

MODULE IV

STORAGE IN TANKS

IV.A. APPLICABILITY

- IV.A.1. The requirements of this module apply to the operation of the hazardous waste (spent solvent) tank system at the facility. The tank system consists of is a two vertical, aboveground tanks, identified as tank 2 and tank 3, with the associated ancillary equipment and secondary containment, with each tank having an operating capacity of 13,98614,250 gallons. The Permittee shall comply with R315-264-190 through 200 and all applicable requirements established in this permit when managing hazardous waste in this tank system.

IV.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

- IV.B.1. The Permittee may store hazardous waste, identified by one or more of the waste codes outlined below, in the hazardous waste tanks at the facility, provided the waste is not prohibited by Condition II.C.3:
- IV.B.1.a. D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D021, D027, D028, D035, D039, and D040.
- IV.B.2. Hazardous waste identified by waste codes other than those above shall not be placed in the hazardous waste tank system at the facility.
- IV.B.3. The Permittee shall not place hazardous waste in a tank other than the hazardous waste tanks identified by this permit.

IV.C. SECONDARY CONTAINMENT AND INTEGRITY ASSESSMENTS

- IV.C.1. For the existing tank system, the Permittee shall keep on file at the facility, a written assessment, reviewed and certified by an independent, qualified Utah registered professional engineer that attests to the tank system's integrity. This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes being stored to ensure that it will not collapse, rupture, or fail.
- IV.C.2. The Permittee shall maintain the tank system (including ancillary equipment and secondary containment) as constructed and in accordance with ATTACHMENT 8 and maintain this system in such a manner as to ensure that it performs in accordance with R315-264-190 through 200 (specifically R315-264-193).

IV.D. NEW AND REPLACEMENT TANK SYSTEMS OR COMPONENTS

IV.D.1. The Permittee shall comply with Condition I.D.3. when requesting additional, or replacement tank systems, components, or ancillary equipment.

IV.E. GENERAL OPERATING REQUIREMENTS

IV.E.1. The Permittee shall mark and maintain on the tanks designated for hazardous waste storage, the words "HAZARDOUS WASTE" in lettering at least four inches in height and in a color to contrast with the tank.

IV.E.2. The Permittee shall not place hazardous wastes or other materials in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

IV.E.3. The Permittee shall use appropriate controls and practices to prevent spills and overflows from the tanks or containment system.

IV.E.4. The Permittee shall cease operating the tank or tank system as appropriate, in the event of an equipment failure, power supply failure or if the tank is found unfit for use as a result of the annual interior inspection.

IV.E.5. The Permittee shall maintain the tank system (including ancillary equipment and secondary containment) in good repair. Routine maintenance shall be performed at sufficient frequency to ensure that the tank system remains in good repair. Malfunctions and deterioration shall be corrected as expeditiously as possible.

IV.E.6. The tank system shall be designed, constructed, maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden discharge of hazardous waste or hazardous waste constituents to the air, soil, groundwater, or surface water which could threaten human health or the environment.

IV.E.7. The Permittee shall empty the facility tank system, visually inspect the general condition of the tank system, and measure the corrosion of the tank system by May 1, 2017. The Permittee shall provide a certification to the Director in accordance with Condition IV.J.2. that the tank system can safely store the hazardous waste authorized by this permit to be managed in the tank. This inspection and associated testing shall be certified by an independent, qualified Utah registered professional engineer. This inspection and certification does not need to be repeated until by September 30, 2026, unless the certifying engineer performing the inspection/certification above specifies that a shorter timeframe between repeat inspections is necessary.

IV.E.8. The Permittee shall maintain the level of hazardous waste in the tank system at or below 13,986,14,250 gallons in each spent solvent storage tank.

IV.E.9. The Permittee shall equip the tank system with and maintain a high-level alarm system in accordance with the drawings and specifications in ATTACHMENT 8.

- IV.E.10. Hazardous waste or other material may be placed in the tank system only if the waste or material is compatible with the wastes already stored in the tank, and compatible with the tank or tank system construction material.
- IV.E.11. Ignitable wastes placed in the tank system shall be managed in a manner that protects the waste from sources of ignition and the Permittee shall comply with all other applicable fire code requirements with respect to operation of the hazardous waste storage tanks.
- IV.E.12. No reactive waste shall be placed in the tank system.
- IV.E.13. The tank secondary containment system shall be maintained and operated such that it remains free of both cracks and gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.
- IV.E.14. If the tank secondary containment area contains any material, it shall be emptied within 24 hours of discovering the contents. This means that all material, liquid, or solid, or both, will be removed. If ongoing precipitation prevents the emptying of all material from the secondary containment system, the secondary containment system shall be emptied within 24 hours of the end of the precipitation event. However, enough material shall be removed during the event to maintain sufficient containment capacity in the system. If ice from precipitation forms in the tank system secondary containment, and removal within 24 hours of discovery poses a significant risk of causing damage to the secondary containment, the Permittee may leave the ice in place until it melts without being subject to the precipitation removal requirements of this condition. Precipitation in the form of ice in the tank secondary containment shall be removed the same business day as melting occurs.
- IV.E.15. The tank system secondary containment shall provide containment for at least 100% of the volume of the largest hazardous waste storage tank.

IV.F. RESPONSE TO LEAKS OR SPILLS

- IV.F.1. If there is a leak or spill from the tank system or the secondary containment system, or if either system becomes unfit for continued use, the Permittee shall remove the affected system from service immediately and complete the following actions:
- IV.F.1.a. Immediately stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release;
- IV.F.1.b. Remove waste and accumulated precipitation from the tank system, the secondary containment system, or both within 24 hours of detection of the leak or spill to prevent further release and allow for inspection and repair of the system. If the Permittee finds that it will be impossible to meet this time period, the Permittee shall orally notify the Director and request additional time;

- IV.F.1.c. Immediately conduct a visual inspection of the release, and based upon that inspection: prevent further migration of the leak or spill to soils or surface water and remove and properly manage any visible contamination of the soil or surface water; and
- IV.F.1.d. Unless the release is one pound or less and immediately contained and cleaned up, the Permittee shall notify the Director as soon as possible, but no later than 24 hours after detection of a release from the tank system to the environment. Within 30 days of detecting a release to the environment from the tank system, the Permittee shall submit a written report to the Director identifying details of the release including:
 - IV.F.1.d.i. Likely route of migration of the release;
 - IV.F.1.d.ii. Characteristics of the surrounding soil;
 - IV.F.1.d.iii. Results of any monitoring or sampling conducted in connection with the release;
 - IV.F.1.d.iv. Proximity to downgradient drinking water, surface water, and populated areas; and
 - IV.F.1.d.v. Description of response actions taken or planned.
- IV.F.1.e. The Permittee shall close the tank system in accordance with the Closure Plan, ATTACHMENT 6, unless the following are satisfied:
 - IV.F.1.e.i. For a release caused by a spill that has not damaged the integrity of the tank system, the Permittee may return the tank system to service as soon as the released waste is removed and repairs, if necessary, are made;
 - IV.F.1.e.ii. For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee shall repair the primary system prior to returning it to service;
 - IV.F.1.e.iii. For a release to the environment caused by a leak from a component of the tank system without secondary containment, the Permittee shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of R315-264-190 through 200 (specifically R315-264-193) before it can be returned to service, unless the source of the leak is an aboveground portion of the tank system that can be inspected visually. If the source of the leak is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as the certification requirements of Condition IV.F.1.e.iv. are satisfied. If a component is replaced to comply with the requirements of this condition, that component shall satisfy the requirements for new tank systems or components in R315-264-190 through 200 (specifically R315-264-192 and 193). Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection, the entire component must be provided with secondary containment in accordance with R315-264-190 through 200 (specifically R315-264-193) prior to being returned to use.

- IV.F.1.e.iv. If the Permittee has repaired the tank system in accordance with Condition IV.F.1.e. and the repair has been extensive, the tank system must not be returned to service unless the Permittee has obtained a certification by an independent, qualified, Utah-registered, professional engineer that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. The certification shall be submitted to the Director within seven days after returning the tank system to use.
- IV.F.2. The Permittee shall comply with the requirements specified in the Contingency Plan, ATTACHMENT 2, in the event there is a release from the tank system that threatens human health or the environment.

IV.G. ORGANIC AIR EMISSION STANDARDS

- IV.G.1. The hazardous waste storage tanks ~~is~~ are not subject to the requirements in Condition IV.G. if the tank meets one or more of the exemption standards found in R315-264-1080 through 1090 (specifically R315-264-1082(c)).
- IV.G.2. If not exempt under Condition IV.G.1., the Permittee shall control air emissions from the hazardous waste tanks s using Tank Level 1 controls including the following:
- IV.G.2.a. The Permittee may only store in the tank system, waste with an organic vapor pressure equal to or less than 5.2 kPa.
- IV.G.2.b. The maximum organic vapor pressure for wastes being stored in the tanks s shall be determined using the procedures specified in R315-264-1080 through 1090 (specifically R315-264-1083(c)). The Permittee shall perform a new determination whenever changes to the hazardous waste managed in the tanks s could potentially cause the maximum organic vapor pressure to increase to a level equal to or greater than 5.2 kPa.
- IV.G.2.c. The tanks s shall be equipped and maintained with a fixed roof designed to meet the following requirements:
- IV.G.2.c.i. The fixed roof and its closure devices shall be an integral part of the tanks s and shall form a continuous barrier over the entire surface area of the hazardous waste in the tanks s.
- IV.G.2.c.ii. The fixed roof shall be maintained such that there are no visible cracks, holes, gaps, or other open spaces between the roof section joints or between the roof edge and the tank wall.
- IV.G.2.c.iii. Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or connected by a closed-vent system that is vented to a control device. The control device shall be designed to remove or

destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank(s), except as provided below:

- IV.G.2.c.iii.A. During periods when it is necessary to provide access to the tank(s) for performing the activities of Condition IV.G.2.c.iii.B., venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the Permittee shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.
- IV.G.2.c.iii.B. During periods of routine inspection, maintenance, or other activities needed for normal operations, or for removal of accumulated sludge or other residues from the bottom of the tank(s).
- IV.G.2.c.iv. The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life.
- IV.G.3. Whenever hazardous waste is in the tank(s), the fixed roof shall be installed with each closure device secured in the closed position except as follows:
 - IV.G.3.a. Opening of closure devices or removal of the fixed roof is allowed at the following times:
 - IV.G.3.a.i. To provide access to the tank(s) for performing routine inspection, maintenance, or other activities needed for normal operations. Following completion of the activity, the Permittee shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the tank(s).
 - IV.G.3.a.ii. To remove accumulated sludge or other residues from the bottom of the tank(s).
 - IV.G.3.b. Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the Permittee based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable or hazardous materials.
 - IV.G.3.c. Opening of a safety device, as defined in R315-265-1 (specifically 40 CFR 265.1081 as incorporated by reference in R315-265-1) is allowed at any time conditions require doing so to avoid an unsafe condition.

- IV.G.4. Transfer of hazardous waste to the tank(s) or from the tank(s) shall be conducted using continuous hard or flexible piping or another closed vent system that does not allow exposure of the hazardous waste to the atmosphere.

IV.H. ORGANIC AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

- IV.H.1. The Permittee shall comply with the applicable requirements of R315-264-1050 through 1065, for all equipment, including each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and associated control devices in contact with or containing hazardous waste with an organic concentration of at least 10 percent by weight. The facility is assumed to be in heavy liquid service and the Permittee shall maintain the necessary documentation at the facility to support this assumption.

IV.I. DUMPSTER/DRUM WASHER SPECIFIC CONDITIONS

- IV.I.1. Each Dumpster/Drum Washer at the Return and Fill station shall be maintained in such a manner that when the lid is closed, there are no visible cracks, holes, gaps, or other open spaces between the lid/interface of the lid edge and the sides of the Dumpster/Drum Washer.
- IV.I.2. The lid of each Dumpster/Drum Washer may be opened for the following activities: adding or removing waste, routine maintenance, sampling, inspection, or other activities needed for normal operation. Otherwise, the lid of each Dumpster/Drum Washer shall be maintained in the closed position.
- IV.I.3. At the end of each processing batch, each Dumpster/Drum Washer shall have standing free liquid removed from the drip/spill pan below the dumpster and to the extent practical, free liquid and sludge shall be removed from each unit by the end of each business day.

IV.J. INSPECTION SCHEDULES AND PROCEDURES

- IV.J.1. The Permittee shall conduct inspections of the tank system as specified in ATTACHMENT 5.
- IV.J.2. The Permittee shall submit the results of the tank inspection referenced in Condition IV.E.7. to the Director by July 1, 2017. Any subsequent tank system inspections performed under Condition IV.E.7. shall be submitted to the Director within 60 days following the inspection.
- IV.J.3. All tests for tanks, corrosion or foundation integrity shall be certified by an independent, Utah registered, professional engineer qualified by experience and education in the appropriate engineering field.

IV.K. SPECIAL TANK PROVISIONS FOR REACTIVE WASTES

IV.K.1. The Permittee shall not place reactive waste in the hazardous waste tank system.

IV.L. SPECIAL TANK PROVISIONS FOR INCOMPATIBLE WASTES

IV.L.1. The Permittee shall not place incompatible wastes, or wastes and other compatible materials, in the tank system.

IV.L.2. The Permittee shall not place hazardous waste in the tank system if it previously held an incompatible waste or other material and the tank has not been decontaminated.

IV.M. CLOSURE AND POST-CLOSURE CARE

IV.M.1. At closure of the tank system, the Permittee shall follow the procedures in ATTACHMENT 6 and remove or decontaminate all waste residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with waste and manage them as hazardous waste unless decontaminated to the standard established in ATTACHMENT 6.

IV.M.2. If the Permittee demonstrates that all contaminated soils cannot be practically removed or decontaminated, in accordance with the Closure Plan, the Permittee shall close the tank system as a landfill and perform post-closure care following the contingent procedures in ATTACHMENT 6.

ATTACHMENT 1

WASTE ANALYSIS PLAN

1.A. WASTE TYPES

1.A.I. The following types of hazardous waste have been identified as candidates for storage at the Facility.

1.A.I.a. **Spent Petroleum Parts Washer Solvent**

1.A.I.a.i. Chemically, the petroleum solvent primarily consists of petroleum hydrocarbon fractions with boiling points between 310°F and 400°F. The flash point of the petroleum solvents ranges from 105°F (ignitable) to 212°F. Impurities, such as light aromatic hydrocarbons and chlorinated hydrocarbons, usually constitute less than one percent of the total volume.

Spent parts washer solvent consists primarily of parts washer solvent, solids, oil, and grease picked up in the various degreasing operations. Water content may range from 0 percent to as much as 50 percent. The oily bottoms may range from 2 percent to 10 percent by volume in the used solvent. The substances that comprise the used parts washer solvent are compatible and are suitable for bulking. The spent parts washer solvent is transported in accordance with the generator's hazardous waste determination pursuant to R315-262. Hazardous characteristics of the spent parts washer solvents can vary and are primarily associated with constituents introduced by the customer's processes. Chemically, the composition of the solvent fraction in the spent parts washer solvent is essentially the same as the clean solvent.

1.A.I.a.ii. Containers of spent petroleum based parts washer solvent that are returned from customers are poured into a drum washer/dumpster at the return/fill station, which is piped into the aboveground waste solvent storage tanks located in the tank farm. As generated, spent petroleum based parts washer solvent may exhibit the characteristic of ignitability. Spent petroleum based parts washer solvents may also be considered characteristic waste by the toxicity characteristic leaching procedure (TCLP) and may carry the waste codes identified in Table 1- ATTACHMENT 1.

