding 100 percent of the volume of the largest tank within its respective boundaries. (See attached dike volume calculations.)

   ii. Designed or operated to prevent run-on or infiltration of the precipitation into the secondary containment system, unless the system has sufficient excess capacity to contain precipitation from a 25-year, 24-hour rainfall event.

      - The secondary containment system has sufficient excess capacity to contain precipitation from a 25-year, 24-hour rainfall event .

   iii. Free of cracks or gaps.

      - All cracks and hairline fractures have been sealed. The interior dike slab and walls have been provided with an impermeable coating.

   iv. Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank.

      - The secondary containment system is capable of preventing lateral as well as vertical migration of the waste.

According to the Federal Register, Volume 53, Number 171, dated September 2, 1988, Page 34084 (see attached), concrete liner systems must also meet the more specific requirements of 40 CFR 265.193(e)(2)(iii) and (iv) in order to meet the general performance standards under 40 CFR 265.193 (e)(1)(iii) and (iv), which specify that the liner system be free of cracks or gaps and designed to prevent migration of waste.

2. Vault systems

i. See (1)(i) of this Paragraph.

ii. See (1)(ii) of this Paragraph.

iii. Constructed with chemical-resistant water stops in place at all joints.

- The construction joints detailed is between the dike walls and base. Existing design drawings do not show water stops at this construction joint.

iv. Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of the waste into the concrete.

- The interior dike slab and walls has been provided with an impermeable coating to prevent migration of the waste into the concrete.

40 CFR 265.193 (f)

This paragraph states that all ancillary equipment must be provided with secondary containment that meets the requirements of Paragraphs (b) and (c) of this Section except for:

1. Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis.

2. Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis.

- All piping is aboveground. All piping, valves, flanges, and connections are visually inspected for leaks each day.

CONCLUSION

In view of all of the topics discussed above, it can be concluded that the design and installation (as-built) plan of Safety-Kleen Corporation's existing aboveground hazardous waste storage tank system and secondary containment at the Kaukauna, Wisconsin service center are in compliance with Chapter 40 of the Code of Federal Regulations, Section 265.191, and Section 265.193.

Respectfully submitted,

GRAEF, ANHALT, SCHLOEMER
& ASSOCIATES INC.

John C. Schwabe
Environmental Specialist

JCS:fls

CC: B. Heyne
R. Karass
R. Peoples

enclosures

CERTIFICATION STATEMENT

I, Jerome S. Chudzik, have reviewed the design of the upgrading of an aboveground hazardous waste storage system located at 2100 Badger Road, Kaukauna, Wisconsin, which is owned and operated by Safety-Kleen Corporation. My duty was a post-construction evaluation of the tank system as built, and its concrete secondary containment structure, as required by the Resource Conservation and Recovery Act (RCRA) regulations, namely 40 CFR 265.191, Paragraphs a) through e), and 40 CFR 265.193 Paragraghs a) through 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 and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Jerome S. Chudzik, P.E.
Wisconsin Professional Engineer
License Number E-11809

CONTAINMENT WALL CHECK

WALL HEIGHT = 4'-0" t = 8" d = 3.5"

M_u = 1.7(65)(4³)6 = 1179'#/FT

$R_u = \frac{1179(12)}{.9(12)(3.5^2)}$ = 106.91 psi ρ = .0018 INC 1/3 R_u = .0024

As REQ'D = .10 in²/FT < .20 in²/FT (#4 @ 12" oc) OK

TEMP & SHRINKAGE REINF

VERT .0015(8)(12) = .14 in²/FT < .20 OK
HORIZ .002(8)(12) = .19 in²/FT < .62 (#5 @ 6" oc) OK

15000 GALLON VERTICAL TANK

DEAD WEIGHT = 10386.1# (PREVIOUS CALC)

M_{OT} = 20(10.5)(.6)(25.58²)/2 = 41223.2'#

M_R = 10386.1 (10.33/2 = 53644.2'# FS = 1.3

4 ANCHOR BOLTS ARE ADEQUATE TO PROVIDE A 1.5 FACTOR OF SAFETY

CONTENT WEIGHT 15000(8.34)(.95) = 118845#

TOTAL WEIGHT = 1.1(10386.1) + 118845 = 130270#

AREA OF FLANGE = 9 □' → 1296 □"

CONCRETE PRESSURE = 130270/1296 = 100.5 psi < 750 psi OK

SOIL PRESSURE

ASSUME 30" WIDTH CENTERED ON SKIRT

A = (12.83² − 7.83²)π/4 = 81.13 □'

$q = \frac{130270}{81.13}$ + 100 = 1706 psf < 2000 psf OK

PROJECT NO. 907719 DATE 4-2-90 BY JCS	SHEET 1
NAME S-K KAUKAUNA WI Branch	

DIKE VOLUME CALCULATIONS

(1) 12,000 GALLON FLAT Bottom Vertical TANK
(1) 12,000 GALLON CONE Bottom Vertical TANK
(1) 15,000 GALLON F+D Vertical TANK

FORMULAE USED:

$(\pi r^2 H)(7.48\ GAL/CU.FT)$ = FLAT Bottom TANK Displacement VOL. (GA

$\pi r^2 (h_2/3)(7.48\ GAL/FT^3)$ = Cone Bottom TANK Displacement VOL (G

r = (TANK RADIUS) = 5.25'
r_2 = (CONE TANK RADIUS) = 6.0'
L = (DIKE LENGTH) = 48.667'
W = (DIKE WIDTH) = 18.5'
H = (DIKE HEIGHT) = 4.0
h_2 = (CONE TANK SEGMENT) = 2.33'

DIKE VOLUME

(48.67)(18.5)(4.0)(7.48 GAL/FT³) = 26,096.5 GAL(

TANK PAD DISPLACEMENT

(45)(15)(1.66')(7.48 GAL/FT³) = 8,415.3 GAL(

VOLUME OF LARGEST TANK + (10% SAFTEY factor) = 16,500.0 GAL(

TANK DISPLACEMENT VOLUMES

FLAT Bottom · $\pi(5.25)^2(4)(7.48\ GAL/FT^3)$ = 2,590.0 GAL(

CONE Bottom $\pi(r_2)^2(2.33'/3)(7.48\ GAL/FT^3)$ = 658.0 GAL(

RAINFALL ALLOWANCE 25 Yr/24 HR EVENT = 4"

(48.67')(18.5')(4/12')(7.48 GAL/FT³) = 2245.0 GAL(

TOTAL EXCESS = 4,103.5 GAL

S.K

ERNST ANNHALT SCHLOEMER & ASSOCIATES INC CONSULTING ENGINEERS

TANK INSPECTION FOR WALL THICKNESS

TANK NUMBER #1 - 10,000 GALLON

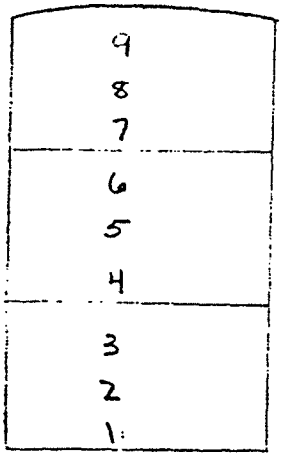
TANK LOCATION S-K KAUKAUNA WI.

DATE OF TEST 3-2-90

DATE OF PREVIOUS TEST —

MATERIAL CARBON STEEL

CONTENTS CLEAN MINERAL SPIRITS



TESTING INSTRUCTIONS

Measure the tank wall thickness using an ultransonic gauge. Measure at three levels on the cone bottom and on the bottom two rings. .Measure one (1) inch from each weld line and in the center of the cone and each measured ring Make four (4) measurements at each level - north, east, south, and west. Record the readings in the table.

Send one copy to corporate engineering. Retain the original in the plant files.

	NORTH	EAST	SOUTH	WEST	TOP	BOTTOM
1	.287	.298	.296	.289		.274
2	.290	.301	.301	.296		.310
3	.291	.297	.296	.293		.304
4	.296	.302	.298	.294		.312
5	.304	.309	.311	.298		
6	.297	.306	.298	.293		
7	.293	.288	.296	.291		
8	.300	.294	.293	.288		
9	.289	.302	.297	.289		
10						
11						
12						

NOTES, RECOMMENDATIONS, REPAIRS, ETC.

TANK INSPECTOR: John Schwalk INSTRUMENT USED: UT [illegible]

GRAEF ANHALT SCHLOEMER & ASSOCIATES INC CONSULTING ENGINEERS

TANK INSPECTION FOR WALL THICKNESS

TANK NUMBER # 2 - 12,000 GALLON CONE BOTTOM

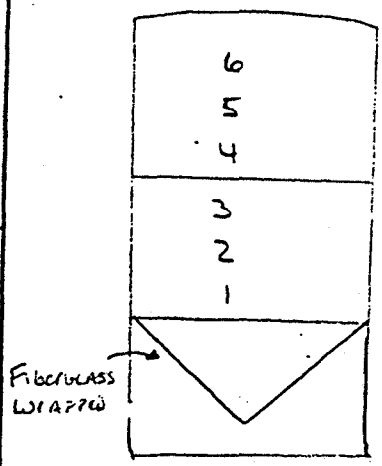
TANK LOCATION S-K KAUKAUNA WI

DATE OF TEST 3-2-90

DATE OF PREVIOUS TEST —

MATERIAL Carbon Steel

CONTENTS WASTE MINERAL SOLIDS



TESTING INSTRUCTIONS

Measure the tank wall thickness using an ultransonic gauge. Measure at three levels on the cone bottom and on the bottom two rings. Measure one (1) inch from each weld line and in the center of the cone and each measured ring Make four (4) measurements at each level - north, east, south, and west. Record the readings in the table.

Send one copy to corporate engineering. Retain the original in the plant files.

	NORTH	EAST	SOUTH	WEST	TOP	BOTTOM
1	.260	.268	.260	.265		
2	.261	.276	.261	.271		
3	.284	.281	.265	.291		
4	.272	.176	.264	.205		
5	.219	.186	.261	.188		
6	.198	.198	.276	.189		
7						
8						
9						
10						
11						
12						

NOTES, RECOMMENDATIONS, REPAIRS, ETC.
(BOTTOM 1/3 OF TANK SHELL UNABLE TO TEST)

TANK INSPECTOR: JOHN SCHMIDT INSTRUMENT USED: UTM 110

Numerous inquirers took this provision to mean that the Agency was intending that a leak detection capability be provided both within, and external to, the secondary containment structure. Several other inquirers requested clarification of whether the Agency requires detection of failure of either the primary or secondary containment structures or the presence of any release, or both.

Under this provision, EPA intended that the leak detection component of a secondary containment system promptly detect any release from the primary structure into the secondary containment structure. EPA used the wording, "Provided with a leak detection system that is designed and operated so that it will detect failure of either the primary or secondary containment structure", to ensure that double-walled tanks which detect failure of either the primary or the secondary containment structure (e.g., via loss of pressure in the interstitial space between the two walls) meet the requirements of §§ 264.193(b) and 265.193(b). This provision should not be interpreted to require leak detection outside of the secondary containment structure in order to detect failure of the secondary containment structure.

5. Requirements for Concrete Liners

In 40 CFR 264.193(e) (1) and (2), and 265.193(e) (1) and (2), EPA promulgated standards applicable to external liners and vault systems. The external liner requirements of 40 CFR 264.193(e)(1) and 265.193(e)(1) address the subject of liners generically. For example, they do not differentiate between synthetic membrane liners and concrete. On the other hand, the requirements for vault systems under 40 CFR 264.193(e)(2) and 265.193(e)(2) are applicable only to concrete.

However, EPA did not intend that concrete used, for example, as a base and diking material for secondary containment of an aboveground tank or onground tank should be subject to requirements significantly different from concrete that is used in the construction of a secondary containment vault. Certain of the requirements promulgated for concrete vaults are appropriate and are intended to be applied to situations where concrete is used in the construction of any secondary containment structures. Thus, concrete liner systems must also meet the more specific requirements of 40 CFR 264.193(e)(2) (iii) and (iv) and 265.193(e)(2) (iii) and (iv) in order to meet the general performance standards under 40 CFR 264.193(e)(1) (iii) and (iv) and 265.193(e)(1) (iii) and (iv), which specify that the liner system be free of cracks or gaps and designed to prevent migration of the waste. Chemical-resistant water stops at all joints, as specified in 40 CFR 264.193(e)(2)(iii) and 265.193(e)(2)(iii) are appropriate for any concrete structure serving as a secondary containment device. Likewise, given the relative permeability of concrete, the Agency believes that most secondary containment concrete structures, vaults or otherwise, will require an impermeable coating or lining that will prevent migration of waste into the concrete as specified in 40 CFR 264.193(e)(2)(iv) and 265.193(e)(2)(iv). Such coating or lining must also be compatible with the waste(s) managed within the secondary containment structure.

6. Secondary Containment of Pressurized Piping with Automatic Shut-Off Devices.

EPA has received a number of questions regarding the exemption from secondary containment of pressurized piping with automatic shut-off devices.

Under 40 CFR 264.193(f)(4) and 265.193(f)(4), aboveground pressurized piping systems with automatic shutoff devices that are visually inspected on a daily basis are exempt from the secondary containment requirement. Furthermore, this provision allows this exemption even if welded flanges, welded joints, welded connections, sealless valves, and sealless or magnetic coupling pumps are not used. However, the Agency is reconsidering this exemption. EPA may have overestimated the effectiveness of automatic shut-off devices. Although these devices should certainly limit the quantity of waste released in case of a substantial failure somewhere in the piping system (e.g., pipe rupture), they would be unlikely to have any effect on reducing the number or size of releases in piping systems due to small or slow leaks at valves, connections, flanges, etc.

It was not EPA's intent to prescribe less importance to small leaks in pressurized piping systems. In fact, such less-than-major leaks would be of greater concern in pressurized piping systems compared to nonpressurized systems due to the potential to release larger quantities of hazardous waste.

Thus, the Agency believes that it may be prudent to require all aboveground piping systems, pressurized as well as nonpressurized, and even with automatic shut-off devices, to use welded joints, sealless valves, sealless or magnetic coupling pumps, etc., in order to be exempted from the secondary containment requirement. In fact, automatic shut-off devices may also need to be welded so as not to be a source of leakage. Using this approach, automatic shut-off devices might be used to protect against catastrophic releases and serve as a means to limit the size of the secondary containment system(s), where needed, rather than serve as a means for the entire piping system to be exempted from secondary containment. EPA is considering proposing such an amendment to the tank system standards in the near future.

C. Extent of Cathodic Protection for Primary Tanks

EPA received several inquiries regarding the intent of the 40 CFR 264.193(e)(3)(ii) and 265.193(e)(3)(ii). That regulation specifies double-walled tanks must be "protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell * * *." Apparently, this wording has been interpreted to mean that cathodic protection must be provided for the interior surface of the primary tank. This was not EPA's intent.

With respect to the interior of the primary tank, this requirement was chiefly intended to address the excessive or accelerated corrosion of the primary tank's interior surface resulting from incompatibility between the tank construction material and the stored waste(s). This provision thus reiterates the requirement found elsewhere in the standards (e.g., 40 CFR 264.191(b), 264.192(a)), that accelerated corrosion of the primary tank's interior surfaces must be prevented. However, this provision does not mandate cathodic protection of the interior surface of primary tank structures.

D. Application of the Immediate Response Exemption to Sumps

As part of the settlement of the *EEI* litigation, EPA agreed to clarify the applicability of the immediate response exemption under 40 CFR 264.1(g)(8) and 265.1(c)(11) to sumps. The July 14, 1986, final rule discussed three types of sumps that may be regulated as tanks under this revised rule: "temporary tanks," secondary containment sumps, and primary containment tanks. With respect to temporary tanks, i.e., tanks used for storage of waste in response to a leak or spill, and other temporary, unplanned occurrences, the Agency stated that no Subpart J standards were applicable since such storage was exempted from these regulatory requirements under 40 CFR 264.1 (g)(8), and 265.1(c)(11) (51 FR 25445). Those sections (along with 40 CFR 270.1(c)(3))

TERA, inc.

3100 South Gessner Road • Suite 650 • Houston, Texas 77063
P.O. Box 770039 • Houston, Texas 77215-0039
Tel. (713) 783-6292 • Fax (713) 783-3698

96-400-048

TANK SYSTEM INTEGRITY ASSESSMENT CERTIFICATION

I have directed or performed all portions of an assessment of the integrity of the Used Solvent storage tank system at the Safety-Kleen Corp. facility in Kaukauna, Wisconsin. The EPA ID Number for this facility is WID 981187297. This work is described and documented in the attached TERA, Inc. Report No. 96-400-048 dated September 30, 1996.

With regard to this duty, I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all related attachments and that, based on my observations and 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.

Thomas H. Wimbrow

Registered Professional Engineer

Wisconsin No. 31349

TERA, Inc.

P. O. Box 770039

Houston, Texas 77215-0039

Signed: Thomas H. Wimbrow

Date: SEPT 30, 1996

TERA, inc.

3100 South Gessner Road • Suite 650 • Houston, Texas 77063
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Tel. (713) 783-6292 • Fax (713) 783-3698

September 30, 1996
96-400-048

SAFETY-KLEEN CORP.
2200 South West Avenue
Waukesha, Wisconsin 53186

Attention: Ms. Melissa Maguire

Subject: **Five Year Integrity Assessment**
Used Solvent Storage Tank System
Kaukauna, Wisconsin

Dear Ms. Maguire:

Submitted here is our integrity assessment report for the used solvent storage tank system at Safety-Kleen's Kaukauna facility. The main report body summarizes assessment results in a format corresponding to the rules being addressed. An appendix is used for presenting detailed information and documentation.

We have enjoyed working with you on this interesting project, and look forward to another opportunity to be of service to Safety-Kleen. Please contact us at 713/783-6292 if you have any questions.

Very truly yours,

TERA, Inc.

T. R. Barker, II, P.E.
Principal

Thomas H. Wimbrow, P.E.
President and Chief Engineer

TRB/da

Attachment: TERA, Inc. Report No. 96-400-048

96-400-048

FIVE YEAR INTEGRITY ASSESSMENT
USED SOLVENT STORAGE TANK SYSTEM
KAUKAUNA, WISCONSIN

* * *

For

SAFETY-KLEEN CORP.

* * *

By

TERA, Inc.
Houston, Texas

September, 1996

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ILLUSTRATIONS

TANK SYSTEM INTEGRITY ASSESSMENT

TERA, Inc. was retained by Safety-Kleen Corp. to assess the structural and leak integrity of the Used Solvent storage tank system components at the Safety-Kleen Corp. facility in Kaukauna, Wisconsin. The EPA ID Number for this facility is: WID 981187297. The assessments and inspections documented in this report were performed to assess the condition of the system components (especially with respect to leaks, cracks, corrosion, and erosion) in order to identify deterioration of system components which might be causing or might lead to release of hazardous waste constituents to the environment or a threat to human health.

SYSTEM DESCRIPTION

Used mineral spirits cleaning solvent material collected from off-site generators is poured from containers into either of two open-top aboveground steel solvent return receptacles (drum washer/dumpsters). The used solvent material is then pumped from these receiving receptacles through aboveground piping to an aboveground storage tank. Accumulated used solvent is periodically pumped from the storage tank to a tank truck for transport to an off-site recycling center. Sludge and solids which accumulate in the tank are removed periodically through a manway for off-site disposal at a permitted facility. Sludge and solids retained in the drum washer/dumpsters is also placed in drums for off-site disposal.

The Used Solvent storage tank is a 13,500 gallon capacity vertical steel tank with a 45 degree cone bottom and a flat roof. It is supported by a steel support skirt. The tank is vented to the atmosphere to prevent damage due to over- or under-pressuring. A high level alarm is provided which signals the operators and automatically shuts off the tank inlet transfer pump to prevent overfilling of the tank. The liquid level in the tank can be monitored daily using a level indicator provided.

SYSTEM DESCRIPTION (Continued)

The Used Solvent tank is located within an aboveground coated concrete secondary containment vault. The drum washer/dumpsters, transfer pump, and transfer pump filter are located above steel secondary containment pans at the "return and fill" station. The valves and hose connections at the truck loading station are also provided with secondary containment by a metal "tank access container". All system piping outside of containment areas is aboveground, accessible for detection of leakage, and uses welded joints and connections.

SCOPE OF ASSESSMENT

This assessment covers the Used Solvent storage tank system components from the points of waste receipt (the drum washer/dumpsters) to the point of disposal (the truck loading station). The scope of this assessment therefore includes the two drum washer/dumpsters, the transfer pump, the transfer pump filter, the 13,500 gallon storage tank, the truck loading connection, the aboveground piping which connects those components, and the secondary containment provisions for the system primary containment components.

INTEGRITY ASSESSMENT METHODS USED

Visual Inspection

The exterior of all system primary and secondary containment components was visually inspected by TERA personnel to assess their general condition and to look for evidence of past or current leaks or spills, corrosion, erosion, cracks, physical damage, or other problems or deterioration. The condition of all system component coatings and corrosion protection features was also observed to detect cracks, chips, peeling, or other deterioration.

INTEGRITY ASSESSMENT METHODS USED (Continued)

Ultrasonic Thickness Measurements

The wall thickness of the tank shell was measured in selected locations by TERA personnel in order to detect corrosion and to determine if the wall thickness was sufficient for continued service. All thickness measurements were taken with a calibrated digital ultrasonic thickness meter.

Component Leak Testing

TERA personnel also witnessed leak testing of all of the system primary containment components. The Used Solvent storage tank was subjected to a hydrostatic test and its surfaces, joints, seams, and connections were observed while under pressure for evidence of leakage.

The drum washer/dumpsters, transfer pump, filter, and the piping between the return and fill station and the Used Solvent tank and the piping between the tank and the truck loading connection were also leak tested by filling the components with used solvent, operating the transfer pump and observing the components, joints, and connections for evidence of leakage or other problems while at operating pressure.

SUMMARY OF INSPECTION AND TEST RESULTS

Detailed documentation of the inspection and testing performed is included in the Appendix of this report. Results of the inspections and tests are summarized below.

SUMMARY OF INSPECTION AND TEST RESULTS (Continued)

Visual inspection of the system primary containment components disclosed no evidence of leaks or cracks or significant corrosion, erosion, or other deterioration of the system components. All of the system primary containment components were found to be in good condition and satisfactory for continued service.

The hydrostatic test of the Used Solvent tank was successful, with no leaks or other problems observed. The operating pressure tests of the drum washer/dumpsters, piping from the drum washer/dumpsters to the tank, and the piping from the tank to the truck loading station were also satisfactory, with no leaks or other problems observed.

The ultrasonic wall thickness measurements of the Used Solvent tank indicate that the tank wall thickness is satisfactory for its service. There were no indications of significant corrosion or erosion of the tank or other component wall thicknesses.

Visual inspection of the system secondary containment components indicated that they were also in satisfactory condition with no evidence of cracks, gaps, or other defects or deterioration. The paint and exterior coatings applied to the system primary containment components and the inside of the tank containment vault were found to be in satisfactory condition with no significant cracks, peeling, or other deterioration observed.

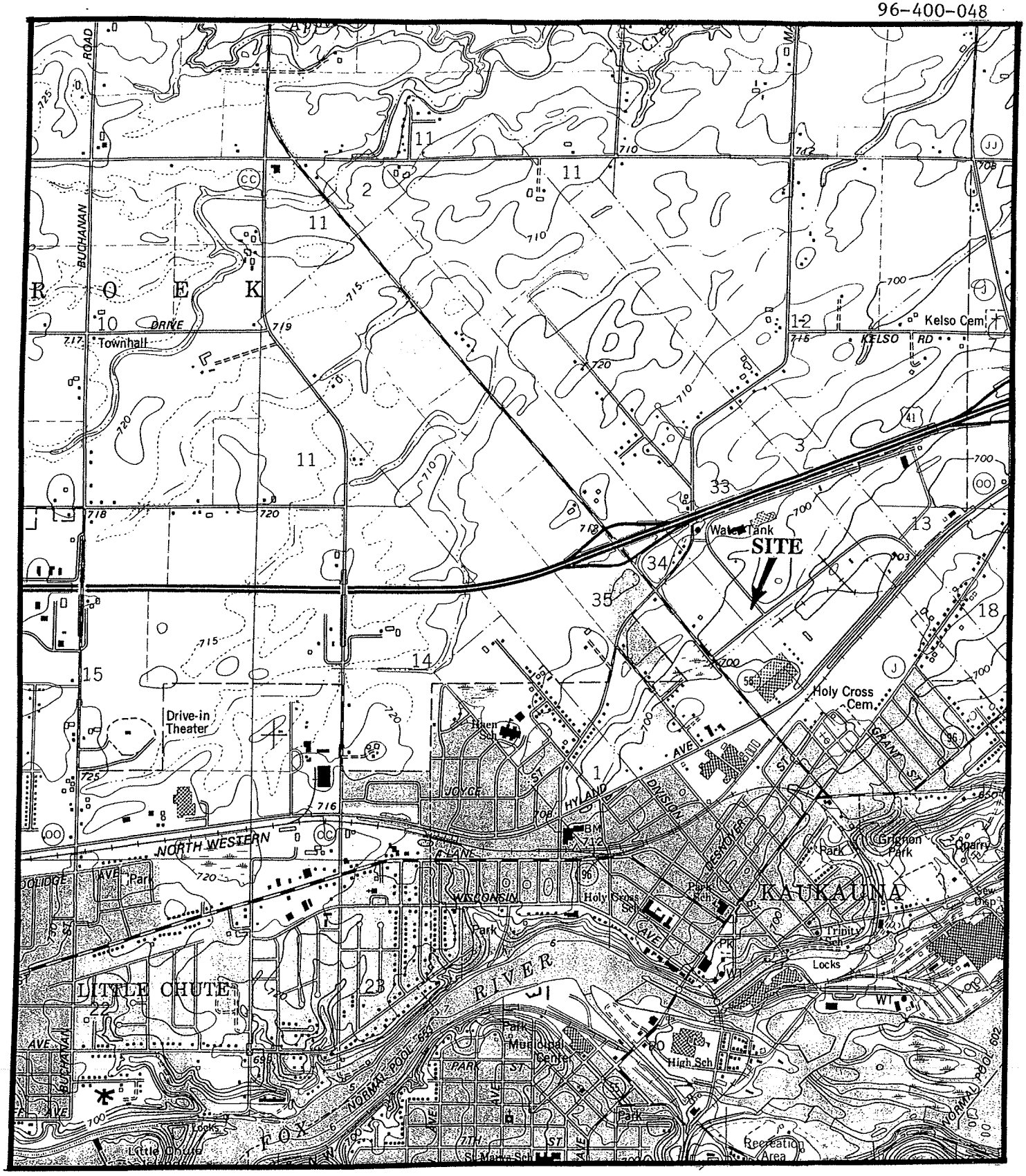
CONCLUSIONS OF ASSESSMENT

Based on the assessments performed and the information presented above and included in the Appendix of this report, we conclude that the components of the Used Solvent storage tank system at the Safety-Kleen Corp. facility in Kaukauna,

CONCLUSIONS OF ASSESSMENT (Continued)

Wisconsin are free of leaks, cracks, and erosion or significant corrosion or other defects. No defects or deterioration of system components were found which were causing or might lead to the release of hazardous waste to the environment or a threat to human health. The system components, including the drum washer/dumpsters, Used Solvent tank, piping, pump, filter, and other ancillary equipment items, and the system secondary containment provisions, are in a condition suitable for continued service.

ILLUSTRATIONS



SCALE 1:24 000

1 0 1 MILE

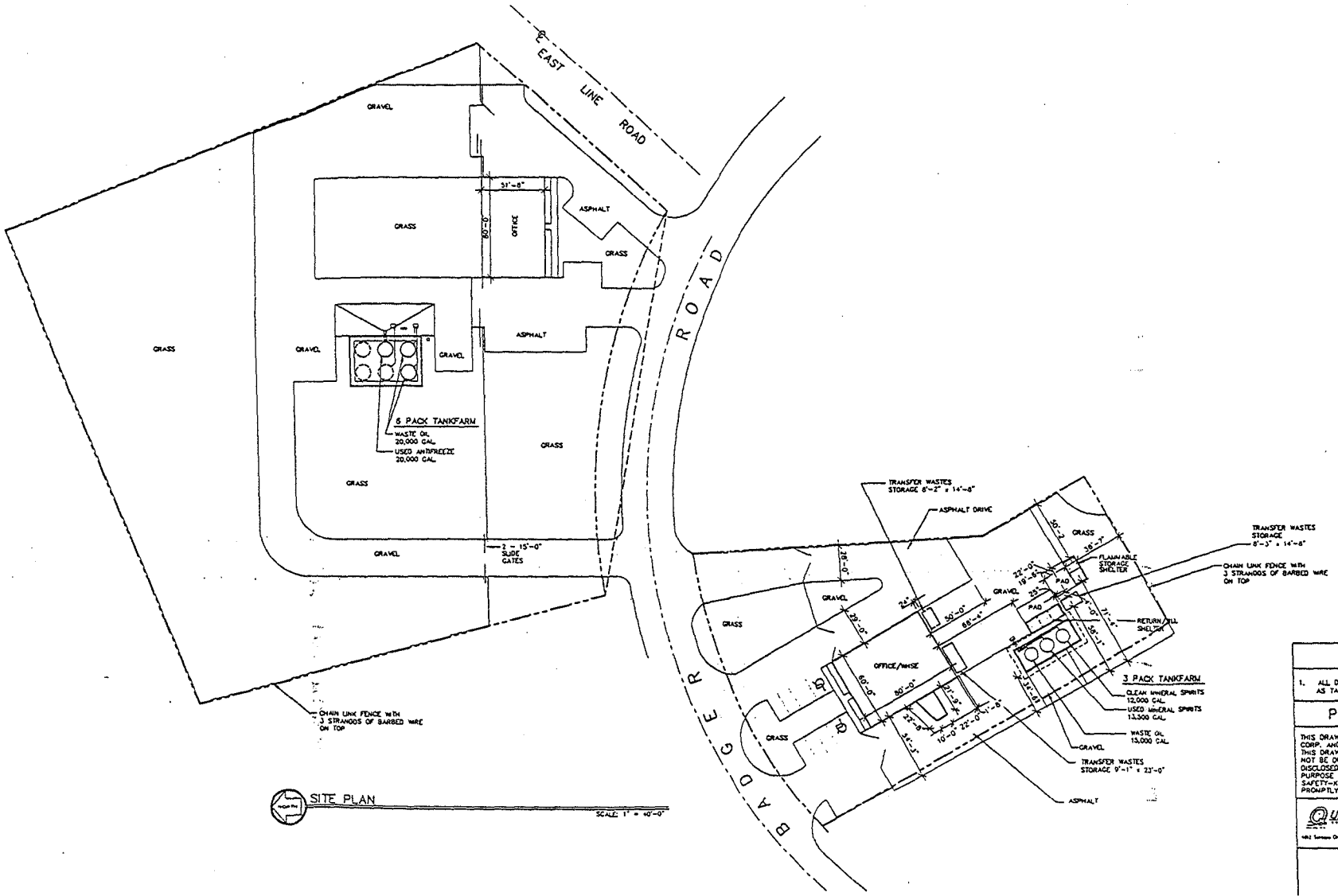
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

SK site location as shown on the U.S. Geological Survey 7 1/2 minute topographic base map: Kaukauna, WI. Photorevised 1984.