1.A.I.b. **Spent Immersion Cleaner**

1.A.I.b.i. Safety-Kleen leases units containing "immersion cleaner." This product is a petroleum-based solvent. Parts are immersed and agitated in equipment designed to minimize physical labor time. Spent immersion cleaner received by the facility from customers, is basically unchanged from its clean state, except oil, grease, and other solids may be picked up during the various degreasing operations. The spent solvent is nonflammable. It is regarded as hazardous because of the presence of various contaminants. The used immersion cleaner remains in the

same container from the time it is collected from the customer until it is shipped to a Safety-Kleen recycle facility or other permitted facility to manage this waste stream. The used immersion cleaner may exhibit toxic characteristics by TCLP and may carry the waste codes referred to in Table 1-ATTACHMENT 1.

1.A.I.c. **Spent Parts Washer Solvent Tank Sludge**

1.A.I.c.i. Tank bottom sludge settles from spent parts washer solvent in the aboveground storage tanks. The sludge is the residual left in the tank and may contain soils, oil and grease, and water picked up in degreasing operations, together with solvent. Analyses have shown that the sludge is an ignitable waste and may also be considered hazardous with respect to TCLP standards. The sludge is removed from the aboveground tanks periodically and shipped to a Safety-Kleen facility or other permitted facility for reclamation.

1.A.I.d. **Spent Washer Solvent Bottom Sludge**

1.A.I.d.i. Parts Washer Solvent Bottoms Sludge is either accumulated in the wet dumpster/drum washer or brought into the service center in drums from customers. Filters from parts washers utilizing parts washer solvents may also be added. The nature of this waste is similar to the used parts washer solvent tank bottom sludge, except there may be some metal parts from the cleaning operation. It is typically an ignitable waste and often is a characteristic waste using TCLP standards. The parts washer solvent bottoms sludge in the dumpsters is cleaned out frequently. The waste is containerized and stored as a Branch-generated waste in a permitted waste storage area for later shipment to a Safety-Kleen recycle facility or other permitted facility for reclamation or disposal.

1.A.I.e. **Dry Cleaning Wastes**

1.A.I.e.i. Solvents used in dry cleaning operations include halogenated and mineral spirits based solvents. Waste generated from dry cleaning operations may contain various concentrations of these solvents and are in the following forms:

1.A.I.e.i(A). Filter Cartridges: In addition to the filter materials of construction consisting of steel, paper, clay, and carbon, the used cartridge retains solvent, oil and grease, and undissolved elements such as lint and soil. Solvent retained in the filter cartridge generally amounts to less than 50 percent of the total cartridge weight.

1.A.I.e.i(B). Powder Residue: At some dry cleaning facilities, a mixture of powdered materials is used as the filter medium for the dry cleaning solvent, in lieu of a cartridge filter. This filter medium normally consists of diatomaceous earth and carbon. In addition to lint, soil, oil, and grease retained by this medium, between 40 and 50 percent by weight of the "powder residue" may be absorbed solvent.

1.A.I.e.i(C). Still Residue and Separator Water: After filtration at the generator, the dry cleaning solvent is distilled to remove the dissolved materials from the used solvent. The dissolved materials (still residues) are in liquid form and consist

primarily of detergent, oil and grease, vinyl acetate (a sizing compound), water and 20 to 30 percent solvent. In some cases, the dry cleaner will separate the water condensate from the still residue. Water condensate removed from the processor may contain dry cleaning solvent, oil, grease and vinyl acetate.

- 1.A.I.e.ii. A common dry cleaning solvent currently in use is perchloroethylene (F002 and a characteristic waste by TCLP), and it may carry the waste codes referred to in Table 1-ATTACHMENT 1. Other dry cleaning solvents in use may include mineral spirits and 1,1,1-trichloroethane. Dry cleaning wastes are typically managed as transfer wastes.

1.A.I.f. **Paint Wastes**

- 1.A.I.f.i. Paint wastes consist of paints, lacquer thinners, and paint/thinner contaminated materials. The waste is collected in containers at the customer's place of business and stored in Safety-Kleen's permitted metal shelter container storage area or managed as a transfer waste. The paint wastes that are not managed as transfer wastes, are then re-manifested and periodically sent to a Safety-Kleen recycle center or other permitted facility.

- 1.A.I.f.ii. Paint wastes include such constituents as acetone, isopropyl alcohol, methyl ethyl ketone, methyl isobutyl ketone, toluene, xylenes, and acetate compounds. This waste stream may also be a characteristic waste by TCLP, and may carry the waste codes referred to in Table 1-ATTACHMENT 1.

1.A.I.g. **Imaging/Photochemical Waste**

- 1.A.I.g.i. Imaging waste consists typically of an aqueous solution used to etch photo film during processing. This material is characteristic by TCLP for silver (D011) and may be managed as a transfer waste.

1.B. WASTE ANALYSIS PLAN

- 1.B.I. Safety-Kleen provides solvent distribution, collection, and reclamation services to companies that are primarily engaged in automobile repair, industrial maintenance, dry cleaning, and imaging. When the cleaning fluids become dirty and can no longer be used effectively, Safety-Kleen picks up the dirty fluids and replaces them with clean, recycled fluids. The spent fluids are returned to the facility where they are stored temporarily before they are transported to one of Safety-Kleen's recycle centers or other permitted off-site facilities. In addition to solvents used in the industrial maintenance and repair industry, Safety-Kleen also collects dry cleaning, paint-related, and photochemical/imaging wastes that may be managed as transfer wastes at the facility. Safety-Kleen's customers typically are small quantity generators who operate businesses that generate only a few hazardous waste streams. These factors help ensure that Safety-Kleen will receive a highly predictable and homogeneous waste stream.

- 1.B.II. Spent solvents are the primary feedstocks for the generation of some of the Safety-Kleen solvent products. As a result, quality control of the spent solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. Safety-Kleen controls the use and management of its solvents by:
- 1.B.II.a. Placing waste only in containers compatible with those wastes and segregating containers according to DOT and fire code requirements;
- 1.B.II.b. Determining the customer's type of business (i.e., SIC code) and the purpose for which the machine will be used;
- 1.B.II.c. Providing customers with information on how to use leased Safety-Kleen equipment, where applicable;
- 1.B.II.d. Training employees to inspect wastes and determine whether they are acceptable for storage at the Branch;
- 1.B.II.e. Indicating on the service document, every time waste is collected, that the solvent has been evaluated and meets Safety-Kleen's acceptance criteria;
- 1.B.II.f. Marking each container with the customer's name, address, and EPA I.D. number (if required). This information remains on containerized waste until it is accepted at the Branch;
- 1.B.II.g. Keeping a record of each incoming and outgoing shipment in the operating log at the facility;
- 1.B.II.h. Demonstrating the chemical and physical homogeneity of the wastes by sampling and analyzing a representative portion of generator waste streams on an ongoing annual basis at the national level; and
- 1.B.II.i. Performing routine analysis of the wastes received at the reclamation or disposal facility.
- 1.B.III. The materials collected by the facility are often collected from a company with a single waste generation process. The composition and quality of these materials are known and Safety-Kleen's operating experience has shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect certain materials before returning them to the facility. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.
- 1.B.IV. Safety-Kleen shall not accept any suspected nonconforming material until a full analysis has been performed, otherwise the material shall be rejected. Procedures to verify waste characteristics shall occur at several checkpoints in the management of the waste.

- 1.B.V. Safety-Kleen shall require each customer to sign a service document containing the following information:
 - 1.B.V.a. The name, address, and EPA I.D. number of the facility to which the waste is being shipped;
 - 1.B.V.b. The customer's name, address, and EPA I.D. number (if required); and
 - 1.B.V.c. The description and amount of waste generated.
- 1.B.VI. Each incoming and outgoing shipment shall be recorded in the facility's operating log. In addition, each sales representative shall review the acceptance criteria each time a waste is picked up. In accordance with Safety-Kleen procedure, all generators shall sign a statement with each shipment indicating that no material has been added to the closed-loop products supplied by Safety-Kleen. Finally, selected environmental reviews may be utilized to guard against the addition of other wastes into the generator's waste.

1.C. QUALITATIVE WASTE ANALYSES

- 1.C.I. Prior to acceptance, a Safety-Kleen representative shall visually inspect each container of waste at the customer's location. This inspection shall include an evaluation of the waste volume, appearance, and consistency. Safety-Kleen personnel are familiar with the characteristics of all wastes managed at the Branch. Safety-Kleen has established specific acceptance criteria for wastes managed at their facilities based on known characteristics. These criteria, described in Condition 1.D. below, shall be used by Safety-Kleen personnel to aid in their visual inspections. These acceptance criteria enable Safety-Kleen to help ensure that the wastes being collected are acceptable and do not contain unacceptable contaminants.
- 1.C.II. If a particular container of waste does not meet the established acceptance criteria, the Safety-Kleen service representative shall reject the container at the customer's place of business. At the customer's request, a sample may be collected and analyzed by Safety-Kleen to determine whether the Branch can manage it. Depending on the source, the waste shall be analyzed for parameters related to the suspected source/type of waste as identified in Table 2-ATTACHMENT 1. Alternately, the customer may choose to dispose of the material by using another permitted (non-Safety-Kleen) facility.
- 1.C.III. If a waste is to be sampled for further analysis, the service representative shall take a representative sample of the waste and then seal the original container and label it as hazardous waste. The original container shall be left with the customer pending the results of the laboratory tests. The laboratory testing shall involve analyzing the suspect waste for compounds/characteristics related to the suspected source of the contamination (e.g., volatile organics, halogenated organics, PCBs, etc.).

- 1.C.IV. If the laboratory analysis reveals that the sampled waste is not contaminated and is otherwise acceptable for management at the facility, Safety-Kleen will accept the waste from the customer. If the laboratory confirms that the waste is contaminated, the customer will be given a choice as to whether they will dispose of the waste themselves or will require Safety-Kleen's assistance.

1.D. WASTE-SPECIFIC CRITERIA

1.D.I. Spent Parts Washer Solvent

- 1.D.I.a. Volume and color are the primary criteria for determining, by visual inspection, whether spent parts washer solvent has been contaminated. Safety-Kleen places clean parts washer solvent in various sized containers, each having a known volume based upon the service provided to the customer. When the waste is picked up, the container should not hold more than the volume originally delivered. If the volume of waste in a given container exceeds the specified level, the Safety-Kleen service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

- 1.D.I.b. Spent parts washer solvent shall be visually inspected for color. Clean parts washer solvent has a known color, typically a green tint or clear. As the solvent is used, it changes color. The specific color change is dependent upon the type of equipment being cleaned. For example, solvent used at automotive shops typically changes to brown or black, while solvent used by silk screeners will change according to the color of the inks (red, blue, pink, green, etc.). If the spent solvent color does not appear to be consistent with cleaning process being used, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.II. Immersion Cleaner

- 1.D.II.a. The criteria for the inspection of spent immersion cleaner are volume and color. Clean immersion cleaner is delivered to the customer in containers, with each container holding a known volume of immersion cleaner, typically six gallons. Spent immersion cleaner is picked up from the customer in the same containers. If no additional material has been added to the spent immersion cleaner, the containers should contain no more the original volume of immersion cleaner. If a container contains more than the original volume, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

- 1.D.II.b. Clean immersion cleaner is amber in color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. If the spent immersion cleaner does not appear to be amber, brown, or black, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.III. Spent Dry Cleaning Filter Cartridges

1.D.III.a. Spent filter cartridges shall be placed in containers that hold one to three cartridges. Trained service representatives visually inspect and confirm that the items in the containers are spent dry cleaning filter cartridges. The containers may also contain approximately one to two inches of liquid that should be either clear or have a light brownish tint. If the amount of the liquid is greater than approximately two inches or if the liquid is a color other than clear to light brown, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.IV. **Dry Cleaning Powder Residue**

1.D.IV.a. The criteria for the acceptance of dry cleaning powder residue are consistency and color. A container of powder residue should not contain more than one inch of liquid. The waste should be slightly wet, with the consistency of a paste. If there is too much liquid in the container, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.IV.b. The powder residue shall be inspected for a white to grayish-black color. If the residue is not white to grayish-black in color, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.V. **Dry Cleaning Still Residues**

1.D.V.a. The criteria for the acceptance of dry cleaning still residues are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is non-viscous/too thin, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.V.b. In addition to the consistency, the still residue waste shall be inspected for a dark brown or black color. If the waste is not dark brown or black, the service representative shall reject the container of waste in accordance with Condition 1.C.II of this attachment.

1.D.VI. **Gun Cleaner Paint Waste**

1.D.VI.a. The significant criterion for determining whether gun cleaner paint waste is accepted is volume. The solvent is provided to customers in two containers with a set volume based upon the service type. The paint gun-cleaning machine operates as a closed system consisting of container of fresh lacquer thinner and a container for spent lacquer thinner. The closed system is designed so that there should never be a combined volume of more than the set volume of lacquer thinner in the two containers. At the time of customer waste pickup, if there is more waste in the two containers than the original volume of lacquer thinner provided to the customer, the service representative shall reject the waste in accordance with Condition 1.C.II of this attachment.

1.D.VII. **Paint Waste**

- 1.D.VII.a. The criterion for whether paint waste is acceptable is that the waste must come from solvent based painting operations. The waste should contain no more than 50 percent solids. Percent solids is a processing cost issue and may be evaluated by waste inspection and/or tapping on the side of the container to determine approximate solids content. If paint waste does not come from solvent based painting operations, the waste shall be rejected in accordance with Condition 1.C.II of this attachment.

1.D.VIII. **Imaging Waste**

- 1.D.VIII.a. When a customer is initially signed up for Safety-Kleen's imaging service, their waste is analyzed for silver content using a Colorimeter or other device to measure silver content. A visual examination is made of the photo solution each time the waste is picked up. The imaging waste typically has a light to dark amber color and an aqueous consistency. At the time of pickup, if the Safety-Kleen representative observes that the waste is not a light to dark amber in color and aqueous in consistency, the waste shall be rejected in accordance with Condition 1.C.II of this attachment.

1.E. WASTE PROFILING

- 1.E.I. The Permittee shall establish a profile for each waste stream prior to initial acceptance of the waste stream from a generator. The waste profile includes the information necessary to properly manage the waste stream and establishes a baseline of information for use in determining acceptability of subsequent shipments of the waste stream.
- 1.E.II. The Permittee shall use analytical testing, generator waste characterization information, and process knowledge to establish each waste profile. At a minimum, for wastes other than spent parts washer solvent, spent immersion cleaner and gun cleaner paint waste, the Permittee shall conduct the analyses or obtain analytical results for the tests identified in Table 2-ATTACHMENT 1 to establish each waste profile. The information used to establish each waste profile shall be maintained in the facility operating record and may be maintained electronically.
- 1.E.III. At the time of waste pickup, each generator shall certify in writing that the waste being collected matches the established profile.

1.F. REQUIRED RECORDS AND REPORTING

- 1.F.I. Waste Manifests
- 1.F.I.a. Appropriate shipping papers/manifests are used, based on the monthly quantity of hazardous waste generated by the customer. Safety-Kleen services all three

categories of generators in Utah — ~~conditionally exempt very~~ small quantity generators (~~CESQGs~~~~VSQGs~~), small quantity generators (SQGs), and large quantity generators (LQGs). ~~CESQGs'~~~~VSQGs'~~ spent solvent is removed via a service document and no manifest or Land Disposal Restrictions (LDR) form/notification is required. Appropriate records are kept at the Branch as to the date of waste pick-up, quantity, and other data on the service document. SQGs' spent solvent may be shipped under a tolling agreement, i.e., a contractual agreement between the SQG and a recycler where the recycler reclaims the waste and returns regenerated product to the SQG, in which case a manifest is not required provided the requirements of R315-262-20(e) are met. An LDR form/notification shall be completed per the requirements of R315-268 for each SQG. LQGs' spent solvent shall be manifested (if hazardous) and an LDR form/notification completed per the requirements of R315-268.