PLATE 1

96-400-048



GENERAL NOTES

1. ALL DIMENSIONS ON THIS PLAN ARE FIELD MEASUREMENTS AS TAKEN BY QUESTEC CORP. 7-22-92.

PROPRIETARY STATEMENT

QUESTEC — CONSULTING ENGINEERS

PLATE 2

NO.	DESCRIPTION	BY	CHK	APPR	DATE
	REVISIONS				

TITLE: AS-BUILT SITE PLAN

SAFETY-KLEEN CORP.

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 708-697-8460

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1" = 40'-0"	QuesTec				10-29-92

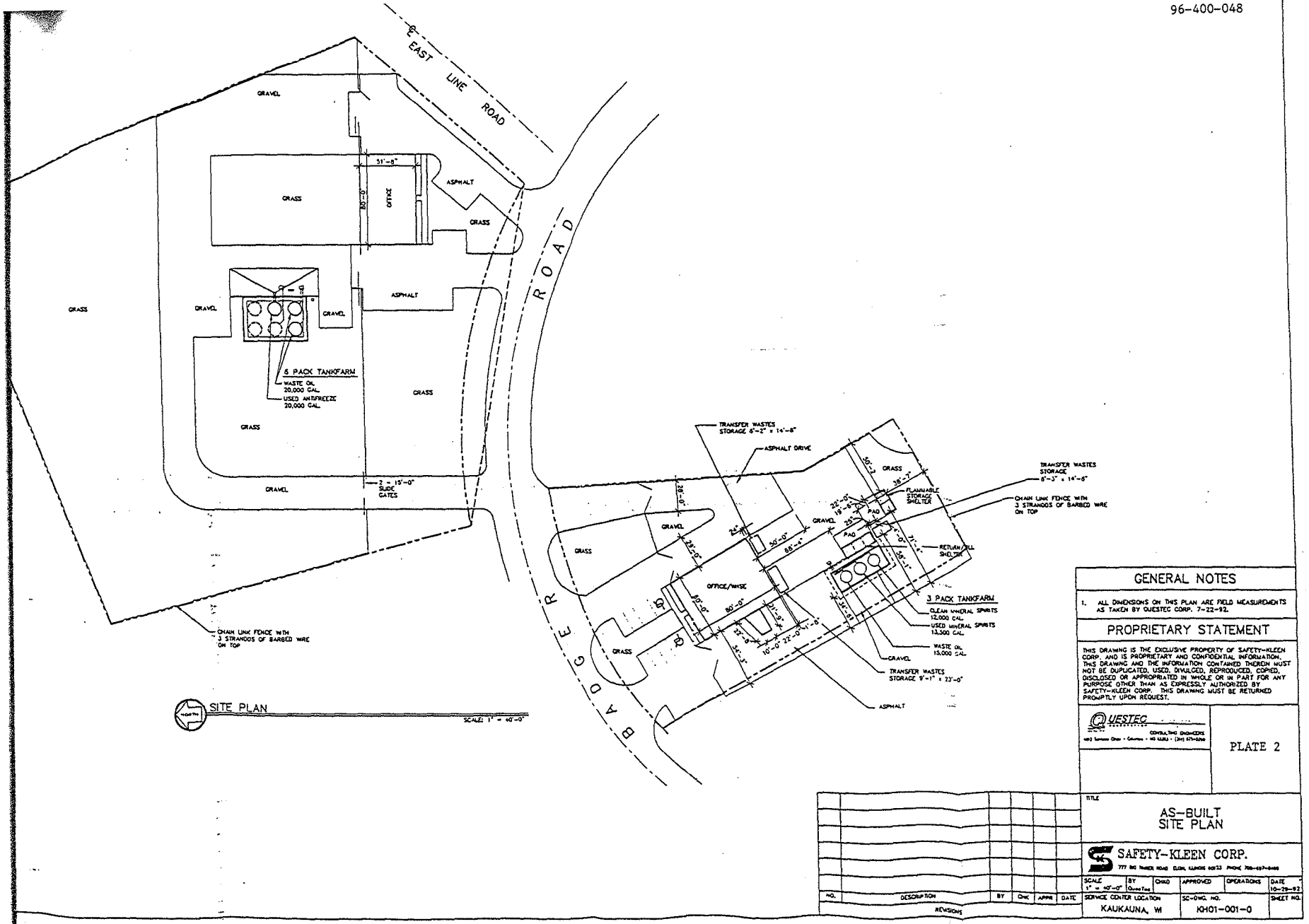
SERVICE CENTER LOCATION: KAUKAUNA, WI

SC-DWG. NO.: KH01-001-0

SHEET NO.

12-07-92 2:00PM KH010010.DWG

96-400-048



GENERAL NOTES

1. ALL DIMENSIONS ON THIS PLAN ARE FIELD MEASUREMENTS AS TAKEN BY QUESTEC CORP. 7-22-92.

PROPRIETARY STATEMENT

QUESTEC CONSULTING ENGINEERS

PLATE 2

NO.	DESCRIPTION	BY	CHK	APPR	DATE

REVISIONS

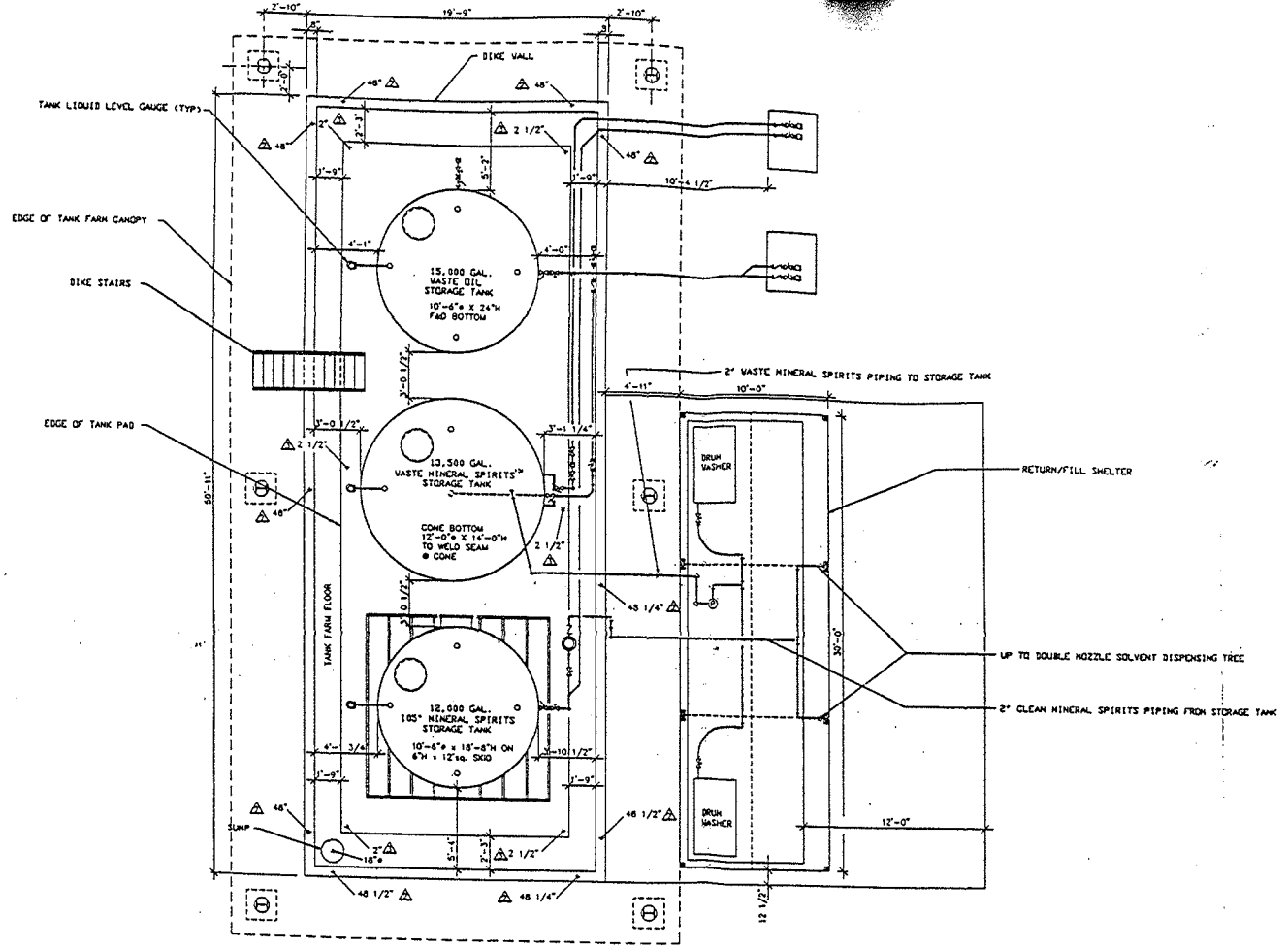
TITLE: AS-BUILT SITE PLAN

SAFETY-KLEEN CORP.

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1" = 40'-0"	QuestTec				10-29-92

SERVICE CENTER LOCATION	SC-DWG. NO.	SHEET NO.
KAUKAUNA, WI	KH01-001-0	

96-400-048



3-PACK TANK FARM PLAN

SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. ALL DIMENSIONS ON THIS PLAN ARE FIELD MEASUREMENTS AS TAKEN BY QUESTEC CORP. 7-22-92.
2. △ INSIDE DIKE WALL HEIGHT.
3. △ TANK PAD THICKNESS.

PROPRIETARY STATEMENT

QUESTEC — CONSULTING ENGINEERS

PLATE 3

NO.	DESCRIPTION	BY	CHK	APPR	DATE
	REVISIONS				

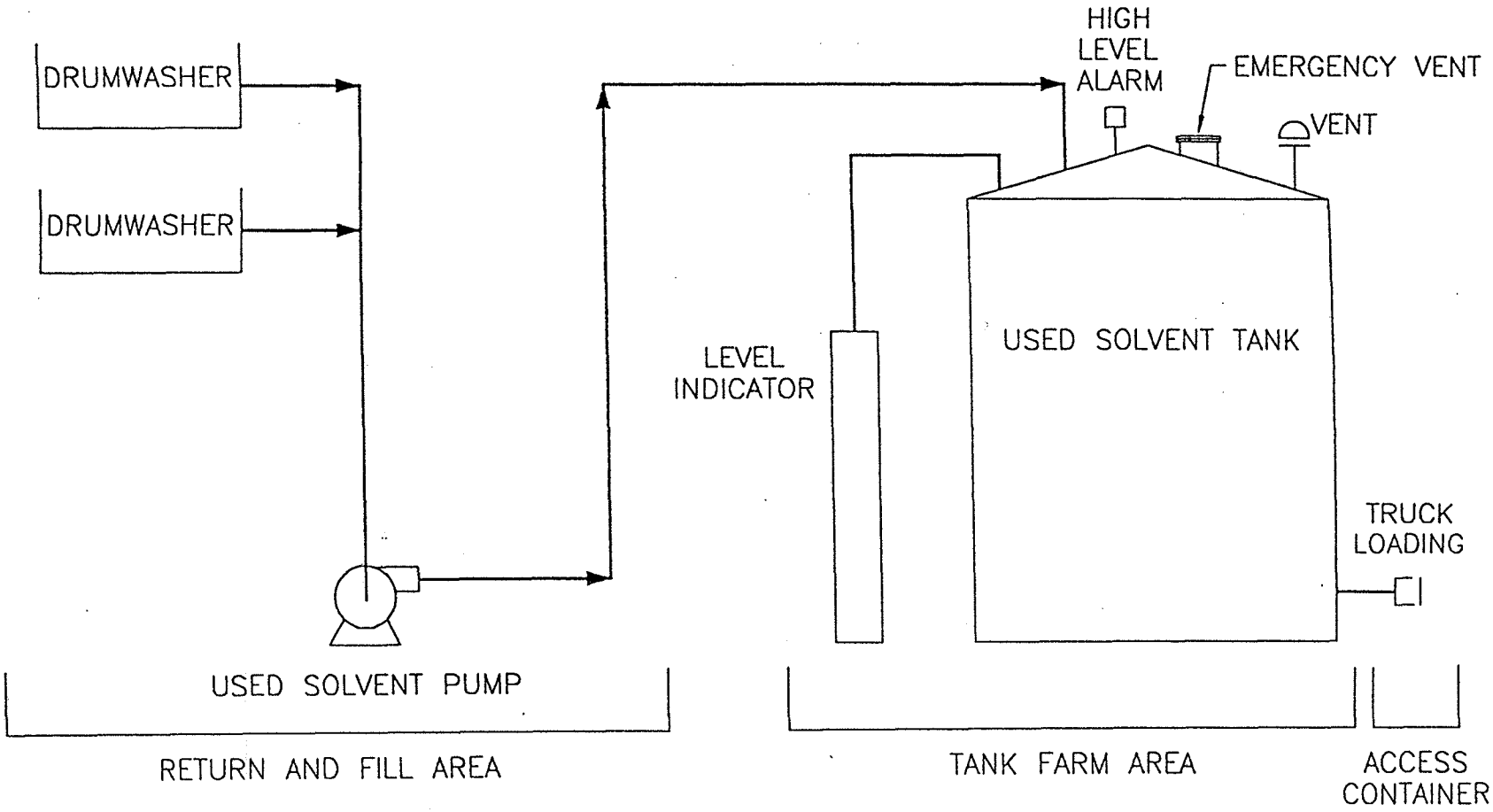
TITLE: AS-BUILT 3 PACK TANKFARM / SHELTER PLAN

SAFETY-KLEEN CORP.

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	Quad Fab				10-29-92
SERVICE CENTER LOCATION: KAUKAUNA, WI	SC-DWG. NO.: KH01-200-0				SHEET NO.

12-12-92 11:45PM KH012000.DWG

TERA, INC.



SYSTEM SCHEMATIC

PLATE 4

96-400-048

APPENDIX A

Inspection and Test Documentation

TABLE OF CONTENTS

TERA, INC.

TANK/DRUM INSPECTION RECORD A-1

		Sheet:	1 of 1
CLIENT:	SAFETY-KLEEN CORP.	Job No.:	96-400-048
PLANT LOCATION:	Kaukauna, Wisconsin	Date:	8/27/96
TYPE INSPECTION:	Exterior	By:	TRB
ITEM NO.	CODE: UL 142	Year Built:	1984

SERVICE: Used Solvent Storage

CAPACITY: 13,500 gal. TANK/DRUM TYPE: Deep Cone Bottom with flat top

DIAMETER: 12'ϕ X 14' high shell

	ROOF	SHELL	BOTTOM	JACKET
MATLS:	Carbon Steel	Carbon Steel	Carbon Steel	N/A

ROOF CONDITION:	No access
SHELL CONDITION:	Satisfactory
BOTTOM CONDITION:	Satisfactory
JACKET CONDITION:	Not applicable, insulated with insulation
SUPPORT TYPE:	Skirt on reinforced concrete slab on grade
FOUNDATION CONDITION:	Satisfactory
INTERNAL STRUCTURE CONDITION:	Not applicable
WELDED/FLANGED JOINT CONDITION:	Satisfactory
NOZZLE CONDITION:	Satisfactory
LINING/COATING CONDITION:	Paint satisfactory
INSULATION CONDITION:	Satisfactory
SAFETY VALVE CONDITION:	No access
SIGNS OF CRACKS:	None
SIGNS OF LEAKAGE:	None
SIGNS OF CORROSION:	None
SIGNS OF EROSION:	None

TIGHTNESS TEST? Yes TYPE: Static RESULTS: No leaks observed

OPERATING CONDITIONS: MAX TEMP: Amb MAX PRESS: Amb VAC: None

REFERENCE INSPECTION RECORDS: See TERA Report No. 96-400-048

COMMENTS: Tank part of a standard Safety-Kleen 3-pack tank farm with a roof canopy. (Clean 105 Product - 12,000 gallon on the south; Clean 150 Product - 15,000 gallon on the north.)

TERA, INC.

TANK/DRUM INSPECTION RECORD A-1

		Sheet:	1 of 1
CLIENT:	SAFETY-KLEEN CORP.	Job No.:	96-400-048
PLANT LOCATION:	Kaukauna, Wisconsin	Date:	8/27/96
TYPE INSPECTION:	Exterior	By:	TRB
ITEM NO.	CODE: UL 142	Year Built:	Unknown

SERVICE: Used Solvent Storage

CAPACITY: 13,500 gal. TANK/DRUM TYPE: Deep Cone Bottom with flat top

DIAMETER: 12'ϕ X 14' high shell

	ROOF	SHELL	BOTTOM	JACKET
MATLS:	Carbon Steel	Carbon Steel	Carbon Steel	N/A

ROOF CONDITION:	No access
SHELL CONDITION:	Satisfactory
BOTTOM CONDITION:	Satisfactory
JACKET CONDITION:	Not applicable, insulated with insulation
SUPPORT TYPE:	Skirt on reinforced concrete slab on grade
FOUNDATION CONDITION:	Satisfactory
INTERNAL STRUCTURE CONDITION:	Not applicable
WELDED/FLANGED JOINT CONDITION:	Satisfactory
NOZZLE CONDITION:	Satisfactory
LINING/COATING CONDITION:	Paint satisfactory
INSULATION CONDITION:	Satisfactory
SAFETY VALVE CONDITION:	No access
SIGNS OF CRACKS:	None
SIGNS OF LEAKAGE:	None
SIGNS OF CORROSION:	None
SIGNS OF EROSION:	None

TIGHTNESS TEST? Yes TYPE: Static RESULTS: No leaks observed

OPERATING CONDITIONS: MAX TEMP: Amb MAX PRESS: Amb VAC: None

REFERENCE INSPECTION RECORDS: See TERA Report No. 96-400-048

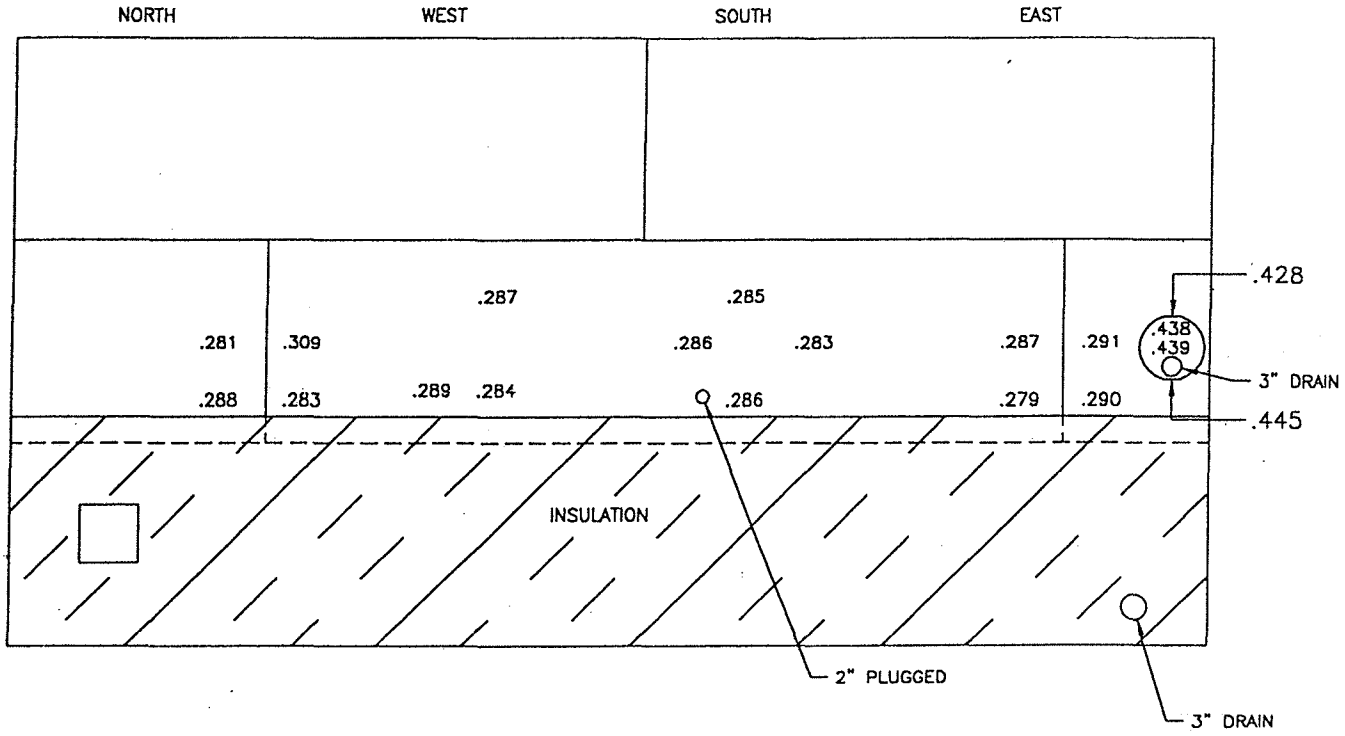
COMMENTS: Tank part of a standard Safety-Kleen 3-pack tank farm with a roof canopy. (Clean 105 Product - 12,000 gallon on the south; Clean 150 Product - 15,000 gallon on the north.)

TERA, INC. A-2

ULTRASONIC THICKNESS INSPECTION RECORD

		SHEET:	1 of 1
CLIENT:	SAFETY-KLEEN CORP.	JOB NO.:	96-400-048
PLANT LOCATION:	Kaukauna, Wisconsin	DATE:	8-27-96
TYPE INSPECTION:	UT Inspection of Tank Plate		

ALL READINGS ARE IN INCHES
TAKEN WITH HANDHELD T-MIKE
THROUGH PAINT.



USED SOLVENT TANK

DEEP CONE

TERA, Inc.

CONTAINMENT INSPECTION RECORD

A-3

Sheet: 1 of 1

CLIENT: Safety-Kleen Corp. Job No.: 96-400-048

PLANT LOCATION: Kaukauna, Wisconsin Date: 8/27/95

TYPE: Vault 3-Pack By: TRB

LEAK DETECTION TYPE: Visual YEAR BUILT: 1984

SERVICE: Used Solvent Storage

DIMENSIONS: LENGTH: 49'-5 1/2" WIDTH: 18'-6" HEIGHT: 47 1/2"

CAPACITY: 27,030 gallons gross LARGEST TANK CAPACITY: 13,500 gallons

CONSTRUCTION MATLS: Reinforced Concrete

INTERIOR COATING/LINING OF CONTAINMENT: Satisfactory

EXTERIOR COATING/LINING OF PRIMARY COMPONENT: Satisfactory

JOINT TREATMENTS:	Satisfactory
WALL/SHELL CONDITION:	Satisfactory
ROOF/TOP HEAD CONDITION:	Not applicable
BOTTOM/BOTTOM HEAD CONDITION:	Not accessible
SUPPORT TYPE:	Reinforced concrete slab on grade
FOUNDATION CONDITION:	Satisfactory
INTERNAL STRUCTURE CONDITION:	Not applicable
JOINT CONDITION:	Satisfactory
LINING/COATING CONDITION:	Satisfactory
LIQUID REMOVAL METHOD:	Manual pump
SIGNS OF CRACKS:	None
SIGNS OF LEAKAGE:	None
SIGNS OF CORROSION:	None
SIGNS OF EROSION:	None

OPERATING CONDITIONS: MAX TEMP: Amb. MAX PRESS: Amb. VAC: None

REFERENCE INSPECTION RECORDS: See TERA Report No. 96-400-048

COMMENTS: Blind sump in SW corner (sump is 18" ϕ).

TERA, Inc.

CONTAINMENT INSPECTION RECORD A-3

Sheet: 1 of 1

CLIENT: Safety-Kleen Corp. Job No.: 96-400-048

PLANT LOCATION: Kaukauna, Wisconsin Date: 8/27/95

TYPE: Vault 3-Pack By: TRB

LEAK DETECTION TYPE: Visual YEAR BUILT: Unknown

SERVICE: Used Solvent Storage

DIMENSIONS: LENGTH: 49'-5 1/2" WIDTH: 18'-6" HEIGHT: 47 1/2"

CAPACITY: 27,030 gallons gross LARGEST TANK CAPACITY: 13,500 gallons

CONSTRUCTION MATLS: Reinforced Concrete

INTERIOR COATING/LINING OF CONTAINMENT: Satisfactory

EXTERIOR COATING/LINING OF PRIMARY COMPONENT: Satisfactory

JOINT TREATMENTS:	Satisfactory
WALL/SHELL CONDITION:	Satisfactory
ROOF/TOP HEAD CONDITION:	Not applicable
BOTTOM/BOTTOM HEAD CONDITION:	Not accessible
SUPPORT TYPE:	Reinforced concrete slab on grade
FOUNDATION CONDITION:	Satisfactory
INTERNAL STRUCTURE CONDITION:	Not applicable
JOINT CONDITION:	Satisfactory
LINING/COATING CONDITION:	Satisfactory
LIQUID REMOVAL METHOD:	Manual pump
SIGNS OF CRACKS:	None
SIGNS OF LEAKAGE:	None
SIGNS OF CORROSION:	None
SIGNS OF EROSION:	None

OPERATING CONDITIONS: MAX TEMP: Amb. MAX PRESS: Amb. VAC: None

REFERENCE INSPECTION RECORDS: See TERA Report No. 96-400-048

COMMENTS: Blind sump in SW corner (sump is 18" ϕ).

TERA, INC.

LEAK TEST RECORD

SHEET: 1 of 1

CLIENT: Safety-Kleen Corp. JOB NO.: 96-400-048

PLANT LOCATION: Kaukauna, Wisconsin DATE: 8/27/96

COMMENTS: BY: TRB

==========

ITEM TESTED: Used Solvent Storage Tank

NORMAL OPERATING PRESSURE: Atmospheric

RELIEF PRESSURE: Atmosphere DESIGN PRESSURE: Atmospheric

TEST TYPE: Hydrostatic

TEST PRESSURE: Filled to 8'- 1/4" TEST DURATION: One hour

TEST RESULTS: Satisfactory CHART NO.: None

WITNESSED BY: TRB DATE: 8/27/96

COMMENTS: No leaks. No access to roof. Bottom of shell reads "0" inches on level gauge (Moorman Bros.).

TERA, INC.

LEAK TEST RECORD

SHEET: 1 of 1

CLIENT: Safety-Kleen Corp.
JOB NO.: 96-400-048

PLANT LOCATION: Kaukauna, Wisconsin
DATE: 8/27/96

COMMENTS:
BY: TRB

==========

ITEM TESTED: In Service Drum Washer/Dumpster (North)

NORMAL OPERATING PRESSURE: Atmospheric

RELIEF PRESSURE: Atmosphere
DESIGN PRESSURE: Atmospheric

TEST TYPE: Hydrostatic

TEST PRESSURE: Full of solvent
TEST DURATION: 20 + min.

TEST RESULTS: Satisfactory
CHART NO.: None

WITNESSED BY: TRB
DATE: 8/27/96

COMMENTS: No leaks. Pumped to used solvent storage tank.

TERA, INC.

LEAK TEST RECORD

		SHEET:	1 of 1
CLIENT:	Safety-Kleen Corp.	JOB NO.:	96-400-048
PLANT LOCATION:	Kaukauna, Wisconsin	DATE:	8/27/96
COMMENTS:		BY:	TRB

==========

ITEM TESTED: In Service Drum Washer/Dumpster (South)

NORMAL OPERATING PRESSURE: Atmospheric

RELIEF PRESSURE: Atmosphere DESIGN PRESSURE: Atmospheric

TEST TYPE: Hydrostatic

TEST PRESSURE: Full of solvent TEST DURATION: 20 + min.

TEST RESULTS: Satisfactory CHART NO.: None

WITNESSED BY: TRB DATE: 8/27/96

COMMENTS: No leaks. Lines open to north drum washer. Pumped to used solvent storage tank.