1.F.I.b. Spent solvent (from each Safety-Kleen customer, regardless of generator status) shall be brought back to the Branch and dumped in the return/fill station and pumped to the waste solvent tanks. The waste solvent tanks contain the spent solvent of many customers and is hazardous waste. The contents are regularly sent via truck tanker to a Safety-Kleen recycle center or other permitted facility. These loads shall be manifested. An LDR form/notification shall be completed per the requirements of R315-268.

1.F.I.c. Shipments of parts washer solvent bottoms sludge shall also be manifested as indicated above. Required records shall be kept at the Branch and the recycle center for five years.

1.G. LAND DISPOSAL RESTRICTION REQUIREMENTS

1.G.I. Safety-Kleen Pioneer Road shall comply with the applicable land disposal restriction requirements in R315-268. Incoming loads lacking the proper LDR notification shall not be accepted. Outbound shipments shall include the proper LDR notification.

TABLE 1-ATTACHMENT 1

PERMITTED WASTES

SAFETY-KLEEN SYSTEMS, INC.

SALT LAKE CITY, UTAH

Waste Type	Process Code(s)	Estimated Annual Amounts (thousands of gallons)	Potential Waste Codes
Spent Parts Washer Solvent ^{1,2}	S01 S02	336 336	D001 and D-Codes Listed in Note Below
Spent Parts Washer Bottom Sludge ^{1,2}	S01	Included Above	D001 and D-Codes Listed in Note Below
Spent Parts Washer Bottom Sludge from Tank ^{1,2}	S02	Included Above	D001 and D-Codes Listed in Note Below
Spent Immersion Cleaner ¹	S01	14	D-Codes Listed in Note Below
Dry Cleaning Waste ¹	S01	97	D001, F002 and D-Codes Listed in Note Below
Paint Waste ¹	S01	19	D001, F003, F005 and D-Codes Listed in Note Below
Imaging/Photochemical Waste ¹	S01	20	D011

NOTES:

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

¹ This waste may be stored in containers at the facility.

² This waste may be stored in the hazardous waste storage tanks at the facility.

TABLE 2-ATTACHMENT 1
Waste Specific Analytical Requirements
Safety-Kleen Systems, Inc.
Salt Lake City Service Center¹

<u>Waste Stream</u>	<u>Tests</u>	<u>Methods (SW-846)²</u>
1. Spent Parts Washer Solvent Sample collected from tank or container ³	Flash Point TCLP (organics and inorganics ⁴) Appearance and Specific Gravity ⁵	1010 1311
2. Spent Parts Washer Tank Bottom Sample collected from tank	Flash Point TCLP (organics and inorganics) Appearance	1010 1311
3. Spent Parts Washer Dumpster Sludge Random Grab Sample	Flash Point TCLP (organics and inorganics) Appearance	1010 1311
4. Spent Immersion Cleaner Random Grab Sample	Flash Point TCLP (organics and inorganics) Appearance and Specific Gravity	1010 1311
5. Dry Cleaning (Filter Cartridges, Powder Residue, and Still Bottoms)	Flash Point TCLP (organics and inorganics) Appearance Volatile Organics (F-Wastes)	1010 1311 8260
6. Paint Waste Random Grab Sample	Flash Point TCLP (organics and inorganics) Appearance Volatile Organics (F-Wastes)	1010 1311 8260
7. Paint Spray Gun Cleaner Random Grab Sample	Flash Point TCLP (organics and inorganics) Appearance Volatile Organics (F-Wastes)	1010 1311 8260
8. Imaging/Photochemicals Random Grab Sample	TCLP (organics and inorganics) Appearance	1311

Notes:

- 1 - All certifiable tests conducted by Utah Certified Laboratory
- 2 - Method Detection Limits must comply with SW-846 standards
- 3 - Sampling criteria applicable to Service Center quantitative analysis
- 4 - TCLP organics = volatile and semi-volatile constituents
- 5 - Appearance may also be performed by qualified Safety-Kleen Service Center representatives

ATTACHMENT 2

CONTINGENCY PLAN

2.A. PURPOSE

2.A.I. The Contingency Plan describes the actions to be taken by each employee in the event of a spill, fire or other emergency. It includes the information necessary to address emergency situations efficiently and in such a manner as to prevent or minimize hazards to human health or the environment due to fire, explosion, or any other release of hazardous materials to the air, soil, surface water, or ground water.

2.A.II. The Contingency Plan shall be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or materials that could threaten human health or the environment.

2.B. EMERGENCY COORDINATOR RESPONSIBILITIES

2.B.I. The Emergency Coordinator or alternate is responsible for implementing the Contingency Plan during an emergency; however, all employees shall be familiar with the procedures in this plan so that they know what to do during an emergency situation. Employees will be trained on the Contingency Plan as described in the ATTACHMENT 4 of this Permit.

2.B.II. The Emergency Coordinator and alternates 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. The Emergency Coordinator and alternates have the authority to commit the resources necessary to carry out the Contingency Plan.

2.B.III. Table 1-ATTACHMENT 2 contains the names and information of those persons qualified to act as Emergency Coordinators. This list will be updated as necessary. At all times, at least one of the employees designated as the Emergency Coordinator will be at the facility or on call to respond to an emergency situation at the facility.

2.C. RESPONSIBILITIES DURING AN EMERGENCY

2.C.I. The person who discovers the emergency situation shall report the situation to the Emergency Coordinator.

2.C.II. Whenever there is an imminent or actual emergency situation, the Emergency Coordinator (or alternate when the Emergency Coordinator is not available) shall immediately:

- 2.C.II.a. Activate the internal facility communication system to notify all facility personnel;
- 2.C.II.b. Notify Safety-Kleen's Incident Notification System using the 24-hour telephone number 1-800-468-1760; and
- 2.C.II.c. Notify appropriate state or local agencies with designated response roles, if necessary.
- 2.C.III. Whenever there is a release, fire, or explosion, the Emergency Coordinator shall immediately try to identify the character, exact source, amount, and extent of any contamination. This can be accomplished by observation or by review of facility records. If necessary, outside laboratories may be contacted to perform chemical analysis.
- 2.C.IV. During an emergency, the Emergency Coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion such as toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous run-off.
- 2.C.V. During an emergency, the Emergency Coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

2.D. REMEDIAL ACTION RESPONSIBILITIES

- 2.D.I. If the environment has been contaminated or there is a potential for contamination as a result of a fire, explosion, or spill, the Emergency Coordinator shall contact the Safety-Kleen Incident Notification System to report the incident. Treatment, storage and/or disposal of recovered waste, contaminated soil, or contaminated surface water from a spill or fire will be arranged by Safety-Kleen and carried out as expeditiously as possible.
- 2.D.II. The Emergency Coordinator shall ensure that, in the affected area(s) of the facility:
 - 2.D.II.a. No substances that may be incompatible with the released material are brought on site until cleanup procedures are completed; and
 - 2.D.II.b. All emergency equipment listed in the Contingency Plan is cleaned and deemed fit for its intended use or replaced before operations are resumed.

2.E. REPORTING RESPONSIBILITIES

- 2.E.I. The Emergency Coordinator shall determine whether the facility has had a release that could threaten human health or the environment outside the facility.
- 2.E.II. If the Emergency Coordinator's assessment indicates that evacuation of local areas may be advisable, the Emergency Coordinator shall immediately notify appropriate authorities, the Safety-Kleen Incident Notification System and the Director and provide the following information:
 - 2.E.II.a. Name and telephone number of notifier;
 - 2.E.II.b. Name and address of facility;
 - 2.E.II.c. Time and type of incident (e.g., release, fire);
 - 2.E.II.d. Name and quantity of material(s) involved, to the extent known;
 - 2.E.II.e. The extent of injuries, if any; and
 - 2.E.II.f. The possible hazards to human health, or the environment outside the facility.
- 2.E.III. Safety-Kleen shall notify the appropriate state and local authorities that the facility is in compliance with R315-264-56(h) before operations are resumed in the affected area(s) of the facility.
- 2.E.IV. The Emergency Coordinator shall record in the facility operating record the time, date, and details of any incident that requires the implementation of the Contingency Plan. Within 15 days of the incident, Safety-Kleen shall submit a written report on the incident to the Director. The report shall include:
 - 2.E.IV.a. Name, address, and telephone number of the owner or operator;
 - 2.E.IV.b. Name, address, and telephone number of the facility;
 - 2.E.IV.c. Date, time, and type of incident (e.g., fire, explosion);
 - 2.E.IV.d. Name and quantity of material(s) involved;
 - 2.E.IV.e. The extent of injuries, if any;
 - 2.E.IV.f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - 2.E.IV.g. Estimated quantity and disposition of recovered material that resulted from the incident.

- 2.E.V. During an emergency, the following government agencies and local authorities may be contacted as appropriate:

Agency/Authority	Rationale
Police Department	Notify if there is imminent danger to human health
Fire Department	Notify if there is a fire, uncontrolled spill, or other imminent danger
Hospital	Notify if there are injuries
Director	Report releases and fires
Qualified Emergency Response Contractor	Call to assist with remedial action after a release

- 2.E.VI. Arrangements have been made to familiarize the police department, fire department, and local emergency response teams with the layout of the facility, the properties and hazards of materials handled at the facility, the locations where facility personnel normally work, entrances to the facility, and possible evacuation routes. Arrangements have also been made to familiarize the local hospital with the types of injuries or illnesses that could result from fires, explosions, or releases at the facility. Copies of the letters to the local police department, fire department, and hospital are on file at the facility and records of updates shall be kept in the facility operating record. Safety Data Sheets (SDSs) for products commonly stored on site shall be made available to all employees at the facility and shall be distributed to those entities with which arrangements have been made.

2.F. SPECIFIC EMERGENCY RESPONSE PROCEDURES

- 2.F.I. Response actions to be taken in specific emergency situations are described in the sections that follow. Spilled waste shall be identified by observation (location and type of container) and the markings on container labels.
- 2.F.I.a. MINOR SPILLS
- 2.F.I.a.i. If a spill should occur while pouring waste solvent into a dumpster or while filling drums with solvent product at the return and fill station, and it is contained in the secondary containment at the base of the return and fill station, the spill shall be collected with absorbent material. Should the spill occur outside the containment, remedial actions depend on whether the spill occurs on a paved or unpaved area:
- 2.F.I.a.i(A). If a solvent spills on a paved area, it shall be collected with absorbent sheets or absorbent material. The absorbents shall be collected, drummed and shipped to a processing/disposal facility for proper disposal.

- 2.F.I.a.i(B). If a solvent spills on an unpaved area, any free liquid shall be collected with absorbent material. The absorbent material and any contaminated soil shall be collected, drummed and shipped to a processing or disposal facility for proper disposal.
- 2.F.I.a.ii. If a spill occurs while handling containers outside of the warehouse, the applicable response actions described in Conditions 2.F.I.a.i(A). and 2.F.I.a.i(B). above shall be followed. Spills inside the warehouse and the container storage areas are kept from contaminating the environment by concrete or steel floors and the secondary containment. In the event of a spill indoors, the doors and windows shall be opened to improve the ventilation in the confined area. If ignitable material is spilled in a non-explosion rated area or is flowing into such, workers in the area shall ensure that all sources of ignition (e.g., thermostats or light switches) are left in the same position (either on or off) as at the time of the spill. Then, following the instructions from the appropriate Material Safety Data Sheet, workers shall enter the area wearing appropriate personnel protection such as rubber gloves, aprons, safety glasses, and a respirator, collect the liquid, containerize it and return it to storage.
- 2.F.I.a.iii. All sumps are emptied and cleaned using either absorbents and a wet/dry vacuum cleaner, or both. Liquid in the sumps shall be removed upon detection. The sumps are closed and no piping is associated with them. All material collected from spill cleanups shall be treated as hazardous waste.
- 2.F.I.a.iv. Clean-ups are considered complete only when the workers have cleaned themselves and the emergency equipment with soap and water. All minor spills shall be reported to the Safety-Kleen Incident Notification System and if necessary, to the Director as required under R315-263-30 through 33.
- 2.F.I.b. MAJOR SPILLS
- 2.F.I.b.i. Any spill that cannot be completely remediated using the methods described in Condition 2.F.I.a., is a major spill. A major spill is usually the result of a vehicular accident, tank overfilling, equipment failure or a fire. Spilled material that escapes collection can contaminate soil, surface water, ground water, sanitary sewer systems, and storm sewer systems. Emergency response to this type of spill shall include the following as applicable:
- 2.F.I.b.i(A). Assist any injured people;
- 2.F.I.b.i(B). Stop the flow of waste/solvent, if possible;
- 2.F.I.b.i(C). Retain, contain or slow the flow of the released material, if possible;

- 2.F.I.b.i(D). If the released material escapes containment efforts, immediately call the local Fire Department, and report to the Emergency Coordinator and the Incident Notification System; and
- 2.F.I.b.i(E). Immediately recover the spilled material to reduce property and environmental damage. Start recovery operations immediately.
- 2.F.I.b.ii. If there is an imminent or actual emergency situation, the Emergency Coordinator shall immediately contact emergency response authorities. The Emergency Coordinator shall report any incident as soon as possible to the Safety-Kleen Incident Notification System using the 24-hour telephone number, and request further assistance if necessary. The Emergency Coordinator shall call an emergency cleanup response contractor, if it is deemed necessary, and report the incident to the National Response Center and the Director. Otherwise, the Safety-Kleen Incident Notification System will contact the proper authorities. Emergency response agencies, qualified emergency response contractor(s), Safety-Kleen's Incident Notification System, and spill response agencies including the Director, have telephone numbers that are posted by at least one phone at the facility.
- 2.F.I.b.iii. The person reporting a spill shall be prepared to give his name, position, company name, address and telephone number. The person reporting shall also describe the material spilled and, if possible, some estimate of the amount, and the containment status and specify any equipment needed.
- 2.F.I.b.iv. All spill incidents shall be recorded by Safety-Kleen in the facility operating record. Incident reports shall at a minimum include the following information:
- 2.F.I.b.iv(A). The location of the spill;
- 2.F.I.b.iv(B). The name of the person reporting the spill;
- 2.F.I.b.iv(C). Date, time, and type of incident (e.g., fire, explosion);
- 2.F.I.b.iv(D). Name and quantity of material(s) involved;
- 2.F.I.b.iv(E). The extent of injuries, if any;
- 2.F.I.b.iv(F). An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- 2.F.I.b.iv(G). A record of agencies and departments notified.