Exhibit B-31

Hot Work Procedure and Example Permit Form

HOT WORK PROCEDURE

Policy #	**IHY-11**
Original Date	**11/01/01**
Revision #	**4**
Rev. Date	**10/28/08**
Approval:	**Chris Bachman** **Dennis Hansberry**
Title	**Dir. Health & Safety**
Page	**1 of 12**

1.0 PURPOSE

This policy specifies responsibilities and provides requirements and procedures to minimize hazards by establishing a hot work permit system relative to maintenance, repair or other work activities. The hazards are due to the generation of potential sources of ignition (i.e., welding, cutting, grinding, or any flame, spark, or other spark-producing work) in a potentially flammable atmosphere. These ignition sources could result in fires, explosions or other hazards to life, health, and property. Not covered by this policy are battery operated or electric hand tools. Precautions still need to be taken when these types of tools are to be used.

2.0 AFFECTED GROUPS/LOCATIONS

This procedure applies to all Safety-Kleen employees.

2.1 Location Manager

The Location Manager is responsible for implementation of the written site-specific hot-work permit system program. This responsibility includes identifying areas in the plant which will require a hot work permit, indicating which areas are considered safe for hot work (i.e. Maintenance shops), and ensuring that plant equipment and areas have been properly classified and maintained in a safe working condition.

2.1.1 The Location Manager will take corrective action relative to any employee or contractor who does not follow the hot-work permit procedures.

2.1.2 The Location Manager will monitor implementation of the hot work permit system to make sure it is operating and functioning properly and that all employees are trained in emergency procedures and the safe use of their equipment. Contractors must demonstrate competency in this process.

2.1.3 The Location Manager will identify any approved area for hot work and develop a site-specific policy for authorizing hot work operations.

2.1.4 The Location Manager will designate an SK Supervisor (if other than himself) to oversee all facility hot work activities

2.2 SK Supervisor

The designated SK supervisor shall review the work to be done and authorize the hot work permit including formally approving a hot work permit before allowing work to begin.

2.2.1 The designated SK supervisor shall ensure that personnel understand the restrictions, precautions and requirements listed on the hot work permits to assure safe operation.

2.2.2 The designated SK supervisor shall coordinate all hot work with other on-going operations of the plant.

2.2.3 The designated SK supervisor will oversee the hot work activity. The designated members of the SK supervisor shall ensure that proper safety equipment is used for all hot work.

2.2.4 The designated SK supervisor shall ensure that only approved apparatus such as torches, manifolds, regulators or pressure and acetylene generators be used.

2.3 Health and Safety/EHS Representative

2.3.1 The Health and Safety/EHS Representative shall provide assistance to operations supervision in identifying and controlling potential hazards during hot work. The Health and Safety/EHS Representative shall assist with hot work evaluations to determine the potential hazards and control measures.

3.0 POLICY

3.1 Guiding Principles

Before deciding to do a hot work task in an area covered by this procedure, management should consider the following alternatives:

3.1.1 Avoid the need for hot work in the hazardous area by removing the work to a non-hazardous area.

3.1.2 Remove flammable sources when practical along with flammable material from all equipment, piping, and tanks in the area.

3.1.3 Isolate flammable hazards. Safeguard against entry of flammable vapor or liquids into the hot work zone.

3.1.4 Substitute less hazardous work methods such as bolting (versus welding), or sawing (versus oxy-acetylene cutting).

3.1.5 Hot work shall be prohibited in the presence of flammable or explosive atmospheres or in areas where flammable or explosive atmospheres may develop during the hot work. Hot work on equipment that has contained flammable or combustible material can result in fires and/or explosions. Hot work tasks near flammable liquids or gases can also be very hazardous. It is the responsibility of immediate management to inform the work group of the potential hazards associated with the hot work, to make sure that plant equipment and areas have been properly prepared, and to formally approve a hot work permit before allowing hot work to begin. It is also the responsibility of management to ensure that the equipment and area is maintained in a safe condition for the duration of the hot work.

3.2 Hot Work Permit Procedure

The first step in completing a hot work permit consists of reviewing the task to be done to determine if the hot work can be done safely.
All Hot Work Permits (The following applies to all hot work jobs):

3.2.1 Perform visual inspection of the area where the hot work will be done. Floors should be inspected and cleaned, if needed. Trenches, sewers, and drains should be checked for the presence of flammable or combustible
materials, and flushed, plugged, or covered if needed. Trenches that may allow flammable or combustible material into or through the hot work area may need to be dammed. When running water is used, the SK supervisor shall ensure that contained areas are drained to minimize the potential for electric shock.

3.2.2 If there is no equipment containing flammable or combustible material, and if there is no miscellaneous flammable or combustible material within 35 feet of the hot work, the SK supervisor may approve the permit under the following conditions:

3.2.2.1 a check for oxygen shows 19.5-23.0%

3.2.2.2 a check for flammable gas shows 0% LEL

3.2.2.3 a 20 lb. ABC fire extinguisher and/or a charged hose line is available in the area

3.2.2.4 a fire watch has been assigned

3.2.3 If miscellaneous flammable or combustible material is located within 35 feet of the hot work, the miscellaneous material must be moved at least 35 feet horizontally from the hot work area. If relocation is not practical, additional precautions must be taken. Additional precautions may include protecting flammable or combustibles with covers or other types of guards or curtains, using water spray, etc. The actual method must be specified on the permit in the Special Precautions section. The supervisor must approve the permit, provided the conditions above are met.

3.2.4 If equipment containing flammable or combustible material is located within 35 feet of the hot work, the supervisor will inspect the area to determine what additional precautions are needed. At a minimum, all requirements in paragraph 3.2.2 above need to be met.

3.2.5 If hot work will be done on equipment that contains flammable or combustible material, the equipment must be shut down, cleared, and isolated. After the equipment has been completely cleared and isolated, the supervisor may approve the permit provided the requirements in paragraph 3.2,2 above are met.

3.2.6 If equipment cannot be completely cleared and isolated, a special hot work plan must be developed and approved by the location/plant manager before hot work may begin. (A hot tap procedure is an example of a special hot work plan).

3.2.7 For hot work at elevated locations, the 35 foot horizontal distance may need to be increased. (Wind direction and speed shall be considered when establishing safe boundaries).

3.2.8 If personnel may be walking or working nearby, screens may need to be installed to protect them from sparks and/or welding flash.

3.2.9 Barrier tape, signs, or other effective means must identify the perimeter of the hot work area. No regular operating tasks, such as transferring, draining, or sampling will be allowed within the hot work perimeter. The perimeter must be wide enough so that slag, sparks, etc. do not fall outside the perimeter.

4.0 DEFINITIONS

4.1 Auto-Ignition Temperature (AIT) - The minimum temperature required to initiate or cause self-sustained combustion of any substance in the absence of an ignition source (spark or flame). The most likely low auto-ignition compounds to be encountered are kerosene (AIT 410oF) and mineral spirits (AIT 446oF).

4.2 Hazardous Atmosphere - A location in which hazardous concentrations of flammable gases or vapors exist continuously, intermittently or periodically, or a location in which volatile flammable liquids or flammable gases are handled, processed, or used. Hazardous locations include Class I Division 1 locations where flammable vapors or gases exist under normal operations **and** Class I Division 2 locations where vapors or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems; or in case of abnormal operation of equipment; or abnormal operation of ventilating equipment; or that is adjacent to a Class I Division 1 location. Hazardous locations also include locations that are hazardous because of the presence of combustible dusts (Class II locations); or locations that are hazardous because of the presence of easily ignitable fibers or filings (Class III locations).

4.3 Hot Work - Any activity that may result in the generation of a potential source of ignition.

Typical hot work activities are:

4.3.1 Use of flammable gases/open flame, generating high heat or sparks for welding, cutting, brazing and soldering.

4.3.2 Use of an electric arc.

4.3.3 Chipping and grinding of metallic or non-metallic substrates using potentially spark producing tools.

4.3.4 Transfer of equipment or tools whereby friction or impact could result in the release of sparks or in elevated temperatures.

4.3.5 The use of improperly grounded or unsuitable electrical equipment including flashlights and portable electrical lights which lack proper electrical protections.

4.3.6 Operation of internal combustion engines.

4.3.7 Use of other than non-sparking impact wrenches and sockets.

4.4 Hot Work Permit - The document that must be completed before any hot work begins. Hot work permits are time-limited (*12 hours, maximum*). The hot work permit that is to be used is in the Appendix of this procedure.

4.5 Fire Watch - The person assigned to provide a look-out/overview of the immediate area where hot work activity is to be carried out. The responsibility of the fire watch is to observe the work area for a fire in its initial stage, to extinguish the fire if one were to start, and to follow the facility fire alarm and notification procedures as indicated in this procedure.

4.6 Classification, Electrical - The designation given in the National Electrical Code, Article 500 (NEC) which dictates the minimum class of electrical equipment that must be used in a plant area as determined by the atmosphere contaminants (gases, vapors or dusts) which may be present in the area.

4.7 Combustible Liquids - As defined by NFPA 45, liquids having a flash point at or above 100oF.

4.8 Flammable Liquids - As defined by the NFPA 45, liquids are divided into three classes with flammable liquids being defined as those that have a flash point below 100oF. The term applies to the group of combustible materials that ignite easily and burn rapidly. Any material heated above its flash point should be considered a flammable liquid.

4.9 Industrial Powered Trucks (*Forklifts*) - The designation given in the code (NFPA 505 - Powered Industrial Trucks) which determines the minimum class of truck (*forklift*) which

must be used in any specific electrically classified area (per NEC). The local authority with jurisdiction may require a more stringent classification.

4.10 SK Supervisor - The SK supervisor exercises overall ownership of the area, which includes responsibility for controlling all activities in the area. The SK supervisor is responsible for the safe operation of the equipment in their area. This includes shutting the equipment down when repair is necessary, removing process materials, cleaning and isolating the equipment to make it safe for maintenance or other work to proceed.

4.10.1 The primary hot work functions of the SK supervisor are to: evaluate the potential hazards of the hot work; establish the boundaries of the hot work; assure that the equipment and the area has been properly prepared and that the permit conditions have been met; review the potential hazards of the job with the work group using the Job Safety Briefing; and to release the permit to the work group when it is safe to begin hot work. Designated SK supervisors may approve hot work permits if all of the permit conditions have been met. Each facility will designate the supervisor(s) that may approve hot work permits. Specific functions of the SK supervisor include:

4.10.1.1 Taking combustible gas readings.

4.10.1.2 Installing personnel barricades or barrier tape at the perimeter of the hot work job.

4.10.1.3 Clearing and isolating equipment.

4.10.1.4 Completing and issuing Hot Work Permits and Job Safety Briefings.

4.11 SK Management - The primary function of SK management is to make sure that permits have been properly completed, to authorize hot work permits, and to make sure that the permit conditions are being met during hot work. If special procedures are needed, designated members of SK management must authorize them.

4.12 Work Group - A work group is any group which repairs, modifies, or services the facility's equipment. A work group could be the plant's Maintenance Department, or it could be a contractor. In some circumstances, the SK supervisor and the work group may be the same. For example, the Maintenance Department is typically the supervisor over boilers. If a boiler needs to be repaired, the Maintenance Department will typically be the work group. The work group is responsible for safely performing the work as specified in the permit, and for conforming to the requirements of the permit. The work group must request an additional permit before starting any work beyond the work specified in the permit.

4.13 Equipment Clearing and Isolation- It is the responsibility of the SK supervisor to prepare equipment for hot work. The equipment must be cleared and isolated prior to beginning hot work. Some key points are as follows:

4.13.1 The equipment must be shut down following standard operating procedures.

4.13.1 After shutdown, the equipment must be completely cleared of all flammable and combustible materials. This may involve steaming, washing, or other methods.

4.13.2 Equipment must be physically isolated from other equipment by using the lock out tag out procedure. The Master Tag Out List (MTOL) number must be listed on the Hot Work Permit. After isolating, locking and tagging the equipment, the first break procedure must be used.

4.13.3 After the equipment has been cleared, it must be inspected and/or tested for the presence of flammable material. A test for flammable vapor must show 0% LEL. If flammable vapors are present, additional cleaning is required. Using an inert gas blanket to exclude it, or an airflow to dilute possible flammable vapor, may sometimes be desirable for added protection. But, neither technique should be used to compensate for inadequate removal of flammable material.

4.13.5 If complete removal of a high-hazard material cannot be achieved, a special work plan must be developed and approved by proprietary management.

5.0 REQUIREMENTS

5.1 Hazard Assessment and Hot Work Permits

5.1.1 A Job Hazard Analysis/Job Safety Briefing (JHA/JSB) shall be conducted for all hot work. The JHA will include an evaluation of all potential hazards. The JHASB shall be completed and reviewed with the Work Group prior to issuing the Hot Work Permit and be attached to the permit. The JHA/JSB's can be issued each time a hot work permit is issued, or they can be reviewed with the contractor on an annual basis and a sign off sheet maintained, unless changes have occurred. The written hot work permit and JHA/JSB shall be completed for all hot work. After the activity is completed, the original permit, JHA/JSB, MTOL, and any other issued permits should be stapled together and shall be maintained on file for one year.

5.1.2 All individuals performing and/or overseeing hot work operations must be familiar with and knowledgeable relative to the permit process and procedures. All personnel who approve or authorize hot work permits shall be trained in the hot work permit procedures and methods.

5.1.3 Hot work shall be prohibited in the presence of potentially flammable or explosive atmospheres (> 0% of the LEL), or in areas where flammable or explosive atmospheres may develop during hot work.

5.2 Type of Equipment

5.2.1 Only electrical equipment and elements, such as switchgear and instruments, which are designed for use in operations defined by the hazards of the ambient atmosphere, will be used.

5.2.2 Only approved, properly rated forklift trucks/tow motors according to NEC Article 500 classification shall be used. All industrial electrically powered trucks or propane powered trucks shall be identified as to the allowable electrical classification which it is allowed to enter. Equipment not meeting this classification shall be denied entry into the area.

5.2.3 Grounding and bonding systems, which safely dissipate any voltage differences, which could result in a static (spark) discharge, and groundfault circuit interrupters (GFCIs) shall be used.

5.2.4 Fully charged and operable fire extinguishers appropriate for the type of possible fire shall be available at the work area. Where hose lines are available, they shall be connected, charged, and ready for service.

5.3 Contractors

5.3.1 Contractors must follow Safety-Kleen's hot work permit policy requirements.

5.3.2 Monitoring and controlling work is required for all construction activities by maintaining a good overview of the schedule, especially those operations specifically covered by the hot work policy, (welding, cutting, chipping, grinding).

5.3.3 Job Hazard Analyses/Job Safety Briefings (JHA/JSB) will be issued and reviewed with the contractors covering the hazards of the particular Hot Work job, along with reviewing the Hot Work Permit.

5.3.4 Contractors will verify that their equipment is maintained and in proper working order by signing the appropriate line on the Hot Work permit.

5.3.5 Housekeeping is also part of the Contractor's job and the work area should be cleaned when the work is completed.

5.3.6 Cutters or welders and their supervisors are to be suitably trained in the safe operation of their equipment and the safe use of the process and be able to produce evidence of such training.