2.G. FIRE CONTROL PROCEDURES

- 2.G.I. If a fire occurs, trained personnel may attempt to extinguish the fire but only if they believe that they can do so without endangering themselves. Trained personnel shall assess the situation then act quickly with a fire extinguisher to put out the fire before it spreads. If it cannot be extinguished immediately, the facility shall be evacuated and the fire department shall be notified.
- 2.G.II. Vapors of the petroleum based solvents exposed to a spark or open flame can flash at temperatures over 105°F. Petroleum based solvent can generate carbon monoxide and other poisonous gases. If a fire affects the storage tanks or container storage areas, then:
- 2.G.II.a. Isolate the hazard area and deny entry to unauthorized personnel;
 - 2.G.II.b. Stay upwind, keep out of low areas;
 - 2.G.II.c. Ventilate closed areas before entering them;
 - 2.G.II.d. Wear positive pressure breathing apparatus and protective clothing; and
 - 2.G.II.e. Evacuate a 600-foot radius area endangered by the gas.
- 2.G.III. A petroleum-based solvent fire can best be extinguished with foam. If foam is not available, sweeping the fire with water fog can cool it, directing the water spray to push the flames into a confined area, if possible. The flame should not be extinguished until the flow of the solvent has been stopped. Then attention should be directed immediately to extinguishing the flame.
- 2.G.IV. Chlorinated solvents (immersion cleaner and dry cleaning wastes) are not flammable, but can produce phosgene gas and hydrochloric acid at very high temperatures (about 1200°F). The potential for the materials reaching a decomposition state is minimal; however, personnel and local authorities shall be made aware of the proper response, should a fire affect the drum storage areas including:
- 2.G.IV.a. Isolate the hazard area and deny entry to unauthorized personnel;
 - 2.G.IV.b. Stay upwind, keep out of low areas;
 - 2.G.IV.c. Ventilate closed spaces before entering them;
 - 2.G.IV.d. Wear positive pressure breathing apparatus and protective clothing; and
 - 2.G.IV.e. Evacuate a 600-foot radius area endangered by the gas, or larger area if necessary, based on an assessment of the potential hazard.

2.G.V. A fire in the drum storage area can best be extinguished by foam, water fog, or water spray.

2.G.VI. Paint wastes can generate carbon monoxide and other poisonous gases. Therefore, it is important to wear positive pressure breathing apparatus and full protective clothing in the affected area. If a fire in or near the metal shelter container storage area occurs:

2.G.VI.a. Isolate the hazard area and deny entry to unauthorized personnel;

2.G.VI.b. Stay upwind; keep out of low areas; and

2.G.VI.c. Wear positive pressure breathing apparatus and protective clothing.

2.H. FACILITY EVACUATION

2.H.I. Clearly marked exits exist in the warehouse and office area and employees are trained to be aware of all potential escape routes as required by ATTACHMENT 4.

2.H.II. When an uncontrolled fire or release has occurred, or the Emergency Coordinator deems necessary, all personnel are to evacuate the facility according to the Evacuation Plan, Appendix A-ATTACHMENT 2 and assemble across Pioneer Road to assure that all personnel are accounted for and out of the hazardous area. An oral cry and the intercom will be used to alert employees to evacuate. Employees are trained for evacuation of the facility. The fire department must be notified at the time of evacuation either from a safe on-site building or from a neighboring facility.

2.I. ARRANGEMENTS WITH EMERGENCY RESPONSE CONTRACTORS

2.I.I. Safety-Kleen keeps at least one emergency response company on retainer to provide remedial services listed above. Emergency response contractor(s) will be selected based on their ability to respond to an incident at the facility, remediate an incident involving materials handled by the facility, and their ability to meet Safety-Kleen liability and performance standards. These contractors will be contacted to provide emergency assistance during a release and cleanup.

2.J. EMERGENCY EQUIPMENT

2.J.I. Safety-Kleen shall maintain the emergency equipment described in Table 1- ATTACHMENT 3.

2.K. AVAILABILITY AND REVISION OF THE CONTINGENCY PLAN

- 2.K.I. An updated copy of this plan shall be kept at the service center and it shall be updated as necessary throughout the operating life of the service center. Copies of this plan and all revisions shall be provided to local authorities and organizations that may be called upon to provide emergency services. In addition, this plan, and all revisions to the plan, shall be made readily available to employees working at the service center.
- 2.K.II. The plan shall be reviewed and updated, if necessary, whenever:
- 2.K.II.a. The service center permit is modified in accordance with Condition I.D. to allow new processes or wastes to be stored or treated, or applicable regulations are revised;
- 2.K.II.b. The list or location of emergency equipment changes;
- 2.K.II.c. The service center changes in its design, construction, operation, maintenance, or other circumstances in a way that:
- 2.K.II.c.i. Increases the potential for fires, explosions, or releases of hazardous constituents;
or
- 2.K.II.c.ii. Changes the response necessary in an emergency.
- 2.K.II.d. The names, addresses, or phone numbers of Emergency Coordinators change;
- 2.K.II.e. Employees assigned to emergency response tasks change; or
- 2.K.II.f. The plan fails when implemented in an emergency.
- 2.K.III. The Director shall be notified within seven days, in accordance with Condition I.D., of any change in Emergency Coordinator.

**CONTINGENCY PLAN - ATTACHMENT 2
TABLE 1**

EMERGENCY INFORMATION

**Safety-Kleen Systems, Inc.
1066 South Pioneer Road
Salt Lake City, UT 84104
Office: (801) 975-0742**

A. Emergency Coordinators

<u>Name:</u>	<u>Home Address:</u>	<u>Telephone:</u>
Facility Emergency Coordinator		
Mike Clower	1066 South Pioneer Road Salt Lake City, UT 84104	Cell: (720) 737-2992 Office: (801) 975-0742
Alternate Emergency Coordinator		
Chris Hewitt	6150 W. Miners Mesa Drive West Jordan, UT 84081	Home: (801) 330-3386 Office: (801) 975-0742
Robert Wayman	8321 South 6430 West West Jordan, UT 84081	Cell: (801) 995-1351 Office: (801) 975-0742

B. Emergency Notification Entity Telephone Number

Internal –	Safety-Kleen Incident Notification System 24-Hour Emergency Number:	(800) 468-1760
External –		
a.	National Response Center 24-Hour Emergency Number:	(800) 424-8802
b.	Utah Department of Environmental Quality - 24-Hour Environmental Response Emergency Line:	(801) 536-4123
c.	Utah Department of Environmental Quality - Business Hours:	(801) 536-0200
d.	General Emergency:	911
e.	Salt Lake City, UT Police Department:	(801) 799-3000
f.	Salt Lake City, UT Fire Department:	(801) 363-4401
g.	Pioneer Valley Hospital:	(801) 964-3100
h.	Emergency Response Contractor:	(800) 468-1760

ATTACHMENT 2 – CONTINGENCY PLAN

APPENDIX A

EVACUATION PLAN

Insert - Site Plan Showing Evacuation Routes, Drawing Number ~~716601-QJPB0037113-~~
SPOO-003, Rev C

ATTACHMENT 3

PREPAREDNESS AND PREVENTION PLAN

3.A. SECURITY MEASURES

- 3.A.I. The Facility provides security with a variety of equipment. The Facility is secured with a six-foot high chain link fence topped by barbed wire. All access gates are locked when the Facility is unoccupied and warning signs stating “Danger - Unauthorized Personnel Keep Out,” are visible from twenty-five feet, and are posted at the entrances. Outdoor lighting is provided during low-light hours of the day. The office/warehouse building is secured with locks on all doors and warning signs are posted at all entrances to work and waste storage areas.
- 3.A.II. The pumps for the tank system~~s~~ shall not be activated unless waste material is being added to ~~the a~~ tank by the Facility. The pump controls for the waste tanks~~s~~ are located inside the warehouse to prevent unauthorized material being placed in the tanks~~s~~ and as a deterrent to vandalism during non-business hours.
- 3.A.III. The doors to the metal shelter container storage area shall be closed and locked at the end of the operating day. A warning sign shall be posted on the metal shelter container storage area.

3.B. FACILITY DESIGN

- 3.B.I. The Facility is designed and operated to minimize the possibility of spills or fires and to minimize the effects of any accidents that may occur. Specifications and descriptions for the container storage areas, tanks~~s~~, secondary containment and other equipment are included in ATTACHMENTS 7 and 8.

3.C. PLANT OPERATIONS

- 3.C.I. Employees shall perform their duties in the safest, most efficient manner possible and the service center shall be equipped to facilitate these activities. Drums shall be moved using a handcart and pallets using a forklift or pallet jack. Upon arrival at the service center, containers of waste shall be added to ~~the a~~ storage tank or placed in a container storage area. Open drums of solvent shall not be left unattended. Occasionally, waste may be left on a truck overnight. If this occurs, the Facility representative, prior to leaving the service center, shall note it on the Facility inspection record. The waste shall be removed from the truck before the end of the next business day.
- 3.C.II. Potential Minor Spill Sources
- 3.C.II.a. The following is a list of activities that have the potential for a minor (one that can be remediated without assistance from a clean up contractor) pollution incident:

- 3.C.II.a.i. Pouring of drummed solvent into the wet dumpster/drumwasher -- As the drums are poured into the dumpster, solvent may splash out. Employee training emphasizes the importance of using care in emptying the drums. The return and fill station is underlain by a concrete slab and curb. This design should contain this type of spill.
- 3.C.II.a.ii. Filling of drums with solvent product -- A low-pressure hose with an automatic shut-off valve, similar to those used at automotive service stations, is used to fill the drums with solvent. Leaking fittings, a damaged hose or human error could lead to the discharge of solvent outside of the drum. Emergency shut-off valves are available, should the equipment not function properly. In addition, employee training emphasizes the importance of inspection, maintenance and reporting of conditions with pollution incident potential.
- 3.C.II.a.iii. Moving of containers -- When a container is moved, a potential exists for it to tip over due to human error. To minimize the potential for spillage of solvent, all containers are maintained in an upright position and remain tightly covered while in storage or in transit.
- 3.C.II.a.iv. Delivery truck transfers -- Cargo shall be secured in the route vehicle with straps before transport. Individual containers can tip over or be dropped when being moved on or off a delivery truck, so transfers shall be made using a handcart and a hoist, if necessary. If a spill does occur, the amount of solvent in the containers is a quantity that can be collected with absorbent material. Any contaminated soil that results from a spill shall be removed manually, drummed and shipped to a disposal facility for proper disposal.
- 3.C.III. Potential Major Spill Sources
- 3.C.III.a. The following activities have the potential for a major (one for which remedial action shall require assistance) pollution incident:
- 3.C.III.a.i. Overfilling of storage tanks -- The storage tanks can be overfilled with a resulting discharge of solvent. A high level alarm and checks of tank volumes each business day should prevent this type of incident.
- 3.C.III.a.ii. Leaking pipelines -- The pipelines and other equipment present a potential for leaks and resultant pollution. Regular inspection of this equipment and of the solvent inventory should detect any leaks.
- 3.C.IV. Potential Fire Sources
- 3.C.IV.a. The following is a list of fire prevention and minimization measures:
- 3.C.IV.a.i. All wastes and clean solvents shall be kept away from ignition sources -- Personnel shall confine smoking and open flames to remote areas, separate from any solvent (e.g., the office or locker room). The solvent handling area, metal shelter container storage area and the aboveground storage tanks are separated

from the warehouse building area to minimize the potential for a fire to spread or injury to personnel to occur.

- 3.C.IV.a.ii. Ignitable wastes shall be handled so that they do not:
 - 3.C.IV.a.ii(A). Become subject to extreme heat or pressure, fire or explosion, or a violent reaction -- Solvent waste and paint wastes shall be stored in a tank or in drums, none of which shall be near sources of extreme heat, fire, potential explosion sources or subject to violent reactions. The tanks are protected with a pressure relief device and the drums stored in the warehouse shall be kept at room temperature to minimize the potential for pressure build up. Spark-proof clean up equipment shall be utilized to prevent a fire and/or explosion.
 - 3.C.IV.a.ii(B). Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health -- The vapor pressure of Safety-Kleen's petroleum-based solvent is low (2 mm Hg) and it is reactive with strong oxidizers only. Toxic mists, fumes, dusts or gases should not form in quantities sufficient to threaten human health since strong oxidizers shall be kept segregated in accordance with Uniform Fire Code guidelines in the permitted storage areas at the Facility.
 - 3.C.IV.a.ii(C). produce uncontrolled flammable fumes or gases in quantities sufficient to pose a risk of fire or explosion.
 - 3.C.IV.a.ii(D). damage the structural integrity of the device or Facility.
- 3.C.IV.a.iii. A minimum of two feet for aisle space shall be maintained to allow the unobstructed movement of personnel, fire protection equipment, and decontamination equipment to any area of the Facility operation in an emergency.
- 3.C.IV.a.iv. "No Smoking" signs shall be posted in areas where solvents are handled or stored.
- 3.C.IV.a.v. Fire extinguishers and the fire suppression system shall be checked once per week and tested by a fire extinguisher maintenance company once per year.

3.D. EXTERNAL FACTORS

- 3.D.I. The design of the installation is such that a harmful spill caused by external factors is unlikely to occur. The storage tanks are inaccessible to non-Facility personnel and the pump switches are located inside of the building. Also, the container storage areas are in buildings that are inaccessible to unauthorized personnel.
- 3.D.I.a. Vandalism -- Only extreme vandalism would have the possibility to result in a solvent spill or fire. Responses to spills and fires are described in the Contingency Plan.
- 3.D.I.b. Power failure -- A power failure is not likely to result in a spill or fire.

- 3.D.I.c. Flooding -- The site elevation is above the projected 100-year flood plain, therefore a 100-year flood is not likely to affect the service center.
- 3.D.I.d. Storms or Cold Weather -- The solvent return and fill station is roofed to eliminate the possibility of rain or snow from entering the dumpsters. No opportunity is foreseen to affect the service center with snow, cold weather or storm water.

3.E. EQUIPMENT

3.E.I. Internal Communications

- 3.E.I.a. Because the Facility is small, internal communications within the facility are by voice, intercom or telephone. Telephones are located in the office, return and fill station, and at the safety station near the metal shelter for paint waste storage.

3.E.II. External Communications

- 3.E.II.a. Telephones will be used to report a spill or a fire and to summon assistance from local and state emergency response agencies.

3.E.III. Emergency Equipment

- 3.E.III.a. | The minimum required emergency equipment and its location are identified in Drawings 716601-QJPB002, Rev ~~D-E~~ and ~~716601-QJPB7007113-WBOO-004~~, Rev G which are included as part of this Attachment.

- 3.E.III.b. The metal storage shelter includes a dry chemical fire suppression system and a fire hydrant is located within 185 feet of the southeast corner of the facility having a maximum flow of 5,900 gallons per minute.

| Insert Drawings 716601-QJPB002, Rev ~~D~~E and ~~716601-QJPB700~~7113-WBOO-004, Rev
G

ATTACHMENT 5

INSPECTIONS

5.A. INSPECTION PROCEDURES

- 5.A.I. The inspections outlined in this Attachment are the minimum required. All inspections required by this permit shall be documented and maintained as part of the facility operating record in electronic or hardcopy format. Example inspection forms, showing the minimum inspection requirements, are found in Appendix A-ATTACHMENT 5.
- 5.A.II. The Branch Manager or designee (the inspector) shall be responsible for carrying out and documenting the facility inspections each business day. The inspector shall note any identified ruptures, spills, or repairs that are needed and note remedy actions. If the inspector cannot carry out the repairs, the inspector shall work with an engineering project manager at Safety-Kleen's corporate headquarters to complete the repairs. Completion of repairs shall be noted on the Facility inspection record.
- 5.A.III. Facility inspections shall include the following:
- 5.A.III.a. Tank inspections -- Tanks holding the clean solvent and the tanks holding the spent solvent shall be inspected at least once each business day. The inspections shall include checks of the high level alarm and of the volume of solvent held in the tank. Sudden deviations in the solvent volumes shall be immediately investigated and the cause determined. If necessary, repairs shall be initiated immediately. Pick-ups of spent solvent shall be scheduled on a regular basis. The spent solvent quantity shall not exceed the permitted tank volume at any time. The tanks are equipped with high-level audiovisual alarms and manual shut-off valves.
- 5.A.III.b. The secondary containment for the tanks shall be inspected each business day for cracks or other deterioration. Any damage to the tanks (such as rust or loose fixtures) or the secondary containment shall be noted and repairs initiated.
- 5.A.III.c. Air emission inspections shall be conducted on the waste tanks and ancillary equipment in accordance with Condition 5.B. of this attachment.
- 5.A.III.d. Air emission inspections shall be conducted on the containers and tank system in accordance with Condition 5.C. of this attachment.
- 5.A.III.e. Solvent dispensing equipment -- The solvent dispensing hose, connections and valves shall be inspected for damage (such as cracks or leaks) and proper functioning. Any solvent left in the hoses shall be drained after use. The pumps, pipes and fittings shall be checked for damage and proper functioning. Any damage to the solvent dispensing equipment shall be noted and repaired.

- 5.A.III.f. Container storage areas -- Container storage areas shall be inspected for the number and condition of the drums stored. The total volume of the materials held in the container storage areas shall not exceed 4,500 gallons for the warehouse container storage area and 3,300 gallons for the metal shelter container storage area. Any leaking or suspect drum shall be placed in a salvage drum of adequate integrity. Drums shall be inspected to determine if they are properly labeled and marked in accordance with U.S. DOT requirements and R315 of the rules. The secondary containment system, condition of the pad and sumps shall be inspected for deterioration or failure. If cracks or leaks are detected, they shall be repaired immediately.
- 5.A.III.g. Route vehicles -- Each route vehicle shall be inspected to ensure the proper operation of its brakes, lights, turn signals, emergency flashers and wipers. In addition, the necessary safety equipment shall be inspected to determine if sorbents, fire extinguisher, eye wash, first aid kit, reflector kits, rubber gloves, plastic aprons, and safety glasses are in the vehicle. Any missing equipment shall be replaced before the vehicle is used.
- 5.A.III.h. Dumpster/drum washers -- The dumpsters/drum washers at the return and fill station shall be inspected for leaks and sediment build-up. Any leaks shall be noted and repaired immediately and excess sediment shall be removed from the dumpster.
- 5.A.III.i. Safety equipment -- The fire extinguishers shall be checked weekly to ensure that the units are charged and accessible, and shall be inspected annually. The fire suppression system shall be checked weekly to ensure that the unit is charged and shall be inspected annually. In addition, proper operation of the eyewash shall be confirmed and the first aid kit and sorbents shall be inspected for adequate content and accessibility each week. The identity and location of the emergency equipment required at the facility is included in ATTACHMENT 3, Preparedness and Prevention.
- 5.A.III.j. Security -- The operation of each gate and lock shall be inspected weekly. In addition, the fence and danger signs shall be inspected for deterioration on a weekly basis.

5.B. SUBPART BB INSPECTION PROCEDURES FOR TANK/DRUM WASHER SYSTEM

- 5.B.I. These inspection procedures identify leaks from pumps, valves, flanges and other equipment associated with the return and fill station/drum washer and tank system and demonstrate compliance with the inspection requirements of R315-264-1050 through 1065. The organic liquid in these systems meets the definition of "in heavy liquid service" as defined in R315-264-1050 through 1065 (specifically R315-264-1051).

- 5.B.II. Pumps/Valves/Flanges/Other Equipment
- 5.B.II.a. Each pump, valve, flange and other equipment as defined in R315-264-1050 through 1065 (specifically R315-264-1051) shall be marked with a unique ID as indicated on Drawing 7113-5600-350, Rev F in ATTACHMENT 7. All piping under the return and fill dock is subject to Subpart BB except for the product piping that is painted green and orange.
- 5.B.II.b. Each pump, valve, flange and other equipment regulated by Subpart BB shall be inspected each operational day for any evidence of leakage, which is indicated by any visual sign of liquids leaking/dripping from the equipment.
- 5.B.II.c. Evidence of leakage and means determined shall be noted on the inspection log.
- 5.B.II.d. When a leak is detected, it shall be repaired as soon as practical, but not later than 15 calendar days after being detected, except as provided in R315-264-1059.
- 5.B.II.e. Should a leak be detected, a first attempt at repair (e.g., tightening the packing gland) shall be made no later than five calendar days after the leak is detected.
- 5.B.II.f. Equipment discovered to be leaking shall be identified with a weatherproof tag containing the following information:
- 5.B.II.f.i. Equipment I.D number; and
- 5.B.II.f.ii. Date leak found.
- 5.B.II.g. A tag indicating a leak may be removed after effective repairs are made.
- 5.B.III. Results of Subpart BB inspections shall be recorded in the facility operating record in electronic or hardcopy format. Example inspection forms are found in Appendix A-Attachment 5.
- 5.B.IV. Corrective action for each Subpart BB leak shall be recorded in the facility operating record in electronic or hardcopy format.

5.C. SUBPART CC INSPECTION PROCEDURES FOR CONTAINERS AND TANK SYSTEM

- 5.C.I. The Permittee shall inspect containers subject to Level 1 controls and their covers and closure devices as follows:
- 5.C.I.a. In the case when a hazardous waste is already in the container at the time the Permittee first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility, the Permittee shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the

container when the cover and closure devices are secured in the closed position. If a defect is detected, the Permittee shall make first attempts at repair no later than 24 hours after detection and the repair shall be completed as soon as possible, but not later than five calendar days after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

- 5.C.I.b. In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the Permittee shall visually inspect the container and its cover and closure devices initially and thereafter, at least every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the Permittee shall make first attempts at repair no later than 24 hours after detection and the repair shall be completed as soon as possible, but not later than five calendar days after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.
- 5.C.II. The Permittee shall inspect containers subject to Level 2 controls and their covers and closure devices in accordance with R315-264-1080 through 1090 (specifically R315-264-1086(d)(4)).
- 5.C.III. The Permittee shall inspect the tank system air emission control equipment in accordance with the following requirements:
 - 5.C.III.a. The fixed roof and its closure devices shall be visually inspected by the Permittee to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.
 - 5.C.III.b. The Permittee shall perform an inspection of the fixed roof and its closure devices at least once every year except as allowed below:
 - 5.C.III.b.i. Following the initial inspection of the cover, subsequent inspection may be performed at intervals longer than one year under the following conditions:
 - 5.C.III.b.i(A). In the case when inspecting the cover would expose a worker to dangerous, hazardous, or other unsafe conditions then the Permittee may designate a cover as an “unsafe to inspect cover” and comply with the following requirements:
 - 5.C.III.b.i(A)1. Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect, if required.

- 5.C.III.b.i(A)2. Develop and implement a written plan and schedule to inspect the cover as frequently as practicable during those times when a worker can safely access the cover.
- 5.C.III.c. In the event a defect in the fixed roof or its closure devices is detected, the Permittee shall repair the defect in accordance with the following schedule: The Permittee shall make first efforts at repair of the defect no later than five calendar days after detection, and the repair shall be completed as soon as possible but no later than 45 calendar days after detection unless the Permittee determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the Permittee shall repair the defect at the earliest available time when transfer of waste to the tank could be suspended and the tank emptied or removed from service. Repair of the defect shall be completed before the transfer of waste to the tank resumes.

APPENDIX A – ATTACHMENT 5

INSPECTION FORMS

- Insert - Inspection Log Sheet for Daily Inspection of Storage Tank System (3 pages)
- Inspection Log Sheet for daily inspection of Container Storage Area (1 page)
 - Inspection Log Sheet for weekly inspection of Safety and Emergency Equipment, Security Devices and Miscellaneous Equipment (1 page)

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

		Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
1. PROJECT COORDINATION AND SCHEDULING						
<u>Prime Contractor Costs</u>						
	- Obtain subcontractor quotes to implement closure activities	Project Manager		\$116	6	\$696
	- Coordinate scope and schedule of project activities with owner/operator, decontamination contractor, regulatory agencies and analytical laboratory	Project Manager		\$116	4	\$464
	- Review facility permit and closure plan	Project Engineer		\$99	6	\$594
		Field Supervisor		\$76	12	\$912
	- Prepare project/site specific Health and Safety Plan	Health/Safety Specialist		\$99	6	\$594
	- Participate in on-site coordination and orientation meeting with owner/operator and decontamination contractor	Project Manager		\$116	2	\$232
	- Prepare project activity and project status reports	Project Manager		\$116	4	\$464
	- Office Expenses			\$127	1	\$127
	- Miscellaneous Expenses			\$127	1	\$127
Activity 1. Subtotal						\$4,210
2. MOBILIZE TO SITE AND PREPARE FOR CLOSURE/CLOSURE OVERSIGHT						
<u>Assumptions</u>						
- Waste solvent tanks are full (Both tanks are 15,000 gallons, total capacity for both tanks is 30,000 gallons)						
- Permitted capacity of CSA (4,500 gallons), Return and Fill Station (224,112 gallons), and Flammable Materials Shelter (3,300 gallons) is 8,024,912 gallons (144,655 55-gallon drums)						
- Waste solvent transported to Aragonite, UT. Unit cost is based on \$165 per 55-gallon drum, and \$0.06/pound of bulk waste parts washer solvent, and includes treatment and disposal.						
- Generator knowledge used for disposal/treatment of waste solvent and spent antifreeze (i.e. no sampling required). However, 2 waste characterization samples are conservatively included.						
- Waste haulers costs to transport drums to reclaimer based on RS Means. Documentation of unit costs provided in notes at the end of the cost estimate						
- Prime Contractor per diem includes rental car, room and meals						
- Subcontractor costs include labor and all expenses to complete each task						
- Onsite closure activities completed in 7 working days, Project Engineer on site for 4 days for inspection/closure activities						
<u>Owner/Operator Costs</u>						
	- Closure project supervision and oversight	Remediation Manager		\$5,063	LS	\$5,063
<u>Prime Contractor Costs</u>						
	- Project Management and Supervision	Project Manager		\$116	2	\$232
	- Supervise waste loading activities	Field Supervisor		\$76	10	\$760
		Travel		\$949	1	\$949
		Per diem (all activities)		\$190	7	\$1,330
	- Collect representative waste characterization sample of drummed wastes	Field Supervisor		\$76	1	\$76
		Supplies/Shipping		\$190	1	\$190
<u>Subcontractor Costs</u>						
	- Subcontractor mobilization/demobilization and licensing	Lump Sum		\$12,656	LS	\$13,922
	- Transfer tank contents to tankers	Foreman/labor/equipment		\$3,670	LS	\$4,037
	- Transport waste solvent to a TSD for treatment/disposal					
	Assumes 36 trucks to transport 15,000 30,000 gallons (5000 gallon/tanker)					
	Bulk Transportation at \$823/load	Bulk Transportation		\$823	36	\$2,469
	Tanker Washout Fee at \$253/load	Tanker Washout Fee		\$253	36	\$759
	15,000 30,000 gallons = 120,000 240,000 pounds					
	Disposal at \$0.06/pound	TSD(cost per lb)		\$0.06	120,000 240,000	\$7,200 14,400

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
- Transfer drums in CSA to trucks	Foreman/labor/equipment	\$462	LS	\$508
- Transport drums to TSD for Treatment/Disposal Assumes 3 trucks to transport 1464 drums (60/trailer) Drum Transportation at \$499/load	Drum Transport	\$506499	3	\$1,497
Aragonite State Fees - fee structure has changed, but assume an equivalent cost	State Fees			\$3,615
Estimated disposal/treatment cost (per drum) - \$1625/drum	Disposal of drums	\$165	1464	\$24,09023,760
Laboratory Subcontractor Costs				
- Waste characterization sample analysis Waste characterization analysis to consist of TCLP VOCs, SVOCs and Metals		\$794	2	\$1,588
Activity 2. Subtotal				\$68,28582,420
3. STORAGE TANK DECONTAMINATION AND REMOVAL (42 Tanks)				
<u>Assumptions:</u>				
- Tank and appurtenant equipment are removed and scrapped				
- Rinsate sampling is not necessary because the tanks will be scrapped				
- Prime Contractor field supervisor travel is accounted for in above activity				
- Prime Contractor per diem includes rental car, room and meals				
- Assumes secondary containment removed				
- Assumes collection of 2 soil samples from beneath waste solvent containment area is necessary				
- Subcontractor costs include labor and all expenses to complete each task				
<u>Prime Contractor Costs</u>				
- Project Management and Supervision	Project Manager	\$116	48	\$464928
- Supervise Storage Tank Decontamination and Removal Activities	Field Supervisor	\$76	20	\$1,520
- Inspect Secondary Containment	Project Engineer	\$99	4	\$396
	Travel	\$949	1	\$949
	Per diem	\$190	4	\$760
- Collect soil samples	Field Supervisor	\$76	4	\$304
	Sample supplies/shipping	\$190	LS	\$190
<u>Subcontractor Costs</u>				
- Disconnect electrical appurtenances	Labor/equipment	\$570	LS	\$627
- Decontaminate 42 waste ASTs, 80100' piping and Containment Area Wash/triple rinse tank , piping and containment with high pressure spray Remove wash/rinse water, containerize in drums Cost for transportation and wash water disposal included in activity 8 below	Foreman/labor/equipment	\$2,6585,316	LS	\$2,9245,848
- Demolish 42 ASTs and piping, haul for remelt	Foreman/labor/equipment	\$2,2154,430	LS	\$2,4374,873
- Demolish Containment Area, load concrete for disposal/recycling	Foreman/labor/equipment	\$8,227	LS	\$9,050
	Disposal/Recycling (26 cubic yards)	\$20	YD	\$572
<u>Laboratory Subcontractor Costs</u>				
- Analyze 2 soil samples for VOCs, SVOCs, and Metals	VOCs @ \$127/sample SVOCs @ \$266/sample Metals @ \$114/sample EnCore Sample Container @ \$30/sample x 2/sample Total per sample cost	\$567	2	\$1,247
Activity 3. Subtotal				\$21,44027,264

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
4. DECONTAMINATE ONE CONTAINER STORAGE AREA				
<u>Assumptions:</u>				
- CSA located inside warehouse and consists of a concrete slab floor with curbing and trench and is approximately 840 sq. ft.				
- Decontamination shall consist of washing with a high-pressure detergent/water solution and triple rinsing with tap water				
- CSA to remain in-place following closure				
- Prime Contractor project engineer and field supervisor travel accounted for in above activities				
- Prime Contractor per diem includes rental car, room and meals				
- Assumes up to 2 soil samples will be collected from beneath the CSA				
- Field supervisor qualified to collect soil and rinsate samples				
- Subcontractor costs include labor and all expenses to complete each task				
<u>Prime Contractor Costs</u>				
- Inspect the floor of CSA for cracks, gaps, or other potential lapses of integrity	Project Engineer	\$99	2	\$198
- Fill cracks and gaps (if necessary) prior to implementing decontamination	Field Supervisor	\$76	2	\$152
- Supervise and document decontamination of CSA	Field Supervisor	\$76	6	\$456
- Collect sample of final rinsate from CSA, submit for laboratory analysis	Field Supervisor	\$76	2	\$152
- Core through concrete at 2 locations beneath CSA	Field Supervisor Equipment	\$76 \$127	2 day	\$152 \$127
- Collect 2 soil samples beneath CSA for analysis of VOCs, SVOCs and metals	Field Supervisor Sample supplies/shipping	\$76 \$380	4 LS	\$304 \$380
<u>Subcontractor Costs</u>				
Decontaminate 1 container storage area	Foreman/labor/equipment	\$1,139	LS	\$1,253
Assumes decontamination with detergent/water solution, and scrubbing with brooms, mops, etc., and triple rinsing with high pressure spray. Wash/rinse water containerized and transferred to drums				
Cost for transportation and disposal of drums included in Activity 8 below.				
<u>Laboratory Subcontractor Costs</u>				
- Analyze 1 rinsate sample for VOCs and SVOCs	VOCs @ \$127/sample SVOCs @ \$253/sample Total per sample cost	\$380	1	\$418
- Analyze 2 soil samples for VOCs, SVOCs and Metals	VOCs @ \$127/sample SVOCs @ \$266/sample Metals @ \$114/sample EnCore Sample Container @ \$30/sample x 2/sample Total per sample cost	\$567	2	\$1,247
Activity 4. Subtotal				\$4,839