5.4 Fire Watch

5.4.1 Fire watchers shall be required by the individual responsible for authorizing hot work.

5.4.2 Fire watchers shall be familiar with facilities and procedures for sounding an alarm in the event of a fire, and be trained in the use of the fire extinguishing equipment. They may be assigned other duties as long as they are in the area and the duties do not impair the fire watch responsibilities, including maintaining visual contact with the Hot Work activity. If the fire watch leaves the area, the hot work must stop.

5.4.3 Fire watchers watch for fires in all exposed areas and try to extinguish them only when within the capacity of the equipment available and their training, or otherwise sound the alarm in the event of a fire. They may stop the hot work if a hazardous condition develops.

5.4.4 A fire watch shall be maintained for at least a half-hour after completion of hot work (cutting or welding) to detect and extinguish smoldering fires, and sign and complete the time of the last inspection on the permit.

5.5 Other Requirements for Hot Work Activities

5.5.1 No "Hot-Work" activity can begin until the required permit has been completed, reviewed, approved, and authorized. **All** questions and required tests appropriate to the proposed activity shall be addressed on the work permit. If a line on the permit does not apply, the line must be filled in with N/A.

5.5.2 The "Hot-Work" permit shall be prepared by personnel trained (SK Supervisor) in the purpose and intent of its function, who are familiar with the specific work site and the normal specific plant operations.

5.5.3 Immediately prior to starting any "Hot-Work," in a potentially hazardous atmosphere, a test shall be made with a properly calibrated combustible gas indicator of the ambient atmosphere to establish the absence of flammable vapors or gases. A trained and qualified employee, who is familiar with the operations and potential hazards in the stipulated “Hot- Work” area, shall make the test. If hot work is being performed in a hazardous, high potential area, continuous monitoring is required. Other, less hazardous areas (i.e. construction sites) need periodic monitoring at no more than two-hour intervals. The frequency of monitoring must be selected on the permit.

5.5.4 Any vessels or piping on which "Hot-Work" is to be done shall be thoroughly prepared. Included in the preparation shall be the complete removal of the contents of the system to a safe area; rinsing, washing, or steaming to remove any residual materials; purging, de-pressurizing, draining and venting of the system and finally testing the system for the presence of flammable vapors or gases.

5.5.5 If the hot work involves conditions covered in a “permit required confined space," a separate entry permit must be completed and authorized and all confined space entry procedures must be followed. The **Confined Space Entry Supervisor** must authorize

the Hot Work Permit.

5.5.6 To prevent the possibility of introducing any fluid into the piping system or the equipment, all lines shall be blinded, blanked, physically disconnected ("broken") or provided with vented double block-and-bleed valves which shall be "locked-out" of service. Additionally, any service valves on all such lines shall be "locked-out/tagged out" according to the "lock-out/tagout" program.

5.5.7 Plant areas in which "Hot-Work" activities are scheduled shall be physically isolated by the use of well-designed barricades or other such methods - indicating those areas where only properly equipped personnel, actively involved in the specified work, shall enter. All electrically powered equipment, including instrumentation, shall be de-energized, and disconnected and/or locked out.

5.5.8 All drains, sewers or lines shall be evaluated. By their purpose, they may contain, in an entirely unpredictable pattern, some hazardous, toxic, and/or flammable materials. They should be isolated from the source of hot work.

5.5.9 Normal activities shall be restricted and closely monitored during periods when "Hot-Work" is scheduled. No drum or tanker sampling, tank transfers, blowing out lines, etc. are allowed in the work area during such activity.

5.5.10 Cutting or welding shall **not be permitted**: (a) In any areas not authorized by management. (b) In sprinklered buildings while such protection is impaired. (c) In the presence of explosive atmospheres that can develop inside uncleaned or improperly prepared drums, tanks, or other containers and/or equipment which have previously contained explosive mixtures of flammable gases, vapors, liquids or dusts, with air.

5.5.11 “Hot tapping” or other cutting and welding on flammable gas or liquid transmission or distribution pipeline(s) shall be performed only by a crew qualified to make hot taps.

5.5.12 Tests for combustible gas **MUST** be repeated **AFTER ANY BREAK** before allowing work to proceed.

5.5.13 The SK supervisor who issued the permit should inspect the area in which the work was taking place to insure that proper housekeeping has been performed. This inspection should take place in a reasonably short period of time (<10 minutes) after the work has been completed, so that the work group can finish the clean up, if needed. If no one from the SK supervisor is available to perform an inspection in the designated time frame, the permit will be closed out and the SK supervisor will be responsible for any housekeeping issues. The person performing the inspection should indicate on the permit that the area was inspected, sign the permit, and indicate the time that the inspection was performed.

5.6 Training

Any employee who may perform hot work, supervise hot work, prepare for hot work, or approve hot work permits must receive training on hot work hazards and on hot work permit procedures.

Supporting Documentation

Attachment A: "Hot Work Permit"

Attachment A

HOT WORK PERMIT REQUIREMENTS AND CONDITIONS
READ PERMIT CAREFULLY

GENERAL REQUIREMENTS - MUST BE COMPLETED FOR ALL WORK		
Date:	Time Issued:	Date/Time expires:
Issued to:	Company:	
Operating Unit/Area	Equipment or Location	
Description of Hot Work to be performed:		
Emergency Procedures:		
Hospital address:	Ambulance: 911	

Does job require Lock Out/Tag Out?	Yes		No		Is a satellite lock box being used?	Yes		No		
Are any other permits required?	Yes		No		If yes, check those that apply and attach to permit.					
Confined space		Excavation		Crane Lift		JHAJSB		First Break		Other		Specify:	Permit No.

HOT WORK INCLUDES, BUT NOT LIMITED TO: CUTTING, WELDING, IMPACT WRENCHES, GRINDING, ELECTRICAL TOOLS AND OPEN FLAMES, OR SIMILAR OPERATIONS WHICH ARE CAPABLE OF PROVIDING ANY IGNITION SOURCE. AREA WITHIN 35 FEET OF HOT WORK MUST MEET THE FOLLOWING, AS APPLICABLE. IF CONDITIONS CHANGE, HOT WORK MUST STOP.

Specific Requirements	**Yes**	**N/A**	**Specific Requirements**	**Yes**	**N/A**
Does job require opening of equipment?			GFCI for all equipment available?		
Has equipment been cleared (drained, washed, depressurized, etc.)?			Lower level area protected from falls?		
Equipment/piping cleaned of flammable/combustible material?			Is fall protection needed? If "yes," safety harness _____ or life line_____		
Have lines been disconnected, blinded, etc?			Is continuous LEL monitoring required?		
Area cleared of flammable and combustible material?			Is periodic LEL monitoring require?		
Sewers/trenches checked for LEL, Covered if needed?			Is a scaffold/ladder/lift needed? (circle)		
Welding Screens/barriers installed?			Explosion proof or intrinsically safe equipment necessary?		
Banner tape/signs installed?			Combustibles moved from opposite side of walls?		
Containers purged of flammable vapors?			Are walls/ceilings and/or coverings made of noncombustible material?		
Bonding/Grounding required?			Openings or cracks in walls, floors, or ducts are tightly covered to prevent the passage of sparks to adjacent areas?		
Is a portable fire extinguisher available? Type _____			Motorized equipment behind perimeter yellow line?		

SPECIAL PRECAUTIONS THAT MUST BE MET TO PERFORM THE WORK SPECIFICED IN THIS PERMIT

Time/Initials		% O_2 >19.5 -<23%	% LEL - 0%	Other	Time/Initials		% O_2 >19.5 -<23%	% LEL - 0%	Other

SK SUPERVISOR HOT WORK AUTHORIZATION

Supervisor (Signature): _____ Time: _____
Fire Watch (If required):_____
Process Standby (if required): _____
Entry Supervisor if issued for SK Confined Space Entry: (Signature): _____ Time: _____
Was area inspected after permit was returned? Yes ____ No ____
Area inspected by: _____ Time: _____

WORK GROUP COMPLETE AND SIGN BELOW (Contractor/Maintenance)

Work Group (Signature): _____ Time: _____
Work Group Fire Watch (Signature): _____ Time: _____
Have all Work Group Personnel received job specific training, including the fire watch? Yes ____ No ____
(Signature:) _____
Has cutting/welding equipment been inspected by Work Group? Yes ____ No ____
(Signature) _____
Entry Supervisor if issued for Confined Space Entry: (Signature): _____ Time: _____
Has work been completed? If yes, indicate time. Yes ____ No ____ Time: _____
Was work area cleaned before returning permit to Proprietary Group personnel? Yes ____ No ____
Area checked 30 minutes after end of work by: (Signature): _____ Time:_____

By signing above, we agree that we have reviewed the permit conditions and special precautions, and agree that work may proceed in accordance with the above permit.

Exhibit B-32

Corro-Shield (Corro-Cote) Data Sheet and Chemical Resistance Chart (for CSA Coating

Corro-Shield International, Inc.

7059 Barry Street, Rosemont, IL 60018 • 847/298-7770 • 847/298-7784 fax

PRODUCT DATA SHEET (Rev. 11/11)

CORRO-COTE (Ref. No. 100)

Product Description

- 2-Part, 100%/Total Solids Epoxy Coating System Consisting of:
  Part A – Pigmented Resin and Part B – Hardener
- High Gloss, Good Color Retention, Good Aesthetics
- Smooth or Textured Finish
- U.S.D.A. and C.F.I.A. Compliant
- V.O.C. Compliant/Low Odor/Solvent Free
- Self-Priming
- Easy to Clean Hygienic Surface
- Resin Rich Surface Helps to Resist Bacterial Growth
- User Friendly Mix Ratio of 2:1 by Volume
- Apply with Squeegee, Roller, Trowel or Spray

Special Features

- Meets ASTM C-884
  Thermal Compatibility with Concrete
- Top Coat for Industrial Floors
- As a Tank Coating with Glass Flakes, Refer to **Corro-Cote Hi-Build GF (Ref. No. 119 GF)**
- Excellent Adhesion to Clean, Sound, Damp Concrete
- Application to "Green" Concrete by First Priming with **Corro-Cure (Ref. No. 602)**
- Excellent Adhesion to Most Clean Metal
- Built in Resiliency for Thermal Shock (Steam Cleaning), Abrasion and Impact Resistance
- Excellent Wear Resistance
- Can be Applied Indoors or Outdoors
- Good Chemical Resistance (Refer to Chemical Resistance Chart)
- Water Wipeable
- Cures to a Smooth Glossy Finish
- For a Textured Finish, Broadcast with Silica or Aluminum Oxide
- Made with Materials Produced in North America

Application

- Coating to Floors and Walls in:
- Dairies
- Meat Packaging
- Breweries
- Pharmaceutical Plants
- Food Production
- Industrial Buildings
- Schools and Hospitals

Packaging

Corro-Cote is available in the following pre-measured pak sizes:
One Gallon Pak (160 SF @ 10 mils)
2 ½ Gallon Pak (400 SF @ 10 mils)
4 Gallon Pak (640 SF @ 10 mils)

Coverage will vary depending on surface texture.

Priming

Corro-Cote is self-priming and does not need a primer on sound concrete; however, to help reduce outgassing, blistering and dry spots we recommend first priming with **Corro Aqua-Seal (Ref. No. 108).**

Setting Times

Corro-Cote is available in either regular or fast set versions:
Corro-Cote Regular Set - For temperatures 60°F and higher
Corro-Cote FS (Fast Set) -For temperatures as low as 35°F
See Set Time Chart on back page for various setting times.

Mixing and Application

Detailed mixing and application instructions are available upon request.

Colors

Black, White, Ivory, Gray, Dark Gray, Brick Red, Beige, Green and Brown. Special colors are available upon request, for an additional charge.

Clean Up

Corro-Cote, while still wet, can be cleaned up with warm soapy water, but if allowed to set then mechanical cleaning or the application of a very strong paint stripper will have to be used.

Precautions

As with all epoxies, good hygienic habits must be observed and the wearing of protective clothing and gloves is advised. Before using any of the products, please read their respective safety data sheets.

Technical Assistance

If you have any questions regarding this product, please call 1-800/298-7637 for further information.

Corro-Cote Product Data Sheet - Page 2

Mixing Ratio by Volume
Part A:Part B – 2:1

Density (lbs./gallon)
Part A: 12.24
Part B: 8.6
Mixed A & B: 11

Theoretical Coverage
1 Gallon Pak – 160 SF @ 10 mils

VOC Content: 55.1 g/L

Set Times (Slab Temperature)	**50°F.**	**73°F.**	**90°F.**
Pot Life	1 Hour	45 Minutes	25 Minutes
Recoat Time - Floors	18 Hours	15 Hours	12 Hours
Recoat Time - Walls	12 Hours	9 Hours	6 Hours
Foot Traffic	18 Hours	15 Hours	12 Hours
Forklift Traffic	72 Hours	48 Hours	24 Hours
Full Chemical Resistance*	9 Days	7 Days	5 Days

* Refer to Chemical Resistance Chart

Viscosity (Using LV.DV1+ Viscometer)	**Test Method @ 73°F.**
Part A – 9,000 – 11,000 cps	Using LV3 Spindle at 12 RPM
Part B – 450 – 600 cps	Using LV3 Spindle at 100 RPM
A & B Mixed – 1,300 – 1,500 cps	Using LV3 Spindle at 60 RPM

ASTM	**TEST METHOD @ 73°F.**	**Results**
D695	Compressive Strength	7733 psi
D695	Percent Compressive Resiliency	47.8%
D695	Compressive Strength @ Yield	2991 psi
D695	Percent Compressive Resiliency @ Yield	7%
D790	Flexural Strength	2948 psi
D790	Flexural Modulus of Elasticity	$7{,}58 \times 10^5$
D638	Tensile Strength	2092 psi
D638	Percent Tensile Elongation	13.2%
D4541	Bond Strength to Concrete	Failure in Concrete
C884	Thermal Compatibility to Concrete	Pass
D570	Absorption	Less Than .1%

CORRO-SHIELD INTERNATIONAL, INC.

7059 Barry Street • Rosemont, Illinois 60018 • 1-800/298-7637 • 847/298-7770 • fax 847/298-7784

CHEMICAL RESISTANCE CHART

Corro-Cote - Corro-Flor - Corro-Seal - Corro-Grout - Corro-Flor SL

Chemical	Rating
Acetic Acid - 10%	OS
Acetic Acid - 20%	OS
Acetic Acid - 36%	NR
Acetic Anhydride	NR
Acetone	NR
Acrylonitrile	NR
Alum	FS
Ammonium Hydroxide	FS
Ammonium Nitrate	FS
Aniline	NR
Animal Fats	FS
Beer	FS
Benzene	NR
Black Liquor	FS
Boric Acid	FS
Brake Fluid	FS
Butyl Alcohol	FS
Butyl Cellusolv	FS
Calcium Chloride	FS
Calcium Nitrate	FS
Carbon Tetrachloride	FS
Carbonated Beverage	FS
Chlorine Water	FS
Chloroform	NR
Chromic Acid, 0 - 30%	OS
Citric Acid, conc.	FS
Copper Chloride	FS
Copper Sulfate	FS
Cumene Hydroperoxide	OS
Diesel Fuel	FS
Ethanol	FS
Ethyl Acetate	NR
Ethylene Dichloride	NR
Ethylene Glycol	FS
Ferric Chloride	FS
Ferrous Chloride	FS
Formaldehyde	OS
Formic Acid - 10%	NR
Formic Acid - 30%	NR
Formic Acid - 50%	NR
Freon TS	FS

Chemical	Rating
Gasoline	FS
Glacial Acetic	NR
Green Liquor	FS
n-Hexane	OS
Hydrobromic Acid - 50%	OS
Hydrochloric Acid - 37%	FS
Hydrofluoric Acid - 10%	NR
Hydrofluoric Acid - 30%	NR
Hydrofluoric Acid - 50%	NR
Hydrofluorosilicic Acid 30%	OS
Hydrogen Peroxide 50%	OS
Hydrogen Sulfide	FS
Isoprene	FS
Isopropyl Aclohol	FS
Jet Fuel	FS
Kerosene	FS
Klenzade	FS
Kodak Developer	FS
Lactic Acid - 20%	OS
Lactic Acid - 50%	NR
Lactic Acid - 88%	NR
Maleic Acid	NR
Malic Acid	FS
Methanol	FS
Methyl Acetate	FS
Methyl Esters	NR
Methyl Ethyl Ketone	NR
Methyl Isobutyl Ketone	NR
Methyl Methacrylate	NR
N-Methyl Pyrolidone	NR
Methyl Salicylate	FS
*Methylene Chloride	NR
Mineral Oil	FS
Mineral Spirits	FS
Nitric Acid - 10%	FS
Nitric Acid - 30%	OS
Nitric Acid - 50%	NR
Nitric Acid - conc.	NR
Nitropropane	FS
Oleic Acid	FS
Oxalic Acid	FS

Chemical	Rating
Palm Oil	FS
Perchloroethylene	OS
Peroxyacetic Acid (conc.)	NR
Peroxyacetic Acid 5%	FS
Phenol	NR
Phosphoric Acid 30%	OS
Phosphoric Acid 50%	NR
Phosphoric Acid 85%	NR
Picric Acid, conc.	FS
Potassium Nitrate	FS
Pyridine	NR
Salt Brine	FS
Silver Nitrate	FS
Skydrol	FS
Sodium Chloride	FS
Sodium Hydroxide - 30%	FS
Sodium Hydroxide - 50%	FS
Sodium Hypochlorite, 5%	FS
Sodium Hypochlorite, 10%	OS
Sodium Hypochlorite, 15%	NR
Stearic Acid, conc.	FS
Styrene	NR
Sugars	FS
Sulfamic Acid, conc.	FS
Sulfuric Acid - 10%	FS
Sulfuric Acid - 50%	OS
Sulfuric Acid - 80%	NR
Sulfuric Acid - 98%	NR
Tannic Acid - 50%	FS
Tartaric Acid, conc.	FS
Tetrachloroethylene	FS
Tetrahydrofuran	NR
Toluene	FS
1.1.2 Trichloroethane	FS
Trichloroethylene	NR
Trichlorofluoroethane	FS
Tri Sodium Phosphate	FS
Uric Acid	FS
Vinegar	FS
Water, Deionized	FS
Water, Distilled	FS
White Liquor	FS
Xylene	FS

Key: NR - Not Recommended
OS - Occasional Spillage – To Be Cleaned Up Within 4 Hours
FS - Frequent Spillage – To Be Cleaned Up Within 8 Hours

Note: The above test data was obtained from total immersion tests at 77°F. The table should be used as a guideline, as no warranty can be expressed or implied regarding the accuracy of the information given as it would apply to actual plant use. Certain chemicals will discolor the epoxy floor, however, this will in no way affect the integrity of the system.
*Use Corro Ultra and consult the factory for details.

Exhibit B-33

ChemTec One Sealant Information (for Solvent Tank Farm)

TECHNICAL DATA
CHEMTEC INT'L INC.

1. PRODUCT NAME
CHEMTEC ONE™
High Performance Water Based Non-Toxic Chemical Treatment that hardens, strengthens, stabilizes, protects, increases the mass & density and extends the useful life of concrete structures.

2. MANUFACTURER
CHEMTEC INT'L INC.
7771 Woodstone Drive, Suite 100
Cincinnati Ohio 45244-2855
Phone (513) 474-2090
Fax (513) 474-2054

3. PRODUCT DESCRIPTION
A colorless non-toxic chemical that penetrates the concrete permeable zones producing an insoluble by-product that directly encapsulates the Cementos properties of concrete, thereby greatly reducing the porosity, increasing the surface hardness and compression strength. Protecting the concrete from attack by liquids acids, salts and other contaminants

PROTECTING CONCRETE
This process actually produces a reactive by-product that fills the gel pours, shrinkage cracks and alligator cracks of the concrete. The by-product can in some cases reach depths of over 3 inches into the concrete, making the concrete extremely resistant to water and contaminant penetration. The process allows the concrete to breathe while still giving excellent protection. This process keeps the alkaline content (pH) high, and in cases where deteriorated concrete is being treated, actually raises the pH of the concrete thereby stabilizing and in some cases reversing the deterioration. This process should be used prior to concrete repair, because of its ability to raise the pH of existing deteriorated concrete.

HARDENING
Because *CHEMTEC ONE* produces a reactive and solid by-product in the concrete, it increases the mass and density thereby making the surface harder and increasing the compression strength. Lab test have shown up to 45% increase in hardness of treated samples with *CHEMTEC ONE* vs
non-treated samples. Reactive products have been used for years as commercial floor protectors / hardeners. We now have the proper formula for deep penetrating protection for all fully cured concrete as well.

USES
CHEMTEC ONE'S primary use is for protecting new and existing dense concrete structures such as Commercial Floors, Parking Facilities, Bridges, Loading Ramps, Driveways, Walkways, Roads, Runways, Taxiways and any concrete structure. *CHEMTEC ONE* can increase the useful life of normal concrete up to 40%. This process is designed for normal, dense high strength concrete and should not be used on porous concrete blocks or similar type concrete.

4. TECHNICAL DATA

TEMPERATURE LIMITS: *CHEMTEC ONE* can be applied in temperatures as low as 38º F and as high as 95º F . Do not allow the surface to freeze for at least 24 hours after the final application.

DRYING TIME: Normal drying time is about 2 to 4 hours depending on the temperature and humidity. The surface must be completely dry prior to applying *CHEMTEC ONE*,

PAINTING / COATINGS: The surface can be painted on 24 hours after the surface has completely dried. However, it is recommendation that you wash off the surface with fresh water and let thoroughly dry before painting lines or anything else on the surface.

INTERNAL MAKEUP: A proprietary blend of reactive silicates and surface active agents. Non-Toxic, Non-flammable, Non-Hazardous. NO special handling requirements under environmental regulations.

CAUTIONS: *CHEMTEC ONE* is high in alkaline content. Wear protective clothing, gloves, breathing apparatus an so on. Make sure there is adequate ventilation. See MSDS, product label or installation instruction booklet for complete safety details.

DO NOT apply or splash on glass or painted surfaces, protect decorative door fronts as this product may stain them. If you do splash on these surfaces, clean with fresh water immediately. **DO NOT** store in aluminum, containers or use aluminum spraying equipment. CLEAN UP equipment with soap and water as soon as possible after use. CAUTION, leaving residue in spraying equipment may damage equipment.

COLOR: *CHEMTEC ONE* is a clear liquid and comes pre mixed. **DO NOT** dilute. A slight brown tint may appear on the surface of the concrete after the final application. This is a sign that iron is present in the concrete. This will wash / wear off in of time.

PACKAGING: 55-Gallon drums and 5-Gallon buckets / bulk shipments available.

COVERAGE: the average coverage for fully cured brushed finished concrete will range between 100 to 125 square feet per gallon per application. Two applications are necessary on these types of concrete surfaces. The coverage for commercial steel troweled concrete floors should be between 175 and 250 square feet per gallon. and generally only one application is necessary.

ANTICIPATED TREATMENT RESULTS: The *CHEMTEC ONE* treatment can produce the following results.
·Reduce the porosity of existing concrete by up to 90%.
·Increase the surface hardness in existing concrete by up to 45% as results of ASTM C-779
·Increase Compression strength in deteriorated concrete.

·Reduce chloride penetration.
·Inhibit chemical attack of treated concrete.
·Form a gelling to a solid by-product in the micro-cracks, gel pours and alligator cracks in the concrete to the depth of penetration.
·Retard scaling of high strength concrete. Meets ASTM C-672
·Raise the pH of deteriorated concrete
·Reduces water absorption by up to 98% as results of ASTM C-642

5. INSTALLATION

METHOD OF APPLICATION:
Simply pour, pump or spray the formula from the container or pumping system.

TOOLS NEEDED: Low pressure sprayers, brooms, safety equipment and protective gear. Mechanical Scrubbers

SURFACE PREPARATION: The surface of the concrete must be clean and free of foreign material, such as grease and coatings that would prevent the CHEMTEC formula from penetrating into the concrete. Throughly clean dirty areas. DO NOT ACID WASH CONCRETE. Concrete must be completely dry before application of the formula can begin on fully cured surfaces.

IMPLEMENTATION: Pre-determine the amount of formula (gallons) that will be needed to complete the project.
A) Application on steel troweled surfaces. *CHEMTEC ONE* is applied in **ONE** application **(except where specified differently)** at a rate of 175 to 250 square feet per gallon. On new floors the formula can be installed as soon as possible after the finish troweling operation. After the surface is hard enough to walk on without marking. Simply saturate the surface with the formula, keeping the entire surface wet. Keep moving the formula around the floor with bristle brooms or mechanical scrubbers until the formula starts to react and becomes slippery under foot, approximately 15 to 40 minutes after you apply the formula. If the material stats to gum up prior to removal then re-mist the floor with fresh water, do not flood the surface, just enough to make the formula easy to push around, then squeegee the formula off the surface or use a mechanical vacuum to remove the formula, and allow the floor to dry. **DO NOT** allow areas to prematurely dry while you are working the formula in. On existing floors, throughly clean the floor so they are water permeable.. The existing floor must be completely dry before you apply the formula. Use the same application procedure as above. A sheen will normally develop over time. **CAUTION**, **DO NOT** allow areas to puddle and dry as they will leave hard white crystals on the surface. Dispose of waste properly, per federal, state or local environmental regulations if required. Please see the 3 page application installation instructions for complete and recommended application procedure for all surfaces.

B) Application on brushed finished fully cured surfaces, such as bridge decks, roads, loading ramps, parking facilities an so on. *CHEMTEC ONE* is applied in **TWO** applications at the same rate of 100 to 125 square feet per gallon per application. Simply saturate the surface and let it dry using the following method. Puddling areas should be brushed over to dryer areas. Areas that dry prematurely should have more formula brushed to it or be re-sprayed. Brush the formula around the surface until it is absorbed in, then just let it dry. The goal is to get the proper amount of formula to penetrate an uniformly as possible. The second application is a repeat of the first application. **WAIT** a minimum of 4 to 6 hours between the first and second applications. **CAUTION,** there must be a minimum of **12 hours** with **NO WATER** being allowed on the surface after the last application has dried. It is recommended that you flush Bridge Decks and Roadways with fresh water 24 hours after the last application has dried, to prevent any un reacted material that may be on the surface from becoming slick at the first rain.

6) AVAILABILITY:
CHEMTEC ONE is available in 5-gallon (20-liter) buckets and 55-gallon (205-liter) drums. The product is available only through CHEMTEC INT'L.

WARRANTY:
CHEMTEC INT'L warrants that *CHEMTEC ONE* in it's original sealed containers, will be free of defects and when used as instructed will retard deterioration of concrete surfaces.

MAINTENANCE:
Should you want to clean the concrete. Wash with mild detergent and flush with fresh water

TECHNICAL SERVICES:
Technical information and assistance may be obtained from CHEMTEC INT'L INC.,
Cincinnati Ohio 45244
(513) 474-2090
Toll Free 1-888-889-7779
www.concretesealer.net

Please see the complete Installation Instruction for each specific surface to be treated. Published on our web site www.concretesealer.net

CHEMTEC INT'L

MATERIAL SAFETY DATA SHEET

MSDS DATE : 1 January 1997
PRODUCT NAME : CHEMTEC ONE

I PRODUCT IDENTIFICATION

MANUFACTURER

CHEMTEC INT'L. For information call 513-474-2090 Fax 513-474-2054
7771 Woodstone Drive, Suite 100 Toll Free 1-888-889-7779
Cincinnati Ohio 45244-2855

CHEMICAL:

CHEMTEC ONE ... A PROPRIETARY BLEND OF WATER SOLUBLE REACTIVE SILICATES.
DOT proper shipping name: NA DOT Hazard Class: NA
DOT Identification Number: NA DOT Hazardous Substance: NA
H.S. 2839.19.0000

HMIS HAZARD RATINGS National painting & Coatings Association
Health Hazard 2 Fire Hazard 0 Reactivity 0

SARA / TITLE III HAZARD CATEGORIES

Immediate (ACUTE)health yes Reactivity : no Fire : no
Delayed (CHRONIC) health :no Sudden release of pressure : no

II HEALTH HAZARD INFORMATION

WARNING LABELING

SIGNAL WORD: **WARNING**
STATEMENT OF HAZARD: Irritating to skin, eyes, mucous membranes of the respiratory and digestive tract.

EMERGENCY AND FIRST AID PROCEDURES

Irritating to skin, eyes, mucous membranes of the respiratory tract, mouth throat esophagus and stomach

- **EYES:** Immediately flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eye lids apart to ensure complete irrigation of all eye and lid tissue. Get Medical Attention Immediately
- **SKIN:** Wash and flush skin thoroughly with soap and cool water for at least 15 minutes after contact to avoid irritation. Wash contaminated clothing before reuse. Get Medical Attention If Irritation Develops or Persists.

II HEALTH HAZARD INFORMATION continued

- **INHALATION:** If vapors are inhaled remove to fresh air. Breathing oxygen maybe administrated if required. If respiration stop perform CPR. Get Medical Attention Immediately If Symptoms Develop.

- **INGESTION:** NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF SWALLOWED DON'T INDUCE VOMITING. Give large amounts of water, If available give 16 plus ounces of milk. If vomiting occurs spontaneously KEEP AIRWAYS CLEAR. Get Medical Attention Immediately.

ROUTES OF EXPOSURE

INHALATION: Exposure to mist or spray may cause coughing, sneezing or other symptoms of upper respiratory tract irritation. SKIN Can cause irritation of skin. EYES: Causes irritation and pain, redness and tearing.
INGESTION: Can cause irritation to mucous membranes of the digestive tract.