5. DECONTAMINATE THE RETURN/FILL STATION
Assumptions:

- Washing shall consist of a high-pressure detergent/water solution and triple rinsing with tap water
- The R/F structure, including the dumpsters/drum washers will be saved for reuse
- Drum washers shall be removed from the R/F and staged within the warehouse
- Rinsate sample required for drum washers (21) and secondary containment (32 total) for VOCs and SVOCs
- Assumes up to 2 soil samples will be collected from beneath the return/fill containment area
- Prime Contractor project engineer and field supervisor travel and per diem accounted for in above activities
- Prime Contractor per diem includes rental car, room and meals
- Subcontractor costs include labor and all expenses to complete each task

Prime Contractor Costs

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
- Supervise and document removal of residual sludges (if necessary)	Field Supervisor	\$76	4	\$304
- Supervise washing of R/F Station and associated components (i.e. piping, pumps, and appurtenances)	Field Supervisor	\$76	8	\$608
- Inspect containment and document with field notes and photographs	Project Engineer	\$99	2	\$198
- Collect rinsate samples for analysis of VOCs and SVOCs	Field Supervisor	\$76	2	\$152
	Sample supplies/shipping	\$190	LS	\$190
Subcontractor Costs				
- Remove residual sludge from drum washers, decontaminate drum washers, grating, containment and structure Assumes decontamination with detergent/water solution, and scrubbing with brooms, mops, etc., and triple rinsing with high pressure spray. Wash/rinse water containerized and transferred to drums Cost for transportation and disposal of drums included in Activity 8 below.	Foreman/labor/equipment	\$3,670	LS	\$4,037
Laboratory Subcontractor Costs				
- Analyze 3 rinsate sample for VOCs and SVOCs	VOCs @ \$127/sample SVOCs @ \$253/sample Total per sample cost	\$380	32	\$1,254
- Analyze 2 soil samples for VOCs, SVOCs and Metals	VOCs @ \$127/sample SVOCs @ \$266/sample Metals @ \$114/sample EnCore Sample Container @ \$30/sample x 2/sample Total per sample cost	\$567	2	\$1,247
Activity 5. Subtotal				\$7,990.72

6. DECONTAMINATE FLAMMABLE MATERIALS STORAGE SHELTER
Assumptions:

- Flammable materials storage shelter consists of a metal structure with elevated grating and metal containment pans.
- Decontamination shall consist of washing with a high-pressure detergent/water solution and triple rinsing with tap water
- Flammable materials storage shelter each to remain in-place following closure
- Prime Contractor project engineer and field supervisor travel accounted for in above activities
- Prime Contractor per diem includes rental car, room and meals
- Assumes up to 2 soil samples will be collected from beneath the flammable materials storage shelter
- Field supervisor qualified to collect soil and rinsate samples
- Subcontractor costs include labor and all expenses to complete each task

Prime Contractor Costs

- Inspect the floor of the Flam Shed for cracks, gaps, or other potential lapses of integrity	Project Engineer	\$116	2	\$232
- Fill cracks and gaps (if necessary) prior to implementing decontamination	Field Supervisor	\$76	2	\$152
- Supervise and document decontamination of Flam Shed	Field Supervisor	\$76	6	\$456
- Collect sample of final rinsate from Flam Shed, submit for laboratory	Field Supervisor	\$76	2	\$152
- Core through concrete at 2 locations beneath Flam Shed	Field Supervisor Equipment	\$76 \$127	2 day	\$152 \$127
- Collect 2 soil samples for analysis of VOCs, SVOCs and metals	Field Supervisor Sample supplies/shipping	\$76 \$380	4 LS	\$304 \$380

Subcontractor Costs

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

Activity		Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
Decontaminate 1 Flammable Materials Storage Shelter		Foreman/labor/equipment	\$2,658	LS	\$2,924
Assumes decontamination with detergent/water solution, and scrubbing with brooms, mops, etc., and triple rinsing with high pressure spray. Wash/rinse water containerized and transferred to drums					
Cost for transportation and disposal of drums included in Activity 8 below.					
<u>Laboratory Subcontractor Costs</u>					
- Analyze 1 rinsate sample for VOCs and SVOCs		VOCs @ \$127/sample SVOCs @ \$253/sample Total per sample cost	\$380	1	\$418
- Analyze 2 soil samples for VOCs, SVOCs and Metals		VOCs @ \$127/sample SVOCs @ \$266/sample Metals @ \$114/sample EnCore Sample Container @ \$30/sample x 2/sample Total per sample cost	\$567	2	\$1,247
Activity 6. Subtotal					\$6,544
7. DECONTAMINATE CLEANUP EQUIPMENT (If Necessary)					
<u>Assumptions:</u>					
- Decontamination of Cleanup Equipment is not anticipated to be necessary. Equipment used to remove waste units will only be used following decontamination of the unit (i.e. equipment will not come into contact with hazardous waste). Other cleanup equipment such as pressure washers will be cleaned during decontamination of each respective unit.					
- If performed, washing of cleanup equipment shall consist of a high-pressure detergent/water solution and triple rinsing with tap water					
<u>Prime Contractor Costs</u>					
- Supervise washing of cleanup equipment		Field Supervisor	\$76	4	\$304
<u>Subcontractor Costs</u>					
- Construct decon area with 6ml plastic sheeting and 4" absorbent berm		Foreman/labor/equipment	\$633	LS	\$696
- Decontaminate cleanup equipment					
Assumes decontamination with detergent/water solution, and scrubbing with brooms, mops, etc., and triple rinsing with high pressure spray. Wash/rinse water containerized and transferred to drums					
Cost for transportation and disposal of drums included in Activity 8 below.					
Activity 7. Subtotal					\$1,000
8. CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES					
<u>Assumptions:</u>					
- 1000 gallons wash water generated from decontamination of each waste AST, piping and secondary containment (2000 gallons total including residual sludge) = 1837 drums					
- 1000 gallons of wash water generated from decontamination of CSA = 18 drums					
- 500 gallons of wash water generated from decontamination of return/fill station and drum washer = 9 drums					
- 224112 gallons sludge removed from drum washer (included in above drum count)					
- 250 gallons of wash water generated from decontamination of both Flammable Materials Storage Shelter = 5 drums					
- PPE, plastic sheeting, disposable cleanup equipment, consumables, etc. contained in 4 drums					
- Waste characterization samples not necessary for wash/water disposal (wash water from solvent tank, R/F and containment disposed as hazardous waste solvent, CSA wash water also disposed as hazardous waste)					
<u>Prime Contractor Costs</u>					
- Ensure drums are properly labeled, coordinate pick up and disposal		Project Manager	\$116	4	\$464
- Purchase 5473 55-gallon drums		Drums @ \$44 each	\$44	5473	\$2,6143,533
<u>Subcontractor Costs</u>					
- Transfer drums of decon waste to trucks		Foreman/labor/equipment (no charge, included in above costs)	0	LS	0
- Transport drums to TSD for Treatment/Disposal					
Assumes 1 truck to transport 54 drums (60/trailer)					
Drum Transportation at \$506499/load		Drum Transport	\$506499	12	\$506998

Exhibit B-1. Closure Cost Estimate Worksheet, Hazardous Waste Units, Safety-Kleen Systems, Inc. Service Center, Salt Lake City, UT (5/03) - Costs Updated for Inflation to 2016

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
Estimated disposal/treatment cost (per drum) - \$165/drum	Disposal of drums	\$165	5473	\$8,91012,045
Activity 8. Subtotal				\$12,49417,040

9. CLOSURE CERTIFICATION REPORT

Assumptions:

- CLOSURE CERTIFICATION REPORT certified by an Utah-registered PE and S-K

Prime Contractor Costs

- Compile field notes and photographs

Project Manager
Project Engineer

\$116
\$99

2
2

\$232
\$198

- Compile rinsate and soil sample data into summary tables

Project Manager
Project Engineer

\$116
\$99

4
8

\$464
\$792

- Draft Closure Certification Report

Project Manager
Project Engineer

\$116
\$99

8
16

\$928
\$1,584

- Prepare closure certification statement

Sr. Project Engineer

\$146

2

\$292

- Office Expenses

Drafting/Clerical

\$506

1

\$506

- Miscellaneous Expenses

Copying/Postage

\$127

1

\$127

Activity 9. Subtotal

\$5,123

COST ESTIMATE ACTIVITIES SUMMARY

1. PROJECT COORDINATION AND SCHEDULING	\$4,210
2. MOBILIZE TO SITE AND PREPARE FOR CLOSURE/CLOSURE OVERSIGHT	\$68,28582,420
3. STORAGE TANK DECONTAMINATION AND REMOVAL (42 Tanks)	\$21,44027,264
4. DECONTAMINATE ONE CONTAINER STORAGE AREA	\$4,839
5. DECONTAMINATE THE RETURN/FILL STATION	\$7,9907,572
6. DECONTAMINATE FLAMMABLE MATERIALS STORAGE SHELTER	\$6,544
7. DECONTAMINATE CLEANUP EQUIPMENT (If Necessary)	\$1,000
8. CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES	\$12,49417,040
9. CLOSURE CERTIFICATION REPORT	\$5,123
TOTAL CLOSURE COST ESTIMATE	\$131,925156,012

Notes:

- Prime Contractor Rates obtained from TriHydro Corporation 2003 Schedule of Charges
- Subcontractor prices provided by Evans Environmental Construction, Glenwood, Iowa
- 10% markup on prime contractor, construction, and analytical contractor costs. No markup on disposal costs at Aragonite.
- Laboratory Subcontractor Rate Obtained From Analytical Service, Inc. (Norcross, Georgia) Schedule of Charges
- Waste solvents and drummed waste treatment/disposal unit cost obtained from Clean Harbors Aragonite, Utah Facility at \$165 per 55 gallon drum, and \$0.06/pound for bulk solvent.

ATTACHMENT 6

CLOSURE PLAN

6.A. PURPOSE

6.A.I. The Safety-Kleen Salt Lake City service center operates as a storage facility for hazardous wastes, and is required to close the hazardous waste management units in accordance with the closure requirements of R315-264-110 through 120. Closure of the hazardous waste management units at this facility will be carried out in accordance with the steps outlined in this plan. Safety-Kleen shall remove all hazardous wastes and residuals from the facility to a level that will be protective of human health and the environment. Appendix A of this attachment contains an estimated schedule and cost for the completion of final closure. The closure cost estimate was initially calculated in 2003 dollars and has been adjusted for inflation to make the estimate current as of 2016.

6.A.II. The portions of the facility that are subject to closure include the spent solvent aboveground storage tank system, the warehouse container storage area, the return/fill station, and the metal shelter container storage area. This closure plan identifies the steps necessary to complete closure of each unit. Additionally, the closure plan includes provisions for potential re-use of the closed units onsite or offsite, if appropriate. Alternatively, the units may be dismantled and transported offsite for disposal or as scrap to an appropriate recycling facility.

6.B. MANAGEMENT OF HAZARDOUS WASTE

6.B.I. All wastes generated during closure activities shall be managed as hazardous waste until determined otherwise. The concrete secondary containment area for the hazardous waste storage tank~~s~~, return and fill station, and the warehouse container storage area shall be decontaminated, as described in this plan. The hazardous waste storage tank~~s~~, return and fill station, associated piping, and the metal shelter container storage area shall also be decontaminated as described in this plan. Hazardous waste that may be generated as part of the closure activities includes facility managed waste (i.e., solvents, sludges, paint waste and thinner, etc.) and wash/rinse water. Items will be considered decontaminated if the applicable performance standards specified in Table 1-ATTACHMENT 6 are met. Samples of final rinsate will be collected and analyzed as specified in Table 1-ATTACHMENT 6 to make this demonstration. Rinsates will either be managed as hazardous waste and transported under manifest to a permitted facility or will be held on the site pending analysis and characterization. All analysis will be performed by a Utah certified laboratory.

6.C. ABOVEGROUND TANK~~S~~ AND ASSOCIATED PIPING

6.C.I. The vertical aboveground storage tank~~s~~ ~~is~~are used for storage of spent parts cleaning solvents, which have been returned from customers. To safely clean and

- decommission the aboveground storage tank(s), the following activities shall be performed during partial or final closure (as appropriate):
- 6.C.I.a. Remove the remaining material from the aboveground waste solvent tank(s) undergoing closure, and transfer the materials to a recycle center for reclamation or alternate facility for treatment;
 - 6.C.I.b. Provide access to the tank(s);
 - 6.C.I.c. Pressure wash (water/detergent solution) and triple rinse (water), scrape and squeegee ~~the each~~ tank interior undergoing closure, removing all residual waste material and rinsate. The rinsate shall be sampled and analyzed in accordance with Table 1 of this attachment to demonstrate proper decontamination.
 - 6.C.I.d. Disconnect and decontaminate applicable appurtenant piping and pumping equipment and clean the concrete secondary containment (if appropriate) around the tank(s) undergoing closure. Appurtenant piping and equipment shall also be pressure washed with detergent-water solution and triple rinsed with water;
 - 6.C.I.e. Visually inspect the tank(s), secondary containment, and appurtenant piping and equipment for evidence of staining and residue. If staining or residue is present, repeat steps outlined in Condition 6.C.I.c. of this attachment;
 - 6.C.I.f. Reuse tank(s) and appurtenant equipment onsite or offsite or remove and dispose of as scrap metal. The closure cost estimate does not include credit for selling the tank(s) or equipment. A certificate of destruction shall be included in the final closure certification if the tank(s), piping and appurtenant equipment are disposed as scrap metal.
 - 6.C.I.g. Decontaminate the diking and slab as indicated in this attachment at final closure; following partial or final closure, the tank(s) may be reused in place in accordance with applicable regulations;
 - 6.C.I.h. Backfill any excavations with clean fill materials; and
 - 6.C.I.i. Transport and dispose of all waste material generated during the project. All associated cleaning equipment shall be thoroughly rinsed with a detergent solution and the rinsate shall be collected and disposed of in accordance with applicable regulations. Any hazardous wastes generated will be managed according to R315 of the Rules. The waste solvent tank(s) shall either be decontaminated to the performance standards in Table 1–ATTACHMENT 6 or managed as hazardous waste.
 - 6.C.II. The tank system secondary containment area shall be inspected during partial/final closure activities. If visual inspection during closure indicates an absence of waste-related staining, cleaning of the secondary containment area may be deemed unnecessary. The secondary containment area shall be thoroughly cleaned (i.e.,

scrubbed, scraped, pressure washed and triple rinsed) if waste-related staining is observed during closure activities.