EFFECTS OF OVER EXPOSURE:

ACUTE: Irritating to skin, eyes, mucous membranes of the respiratory and digestive tract,.
CHRONIC: No known chronic effects.
TOXICOLOGY: OF CONCENTRATE LD50 2000 TO 3000 mg/kg

PRECAUTIONARY STATEMENTS: This proprietary formulation is not subject to restrictive or special handling defined under environmental regulations. OSHA regulations are being complied with by these statements

- When handling material use personal protective equipment such as long pants, long sleeve shirts, chemical splash goggles, face shield, rubber gloves and boots.. clean immediately with soap and water.
- Avoid getting material in eyes or on skin.
- Use only with adequate ventilation
- Avoid breathing mist or spray asthma symptoms may be aggravated
- Use mist rated respiratory protective equipment when exposed to mist or spray
- Do not ingest
- Avoid contact with acidic material when in the liquid state -- it will gel
- Use no aluminum containers or equipment.
- Do not allow contact with glass, paint or aluminum.. wash thoroughly and immediately with soap and water after contact to avoid chemical reaction
- Keep container closed.

III IMPORTANT COMPONENTS

CHEMTEC ONE

- **PROPRIETARY BLEND OF A WATER SOLUBLE REACTIVE SILICATES. COMPONENTS ARE NOT A LISTED CARCINOGEN.**

IV FIRE AND EXPLOSION DATA

FLASH POINT: NA AUTOIGNITION: NA FLAMMABLE LIMITS IN AIR % BY VOLUME: NA
EXTINGUISHING MEDIA: NA THIS PRODUCT IS NON-COMBUSTIBLE
FIRE FIGHTING PROCEDURE: FIRE FIGHTERS SHOULD USE THE BEST AVAILABLE MEANS TO PUT OUT THE FIRE. FIRE FIGHTERS SHOULD BE WEARING PROTECTIVE CLOTHING TO PROTECT FROM EXPOSURE.

V SPECIAL PROTECTION

VENTILATION REQUIREMENTS: WHERE MIST OR SPRAY MAY BE GENERATED USE ADEQUATE LOCAL EXHAUST VENTILATION.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

- **RESPIRATORY:** Use a NIOSH/MSA approved mist rated respirator following manufacturer's recommendations where mist or spray may be generated especially in a confined space.
- **EYES:** Wear chemical safety goggles, plus full face shield to protect against splashing when appropriate.
- **GLOVES:** Rubber gloves should be worn. Gloves may be cleaned by washing with a mild soap and water.
- **OTHER CLOTHING AND EQUIPMENT:** Standard skin covering work clothing. Standard work shoes. Wash and dry soiled clothing before reuse. Shower and eyewash facilities should be accessible.

VI. PHYSICAL DATA

pH: 11.3 concentrate(ready to use)
BOILING POINT@ 760 mm Hg: 214-216 oF
FREEZING POINT: 30°F
VAPOR PRESSURE: NA
SPECIFIC GRAVITY (H2O=1) : 1.41 @ 20°C concentrate (ready to use is less)
SOLUBILITY IN H20 BY WEIGHT: 100%
VAPOR DENSITY (AIR=1): NA
APPEARANCE AND ODOR: Colorless, turbid liquid; none to slightly soapy odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:
Under normal conditions the material is stable.
INCOMPATIBILITY:
This product is alkaline and gels when mixed with acids.
HAZARDOUS DECOMPOSITION PRODUCTS:
None
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATIONS:
None known.

VIII. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: Do not store in aluminum containers as flammable hydrogen gas can be generated. Do not use aluminum fittings or transfer lines. Contact with acids will cause gelling of the silicate component and also may produce some heat. CLEAN up equipment with soap and water as soon as possible after use. CAUTION, leaving residue in spraying equipment may damage equipment.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: If significant amount of concentrate material is spilled, steps should be taken to contain liquids and prevent discharges to streams or sewer systems. Spills should be reported, if required, to the appropriate local, state and federal regulatory agencies. READY TO USE FORMULATIONS CAN BE DILUTED AND WASHED TO DRAINS WITH PLENTY OF WATER WHEN NOT SIGNIFICANT AMOUNTS. IF OVER 109 GALLONS, RETAIN FOR PROPER DISPOSITION.

WASTE DISPOSITION METHOD: This ready to use formulation is not subject to restrictive or special handling defined under environmental regulations. For concentrate clean-up action should be carefully planned and executed Shipment, storage, and/or disposal of waste materials may be regulated and action to spilled materials must meet the applicable rules. The appropriate agencies should be assured proper action being taken. If any questions exist call CHEMTEC INT'L @ 513-474-2090

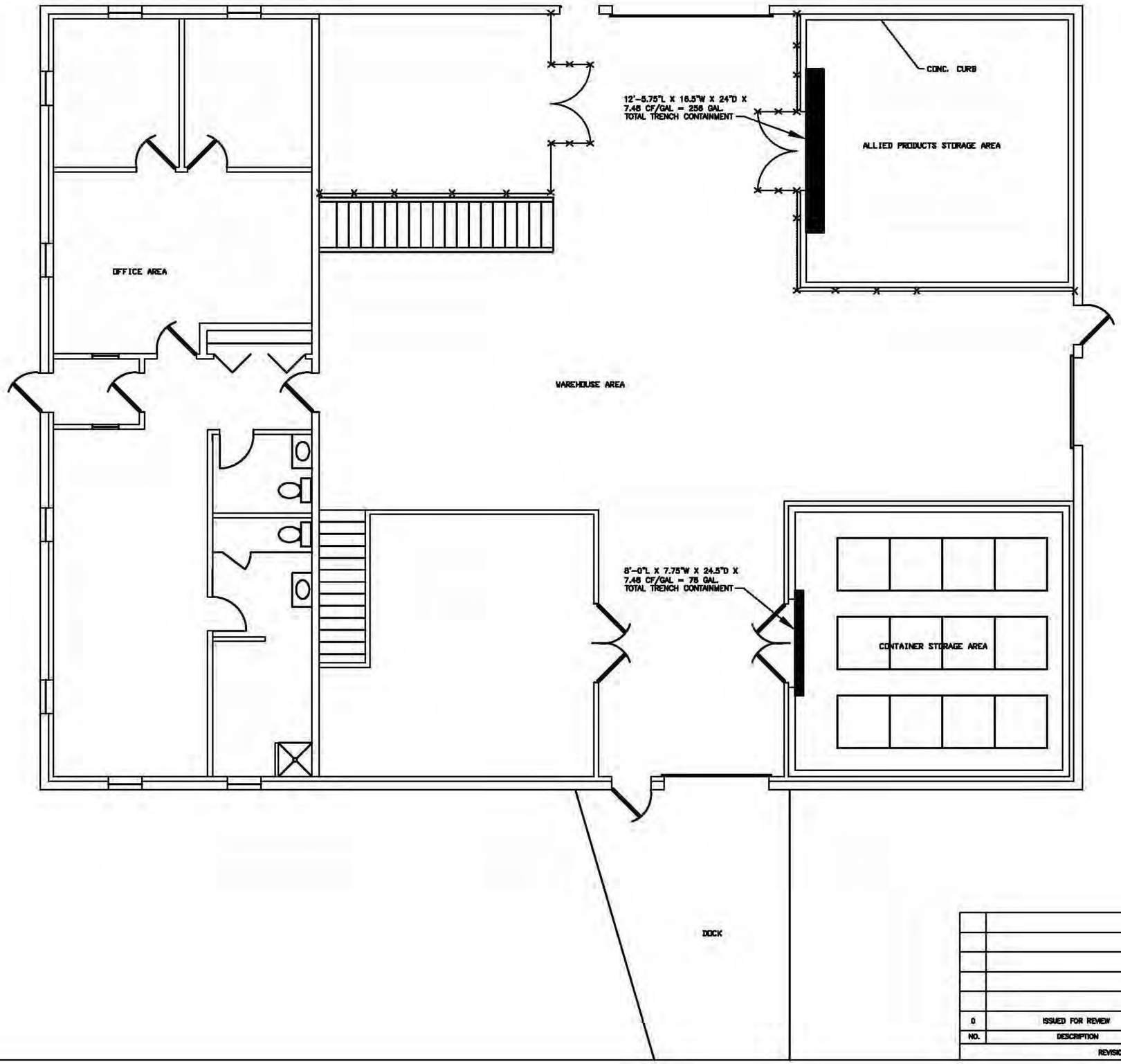
X. ADDITIONAL INFORMATION

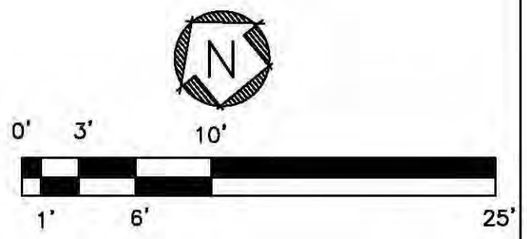
OSHA Standard 29CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to make all information in this Material Safety Data Sheet available to your employees.

FOR INDUSTRIAL USE ONLY The information presented is based on data considered to be accurate at the time of preparation of this MSDS. No warranty or representation expressed or implied is made as to the accuracy or completeness of this information. Additionally no responsibility will be assumed for any damage or injury resulting from abnormal or misuse, from failure to adhere to recommended practices, or from hazards inherent in the nature of this product.

Exhibit B-34

Example Pallet Layout (Container Storage Area)





GENERAL NOTES

PROPRIETARY STATEMENT

Plant Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
0	ISSUED FOR REVIEW	JEK	KDT	KDT	012213

REVISIONS

TITLE

EXAMPLE CONTAINER STORAGE LAYOUT

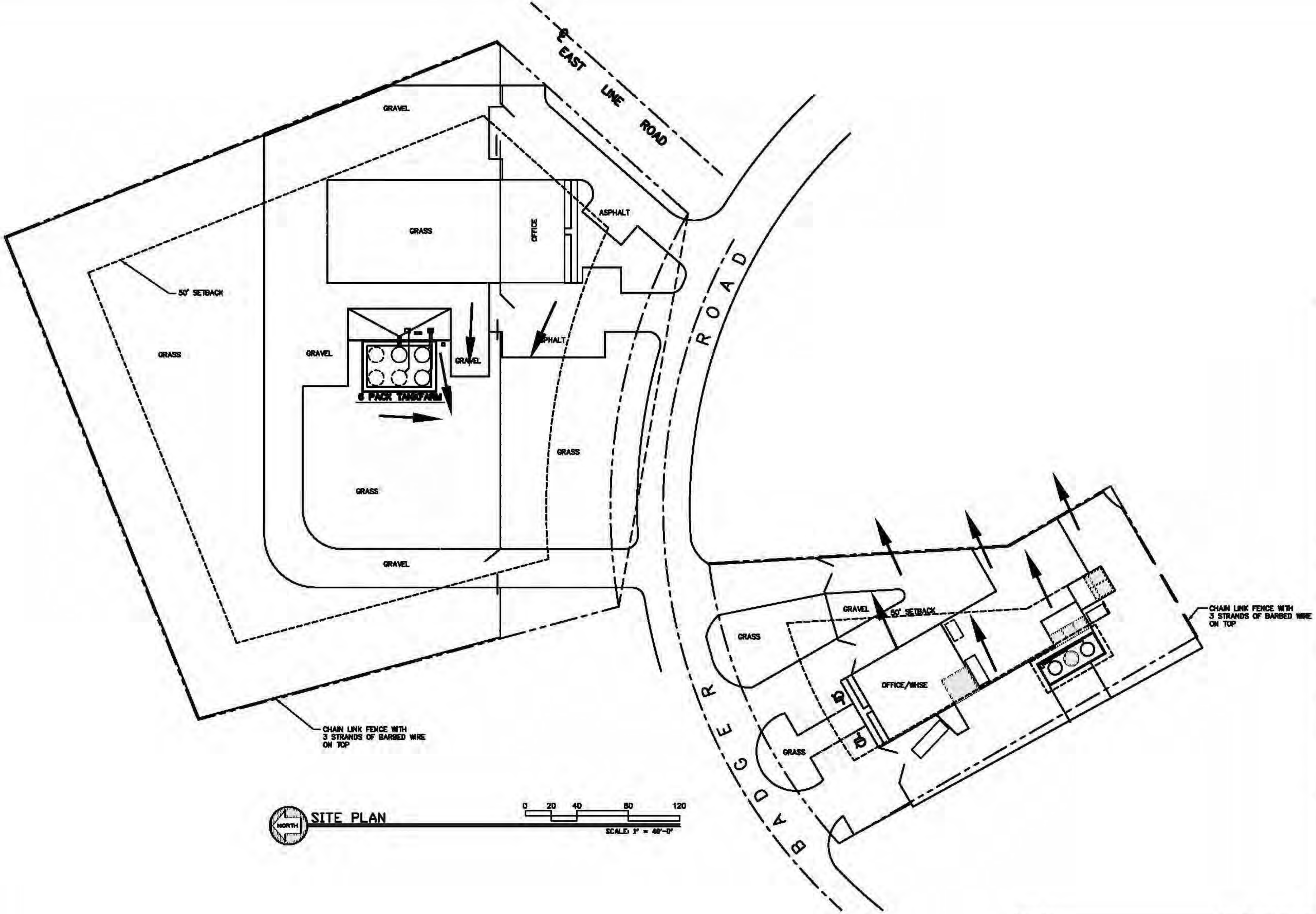
SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE. 400 RICHARDSON, TX. 75080
PHONE: 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	JEK	KDT	KDT	KDT	1/22/13

SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
KAUKAUNA, WI.	7022-WB00-005	0

Exhibit B-35

Site Storm Water Flow Diagram



POTENTIAL SPILL PATHWAYS

CERTIFICATION NOTE

APPLICATION OF THIS SEAL INDICATES THAT BASED UPON THE CONDITIONS IDENTIFIED IN THE GENERAL NOTES ON THIS DRAWING, IT IS THE ENGINEER'S PROFESSIONAL OPINION THAT THIS DRAWING ACCURATELY REFLECTS THE CONDITIONS INDICATED AT THE TIME OF THE SITE OBSERVATIONS.

GENERAL NOTES

1. SITE PLAN AS INDICATED WAS FIELD VERIFIED ON 8-1-12 BY S-K.

PROPRIETARY STATEMENT

Project Solutions Companies
2005 West Broadway • Suite 210 • Columbia • MO 65203
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE

POTENTIAL SPILL PATHWAYS

SAFETY-KLEEN SYSTEMS, INC.
5360 LEGACY DR. BLDG 2 SUITE 100 PLANO, TX. 75024 800-669-5740

NO.	DESCRIPTION	BY	CHK	APPR	DATE
0	ISSUED FOR PERMIT	JEK	KDT	KDT	012013

REVISIONS

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1" = 40'-0"	JEK	KDT	KDT	KDT	1/28/13

SERVICE CENTER LOCATION	SC-DWG. NO.	REV NO.
KAUKAUNA, WI	7022-SP00-004	0