6.C.III. Tank Opening and Waste Removal (procedures are for each tank)

6.C.III.a. To safely open the tank and remove the waste material:

6.C.III.a.i. The contents of the tank shall be removed using a pump, vacuum pump unit, or similar equipment. The waste shall be transported in accordance with applicable regulations to a Safety-Kleen Recycle Center for reclamation or other appropriate reclamation or permitted treatment, storage and disposal (TSD) facility.

6.C.III.a.ii. To gain access to the waste solvent tank, the manway at the top of the tank shall be used. Depending on the type of opening and the condition of the equipment, a variety of tools may be used to open the manway. Care shall be exercised to minimize spark generation when working on the tank.

6.C.III.a.iii. Prior to entering the tank, personnel shall have full-face respiratory protection and protective clothing. Procedures for tank entry, purging, and venting a tank are described in various API standards and publications and in OSHA's "Permit Required Confined Spaces" (29 CFR Section 1910.146). The tank shall then be inspected to determine the approximate quantity and physical conditions of any remaining waste material.

6.C.IV. Removal of Residual Waste and Cleaning of Tank (procedures are for each tank)

6.C.IV.a. To safely remove the residual waste and clean the tank the following steps shall be taken:

6.C.IV.a.i. Before removing any residual waste from the tank, all piping and appurtenant equipment shall be flushed with a detergent water-solution and then triple-rinsed with water;

6.C.IV.a.ii. The method used to remove the residual waste material from the tank depends on the physical properties and quantity of material present. Prior to any person entering the tank, as much liquid and sediment as possible shall be removed;

6.C.IV.a.iii. Subsequent to vacuuming the majority of the material from the tank, it may be necessary to use a high-pressure wash system, and a detergent water-solution to rinse residual material from the walls, roof, and floor of the tank. A final water-rinse shall be used to flush the tank. The evacuated material and the rinse solution shall be shipped to an appropriate reclamation or permitted hazardous waste management facility (i.e., TSD, S-K recycle center). The quantity of wash/rinse water used shall be kept to a minimum in order to limit the amount of waste material generated. The water from the final rinse of the tank and the ancillary equipment shall be analyzed in accordance with Table 1-ATTACHMENT 6 to demonstrate successful decontamination. In the event that analysis shows that the tank and/or the ancillary equipment fails the decontamination standards,

decontamination steps shall be repeated as necessary or the tank, ancillary equipment, or both shall be managed as hazardous waste.

- 6.C.IV.a.iv. The waste solvent storage tanks ~~is~~ are considered a confined space (i.e., spaces open or closed having a limited means of egress in which poisonous gases or flammable vapors might accumulate or an oxygen deficiency might occur), and confined space entry requires special procedures. The procedures to be followed include:
- 6.C.IV.a.iv(A). The tank shall be washed, neutralized and/or purged (where flammable atmosphere is present) prior to being entered;
- 6.C.IV.a.iv(B). Supply valves shall be closed and "tagged" and bleeder valves left open; or supply piping shall be disconnected;
- 6.C.IV.a.iv(C). Pumps or motors normally activated by automatic controls shall be operated manually to be sure they have been disconnected. Appurtenant power switches shall be tagged "Off";
- 6.C.IV.a.iv(D). On tanks where flammable vapors may be present, all sources of ignition shall be removed;
- 6.C.IV.a.iv(E). Under circumstances where "hot work" (welding, burning, grinding, etc.) is to be performed in or on the tank, a test for combustible gases shall be taken. In all tank-entering situations, an oxygen deficiency test shall also be performed prior to tank entry. The supervisor of the area in which the work is being done shall perform tests for combustible gas concentration and oxygen deficiency;
- 6.C.IV.a.iv(F). There shall be a set of wristlets or a rescue harness and sufficient rope at the job site to affect a rescue. Any other rescue equipment considered necessary by the supervisor shall also be on the job site;
- 6.C.IV.a.iv(G). Workers shall wear a rescue harness if entering the tank through a large enough opening to easily affect a rescue. If entering through a small opening, only wristlets may be used. In cases where there are agitator shafts, drums or other hazards in which the lifeline could be entangled and the supervisor in charge feels that wearing the lifeline may entrap a man and increase the hazard, the wearing of a harness or wristlets may be eliminated;
- 6.C.IV.a.iv(H). Appropriate personal protective equipment and supplied air breathing devices shall be used during tank entry. In cases of short-term entry for inspection or removal of objects, a self-contained breathing apparatus (SCBA) shall be used;
- 6.C.IV.a.iv(I). When a ladder is required to enter the tank, the ladder shall be secured and not removed while anyone is in the vessel. In cases where a rigid ladder could become an obstacle, a chain ladder may be used;

- 6.C.IV.a.iv(J). Adequate illumination shall be provided and a flashlight or other battery-operated light shall also be on hand to provide illumination for a safe exit in the event of an electrical power failure;
- 6.C.IV.a.iv(K). All electrical equipment to be used inside the tank shall be in good repair and grounded;
- 6.C.IV.a.iv(L). Other people working in the immediate area shall be informed of the work being done, and they shall inform the watcher or supervisor immediately of any unusual occurrence that makes it necessary to evacuate the tank;
- 6.C.IV.a.iv(M). The Standby Observer System shall be implemented. It consists of the following:
- 6.C.IV.a.iv(M)(1). Workers inside a confined space shall be under the constant observation of a fully instructed standby observer;
- 6.C.IV.a.iv(M)(2). Before anyone enters the tank, the standby observer shall be instructed by the person in charge of the entry, that an entry authorization shall be obtained from the person in charge and whether a rescue harness or wristlets shall be used on the job;
- 6.C.IV.a.iv(M)(3). The standby observer shall also know the location of the nearest telephone (with emergency numbers posted), eyewash and/or shower, fire extinguisher and oxygen inhalator. For all "hot work" on the tank, the standby observer shall be instructed how to shut down the welding/burning equipment;
- 6.C.IV.a.iv(M)(4). As long as anyone is inside the vessel, the standby observer shall remain in continuous contact with the worker. HE/SHE IS NOT TO LEAVE THE JOB SITE EXCEPT TO REPORT AN EMERGENCY. He/she does not enter the tank until help is available;
- 6.C.IV.a.iv(M)(5). All welding and burning equipment shall be provided with a shutoff under the control of the standby observer; and the standby observer shall be shown how to shut off the equipment if it becomes necessary. Welding and burning equipment shall only be taken into a tank immediately prior to its use and shall be removed from the tank immediately after the job is finished; and
- 6.C.IV.a.iv(M)(6). For all "hot work" inside a tank, a properly executed permit shall be displayed at the job site and standard welding and burning safety precautions shall always be followed.
- 6.C.V. Following removal of the residual waste, the tank(s) shall be pressure washed with detergent-water solution and triple rinsed with tap water. Washing/rinsing shall continue until the tank(s), associated piping and appurtenances appear visually clean. The final rinsate shall be sampled to determine the cleanliness of the tank(s). The final rinsate sample(s) shall be submitted to a qualified laboratory and analyzed as indicated in Table 1-ATTACHMENT 6. If the sample analytical results indicate the final rinsate meets the decontamination standards in Table 1, the tank system(s)

shall be considered properly decontaminated and suitable for reuse or disposal as scrap metal.

- 6.C.VI. The residual waste materials and rinsate shall be collected and shipped to an appropriate reclamation or permitted hazardous waste management facility (i.e., TSD, S-K recycle center).
- 6.C.VII. Removal or Re-use of the Tank(s)
- 6.C.VII.a Following completion of closure activities, the closed tank may be reused onsite or offsite or scrapped. If the tank and associated containment area undergoing closure will not be reused in the present location, the following procedures will be observed to safely remove the tank:
- 6.C.VII.a.i. Disconnect all appurtenant piping;
- 6.C.VII.a.ii. Disconnect all appurtenant pumping equipment;
- 6.C.VII.a.iii. The tanks and piping shall be removed and recycled as scrap in accordance with applicable rules. The contractor or scrap metal facility shall provide verification of destruction;
- 6.C.VII.a.iv. The diking and slab shall be decontaminated and razed and disposed of at an appropriate demolition debris or solid waste landfill. Following the razing of the diking and slab, inspect the excavation; and
- 6.C.VII.a.v. Backfill the excavation with clean fill materials and grade to ground level.
- 6.C.VIII. Cleaning and Inspection of Secondary Containment Areas
- 6.C.VIII.a. The diked areas shall be dry swept prior to decontamination. All cracked areas shall be sealed prior to commencement of cleaning to prevent migration of rinsate out of the containment area. The containment dike and floor area shall be pressure washed using a detergent-water solution and triple rinsed with water at final closure. Following the final wash/rinse, the area shall be inspected to determine the effectiveness and completeness of decontamination. If necessary, the containment area shall be rewashed and rinsed until visually clean. The final rinsate shall be sampled to determine the cleanliness of the secondary containment areas. The final rinsate sample(s) shall be submitted to a Utah-certified laboratory and analyzed as indicated in Table 1-ATTACHMENT 6. If the sample analytical results indicate the final rinsate meets standards in Table 1, the secondary containment areas will be considered properly decontaminated and suitable for reuse or scrapped.
- 6.C.VIII.b. If the tank(s) ~~is-are~~ to be re-used onsite, the concrete slab and dike walls may also be left in place to function as secondary containment. An independent registered Professional Engineer shall inspect the concrete secondary containment dike for the presence of unsealed cracks or gaps, etc. If the secondary containment passes the inspection, soil sampling and analyses shall be considered unnecessary to complete

and document closure. If lapses of integrity are noted and determined to have the potential for wastes to migrate to underlying soils, soil samples shall be collected to evaluate the absence or presence of impacts in accordance with Condition 6.G.

6.D. WAREHOUSE CONTAINER STORAGE AREA

- 6.D.I. The warehouse container storage area is used for the storage of drums containing clean products, spent immersion cleaner, dry-cleaning waste, spent parts cleaning solvents, imaging/photochemical wastes, and transfer wastes segregated per the DOT and Uniform Fire Code guidelines. At closure, all drums shall be removed and transported to a Safety-Kleen Recycle Center or other appropriate reclamation or permitted disposal/treatment facility after proper packaging, labeling and manifesting.
- 6.D.II. Prior to cleaning the warehouse container storage area, all cracks shall be sealed. The concrete floor and spill containment trenches shall be cleaned with a detergent-water solution and triple rinsed with water. The final rinsate shall be analyzed in accordance with Table 1-ATTACHMENT 6 to document decontamination. The floor area and trenches will be washed/rinsed until visually clean to the extent practicable. Wash/rinse water shall be containerized in drums, tanker truck or other suitable container(s), and managed as hazardous waste in accordance with applicable regulations.
- 6.D.III. The floor area and trenches shall be considered properly decontaminated when free of waste-related residue/staining, are visually clean, and analytical results indicate the rinse water meets the standards in Table 1.
- 6.D.IV. Following decontamination, the secondary containment structure/area shall be inspected by an independent registered Professional Engineer. Soil sampling shall be conducted in accordance with Condition 6.G., if unsealed cracks, gaps or lapses of integrity are identified during the inspection.

6.E. SOLVENT RETURN AND FILL STATION

- 6.E.I.
| The return and fill station is used to collect and return the spent parts cleaning solvent to the waste storage tank(s). At closure, the sediment in the dumpsters shall be removed and drummed, labeled, and manifested for proper treatment and disposal at an appropriate reclamation or permitted hazardous waste management facility (i.e., TSD, Safety-Kleen recycling center).
- 6.E.II. The dumpster and the dock area in the return and fill station shall be thoroughly decontaminated with a high-pressure detergent-water solution and triple rinsed with water, until visually clean. The final rinsate shall be containerized in a tanker truck or other suitable container(s). The clean dumpster and dock structure shall be reused by S-K or dismantled and recycled as scrap metal. If not reused, the verification of destruction (i.e., remelt) shall be provided by the contractor or scrap metal facility. A final rinsate sample shall be submitted to verify decontamination. The sample shall be analyzed in accordance with Table 1-ATTACHMENT 6. If the

analytical results indicate the rinse water meets the decontamination standards in Table 1, the return/fill station shall be considered properly decontaminated and suitable for reuse or scrapped.

- 6.E.III. Wash water and rinsate shall be containerized and shipped to an appropriate reclamation facility or permitted hazardous waste TSD facility (i.e., S-K recycle center) in accordance with applicable regulations.
- 6.E.IV. Following decontamination, an independent registered Professional Engineer shall inspect the secondary containment structure/area. Soil sampling shall be conducted in accordance with Condition 6.G., if unsealed cracks, gaps or lapses of integrity are identified during the inspection.

6.F. METAL SHELTER CONTAINER STORAGE AREA

- 6.F.I. The Metal Shelter Container Storage Area is used to store containers of permitted wastes and 10-day transfer wastes segregated per DOT and Uniform Fire Code guidelines prior to shipment for reclamation or treatment. At closure, any residual waste shall be removed from the metal shelter and shipped to a reclaimer or appropriate treatment or disposal facility. The metal shelter and associated secondary containment pans will be thoroughly cleaned with a high-pressure detergent-water solution and triple rinsed. The rinsate will be collected, transferred to a tanker truck or other suitable container(s), managed as hazardous waste and transported to a permitted TSD (i.e., S-K recycle center).
- 6.F.II. A final rinsate sample will be submitted to verify decontamination. The final rinsate will be sampled and analyzed in accordance with Table 1-ATTACHMENT 6. If the analytical results indicate the rinse water passes the decontamination standard in Table 1, the unit will be considered properly decontaminated and suitable for reuse or scrapped. The metal structure will be reused by Safety-Kleen or dismantled and recycled as scrap metal. If not reused, the verification of destruction (i.e., remelt) will be provided by the contractor or scrap metal facility as part of the closure certification.
- 6.F.III. Following decontamination, an independent registered Professional Engineer will inspect the secondary containment structure/area. Soil sampling shall be conducted in accordance with Condition 6.G, if unsealed cracks, gaps or lapses of integrity are identified during the inspection, which may have allowed wastes to migrate to the subsurface.

6.G. SOIL SAMPLING AND ANALYSIS PLAN

- 6.G.I. Soil sampling and analysis shall be conducted at final closure (if necessary) to document completion of closure. If there are cracks, gaps or lapses of integrity in the tank containment area, container storage areas, containment pans or return/fill station secondary containment area, which may have allowed waste migration to underlying soils, a sampling plan will be initiated to assess the absence or presence of hazardous waste migration, potential HWMU or facility-related impacts and the

extent of impacts, if present. The sampling locations shall include previously identified unsealed cracks or gaps within each containment area.

- 6.G.II. If a concrete containment area(s) or containment pans are to be dismantled and removed, samples shall be collected from immediately beneath the unsealed crack(s)/gap(s). If the concrete containment area(s) or containment pans are to remain in-place, samples shall be collected near the perimeter of the containment areas/pans, as close to the target crack(s)/gap(s) or lapses of integrity, as practicable or through a boring directly beneath the cracks/gaps as appropriate. The soil samples will be collected at a depth of approximately 6 to 12 inches beneath the bottom of the concrete containment structure or steel containment pan.
- 6.G.III. The soil samples shall be submitted to a Utah certified laboratory and analyzed in accordance with Table 1-ATTACHMENT 6. Analytical results from soil sampling will be compared to regulatory or site-specific risk-based clean-up levels to document closure or determine the need for additional assessment or remedial action to complete closure.
- 6.G.IV. If the concrete containment area(s) or containment pans are to be removed, samples shall be collected from underneath each unsealed crack or gap through which wastes may have potentially migrated to underlying soil. To gain access to the underlying soil, a boring may need to be constructed through the concrete with an electric rotary hammer drill, coring device, or equivalent. Soil samples shall be obtained from beneath the containment areas, in accordance with industry standards (i.e., hand auger, manual driven probe sampler, split-spoon sampler, or equivalent). The soil samples shall be collected in clean brass tubes or transferred to glass containers and sealed with Teflon lined lids/caps.
- 6.G.V. In addition to the investigative samples collected from under the secondary containment areas (if any), additional samples may be collected at perimeter locations to evaluate background soil quality. If appropriate, the background soil samples will be collected at depth of 0 to 12 inches or the depth intervals representative of the investigative soil samples. The background soil samples (if collected) will be analyzed for the 8 RCRA metals using SW-846 methods.
- 6.G.VI. The sampling equipment will be decontaminated (i.e., washed/rinsed) prior to use and between sampling locations. All rinse water will be collected and managed in accordance with applicable regulations. Decontamination activities will take place over a portable containment unit, the containment sumps within each container storage area, or equivalent.
- 6.G.VII. If the analytical results for the investigative soil samples exceed the acceptable regulatory risk-based levels, the owner/operator (i.e., Safety-Kleen) shall prepare a remedial action plan/closure plan amendment and/or conduct a site-specific risk assessment. If conducted, the risk assessment results will be used to coordinate alternate clean closure objectives with the Director. Background soil quality results may also be evaluated and considered during development of acceptable clean closure objectives.

6.G.VIII. The results shall be forwarded to the Director, with the subsequent closure progress or certification report. Depending on the results of the analyses and/or risk assessment, a closure plan addendum/remedial action plan shall also be submitted to the Director for approval. The closure plan amendment shall include procedures to evaluate the extent of facility-related impacts and/or plan for remedial action to complete closure.

6.G.IX. Safety-Kleen is committed to achieving clean or risk-based closure. Therefore, if necessary, an appropriate closure plan amendment/remedial action plan will be implemented to complete closure. The closure remedial action program shall be designed to be consistent with applicable facility corrective action conditions and corrective measures programs. The additional closure activities or remedial action program may include a plan for additional sampling and analysis to determine the extent of facility-related subsurface impacts. Following completion of any additional soil assessment activities, an appropriate remedial action program shall be implemented to achieve clean or risk-based closure.

6.H. FACILITY CLOSURE SCHEDULE AND CERTIFICATION

6.H.I. Within 90 days of receiving the final volume of hazardous wastes, Safety-Kleen shall remove all hazardous wastes from the facility in accordance with this closure plan. The Director may approve a longer period if Safety-Kleen demonstrates that the activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete or the following requirements are met:

6.H.I.a. The facility has the capacity to receive additional hazardous wastes;

6.H.I.b. There is a reasonable likelihood that someone other than the Permittee will recommence operation of the facility within one year;

6.H.I.c. Closure of the hazardous waste management units is incompatible with continued operation of the site; and

6.H.I.d. Safety-Kleen has taken and will continue to take all steps necessary to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

6.H.II. Alternatively, Safety-Kleen may decide to implement partial closure of the facility (i.e., close one or more, but not all permitted hazardous waste units). In this case, Safety-Kleen shall notify the Director of the intent to close one or more of the hazardous waste management units in accordance with this approved closure plan and any subsequent modifications. The notification to the Director shall include a schedule for the planned closure activities, identification of the unit(s) to be closed and unit(s) that will remain in use.

6.H.III. The Permittee shall notify the Director at least 45 days prior to the date on which final closure of the facility is expected to begin. Safety-Kleen shall complete the

planned closure activities in accordance with the approved closure plan within 180 days after receiving the final volume of wastes. If necessary, a request for an extension to this time frame may be submitted to the Director in accordance with R315-264-110 through 120 (specifically R315-264-113(b)).

6.H.IV.

Within 60 days of completion of the final closure activities, Safety-Kleen shall submit to the Director, a certification that the hazardous waste unit or facility, as applicable, has been closed in accordance with the approved closure plan and applicable regulations. This certification shall be signed by Safety-Kleen and an independent registered professional engineer and shall include a description of the unit(s) which underwent closure, field tasks performed, field log, sampling protocols, results of analyses, a summary of the facility status, quantity of waste removed, and supporting documentation including manifests and photographic documentation.

TABLE 1-ATTACHMENT 6**Safety-Kleen Salt Lake City Service Center
Closure Plan Analytical Requirements**

Unit	Media	EPA Methods¹	Performance Standard
Tank Storage	Metal (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Concrete (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs, and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Soil	Total SVOC/VOCs and 8 RCRA Metals	Below background/MDL ⁴ or Risk-Based levels
Return and Fill Station	Metal (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Concrete (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs, and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Soil	Total SVOC/VOCs and 8 RCRA Metals	Below background/MDL ⁴ or Risk-Based levels
Warehouse Storage	Concrete (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Soil	Total SVOC/VOCs and 8 RCRA Metals	Below background/MDL ⁴ or Risk-Based levels

TABLE 1-ATTACHMENT 6 - Continued

Unit	Media	EPA Methods¹	Performance Standard
Metal Shelter	Metal (Rinsate) ²	Toxicity Characteristic - SVOC/VOCs and 8 RCRA Metals	Pass R315-261-24 ³
		F001-F005 SVOC/VOCs	Below MDL ⁴
	Soil	Total SVOC/VOCs and 8 RCRA Metals	Below background/MDL ⁴ or Risk-Based levels

Notes

- 1 8260 for volatiles analysis; 8270 for semivolatiles analysis; 6010 for As, Ba, Cd, Cr, Pb, Se, and Ag; 7470 for Hg
- 2 Final rinsate samples after cleaning concrete/metal media
- 3 Safety-Kleen shall demonstrate passing R315-261-24 on a dry weight correction basis
- 4 MDL = SW-846 Method Detection Limits

ATTACHMENT 6 – CLOSURE PLAN

APPENDIX A

CLOSURE COST ESTIMATE

Insert -Exhibit B-1, Closure Cost Estimate Worksheet Hazardous Waste Units

ATTACHMENT 7

CONTAINER STORAGE

7.A. CONTAINER STORAGE

- 7.A.I. The slab, curbing and collection trenches for the container storage area in the warehouse are made of steel-reinforced concrete and the concrete was poured so that no cracks or gaps exist between them. The curbing is four inches high and six inches wide and encompasses the storage area except where there is a trench. A steel grate covers the trench to facilitate the movement of drums across it. The warehouse container storage area trenches (i.e., containment) provide a capacity of 472 gallons. To comply with the storage capacity requirements of R315-264-175, the volume of waste stored in this area shall not exceed 4,500 gallons at any one time. The area is lined with a chemical resistant urethane coating or equivalent that is compatible with the materials stored.
- 7.A.II. The metal shelter container storage area and its secondary containment are constructed of sheet steel. An overhead door secures the shelter when drums are not being added to or removed from it. The containment capacity of the metal shelter container storage area is 1,683 gallons. To comply with the storage capacity requirements of R315-264-175, the volume of waste stored in the metal shelter container storage area shall not exceed 3,300 gallons at any one time.
- 7.A.III. All containers used in storing hazardous waste meet DOT specifications. The solvents in storage are incompatible only with strong oxidizers and reactive metals, none of which are present in the base or sealants that line the containment structure. All wastes are compatible with the containers in which they are stored in accordance with DOT container specifications.

Insert –

- ~~Existing~~ Site Plan ~~Existing~~ – Dwg 7113-SPOO-001, Rev ~~FG~~
- Floor Plan 1066 S. Pioneer Rd – Dwg 716601-QJO1700, Rev 04
- 3 Bay Class 1B Transfer Shelter – Dwg 716601-QJPB300, Rev A
- Storage Shelter – Class IB
- Pad, Concrete for Class IB Storage Shelter
- Fabrication Details for Class IB Storage Shelter
- Existing Floor Plan – Dwg 7113-WBOO-005, Rev 2
- Metal Container Storage Shelter (shows layout for 15 spaces where waste may be stored in the metal storage shed)
- Trench Detail - Retrofit
- Warehouse Storage Area Secondary Containment Calculation Sheet
- Flammable Materials Shelter Secondary Containment Calculation Sheet
- Chemical Resistant Urethane (3 pages of floor sealant description)
- ~~Drawing~~Environmental Piping Schematic 7113-5600-3501, Rev ~~FH~~

ATTACHMENT 8

TANK STORAGE

8.A. TANK STORAGE

8.A.I. The Safety-Kleen Facility has ~~a two~~ 15,000-gallon vertical tanks for storing spent solvent. These tanks are identified as tank no. 2 and tank no. 3. The 15,000-gallon spent solvent storage tanks ~~is are~~ 10' 6" in diameter and 23' 3" high and each has an operating capacity of ~~13,986~~14,250 gallons. ~~It is~~They are constructed of 3/16" thick (1/4" thick in the lower third of the tank) carbon steel painted a light color to reflect sunlight. The tanks ~~are is~~ constructed in accordance with Underwriters Laboratories Standard 142 and ~~it is are~~ located more than 20 feet from the property line in accordance with National Fire Protection buffer zone requirements. The secondary containment for the tanks consists of a monolithically poured slab and dike wall. The slab is six inches thick, with a sixteen inch slab directly under the tanks for stability, and the wall is eight-inch thick steel reinforced concrete. The words "Hazardous Waste" shall be marked on the spent solvent tanks. The tanks may be filled by transferring spent solvent from the Return and Fill station or from tanker trucks from other Safety-Kleen locations.

8.A.II. The tanks are equipped with an audible (siren) and visual (strobe light) high-level alarm system that will alert employees when a tank reaches 750 gallons from being full. There is an automatic feed cut-off in place in the dumpster/drum washer that shall be activated by the high level alarm to prevent further filling of the tank and possible overflow.

8.A.III. The return and fill station is a sheet steel structure as are the dumpster and drumwasher and the associated secondary containment. The dumpster unit is tight-piped to ~~the~~ tank no. 2 and all piping is aboveground. The pump in the return and fill station pumps waste to the spent solvent storage tank no. 2 and waste solvent can be transferred between tank no.2 and tank no. 3.

8.B. SECONDARY CONTAINMENT CALCULATIONS FOR TANK

Tanks included in the area: Tanks 2 and 3

<u>Approximate Dimensions of Containment Area:</u>				<u>Largest Tank, Tank 3</u>		
	<u>Existing</u>		<u>New</u>			
	<u>Concrete Area</u>	<u>Raised Area</u>	<u>Raised Area</u>	<u>Tank Capacity, gal</u>	<u>15,000</u>	
<u>Length, ft</u>	49.5	15	28.33	<u>Estimated Displacement Calculations</u>		
<u>Width, ft</u>	18.5	14.5	14.5	<u>Tank</u>	<u>gal/ft</u>	<u>Displaced, gal</u>
<u>Height, in</u>	34	2	4	2	648	1,566 elev 5in
<u>Capacity</u>	19,409	274	1024	<u>Aux Equip/Pipe</u>	<u>varies</u>	<u>100 est.</u>
<u>Total</u>	18,111			<u>misc.</u>	<u>varies</u>	<u>100 est.</u>

Containment capacity = Length (ft) x Width (ft) x H (in)/12 (in/ft) x 7.4805 gal/ft³

$$\text{Total Capacity} = 19,409 - 274 - 1024 = 18,111 \text{ gal}$$

$$\text{Total Displacement} = \text{area of tank} = (5.25 \text{ ft})^2 \times 3.14 = 86.55 \text{ ft}^2 \times 7.4805 \text{ gal/ft}^3 = 648 \text{ gal/ft}$$

$$\times \text{height of tank displacement} = 34 \text{ in} - 5 \text{ in} = 29 \text{ in}/12 \text{ in/ft} = 2.42 \text{ ft}$$

$$= 648 \text{ gal/ft} \times 2.42 \text{ ft} = 1,566 \text{ gal}$$

$$+ 200 \text{ gal for pipe and misc.} = 1,766 \text{ gal total displacement volume}$$

Sump Capacity, gal

20

Sump is 18" dia x 18" deep

Precipitation Allowance:

25-year, 24-hour amount, in

2.3 in

Precipitation Amount:

1,313 gal

Total Available Secondary Containment:

$$\text{Capacity} - \text{Precipitation} - \text{Displacement} = \text{Available Containment} =$$

$$18,111 \text{ gal} + 20 \text{ gal} - 1,313 \text{ gal} - 1,766 \text{ gal} = 15,052 \text{ gal}$$

$$\text{Excess Capacity} = \text{Available Containment} - \text{Tank Capacity} =$$

$$15,052 \text{ gal} - 15,000 = 52 \text{ gal}$$

DIKE VOLUME:

$$\text{Volume within the Dike walls} = L \times W \times H \times 7.48 \text{ gal/ft}^3$$

$$49.583 \text{ ft L} \times 18.5 \text{ ft W} \times 2.875 \text{ ft} \times 7.48 \text{ gal/ft}^3 = 19,726 \text{ gal}$$

$$\text{Volume of sump} = (\pi r^2 H) \times (7.48 \text{ gal/ft}^3) =$$

$$\pi \times (0.75 \text{ ft})^2 \times 1.5 \text{ ft} \times 7.48 \text{ gal/ft}^3 = 20 \text{ gal}$$

Gross Containment

19,746 gal

VOLUME OF WASTE SOLVENT TANK:

<15,000> gal

25-YEAR 24 HOUR STORM VOLUME*:

$$2.65 \text{ in}/12 \text{ in/ft} \times 49.583 \text{ ft L} \times 18.5 \text{ ft W} \times 7.48 \text{ gal/ft}^3 = <1,515> \text{ gal}$$

TANK DISPLACEMENT:

$$(\pi r^2 H) \times (7.48 \text{ gal/ft}^3) = \text{displacement (gals)}$$

$$r \text{ (Tank Radius)} = 5.25 \text{ ft}$$

$$H \text{ (Dike Height)} = 2.875 \text{ ft}$$

$$\pi (5.25 \text{ ft})^2 \times 2.875 \text{ ft} \times (7.48 \text{ gal/ft}^3) = <1,861> \text{ gal}$$

CONCRETE PAD DISPLACEMENT: $H \times L \times W \times 7.48 \text{ gal/ft}^3$

$$0.166 \text{ ft H} \times 43.583 \text{ ft L} \times 12.5 \text{ ft W} \times 7.48 \text{ gal/ft}^3 = <679> \text{ gal}$$

~~ANCILLARY EQUIPMENT DISPLACEMENT:~~

~~$(\pi^2 H \text{ or } L) \times (7.48 \text{ gal/ft}^3)$~~

~~Pump: $\pi(0.375 \text{ ft})^2 \times 1.666 \text{ ft} \times 7.48 \text{ gal/ft}^3 = <5.5> \text{ gal}$~~

~~2 inch Pipe: $\pi(0.094 \text{ ft})^2 \times 25 \text{ ft} \times 7.48 \text{ gal/ft}^3 = <5.2> \text{ gal}$~~

~~4 inch Pipe: $\pi(0.146 \text{ ft})^2 \times 57 \text{ ft} \times 7.48 \text{ gal/ft}^3 = <28.5> \text{ gal}$~~

~~6 inch Pipe: $\pi(0.26 \text{ ft})^2 \times 29.4 \text{ ft} \times 7.48 \text{ gal/ft}^3 = <46.7> \text{ gal}$~~

~~Total Required Capacity $<19,141> \text{ gal}$~~

~~EXCESS CAPACITY: $19,746 - 19,141 = 605 \text{ gal}$~~

~~*Any rainwater that collects in the dike shall be pumped to the used solvent storage tank~~

8.C.

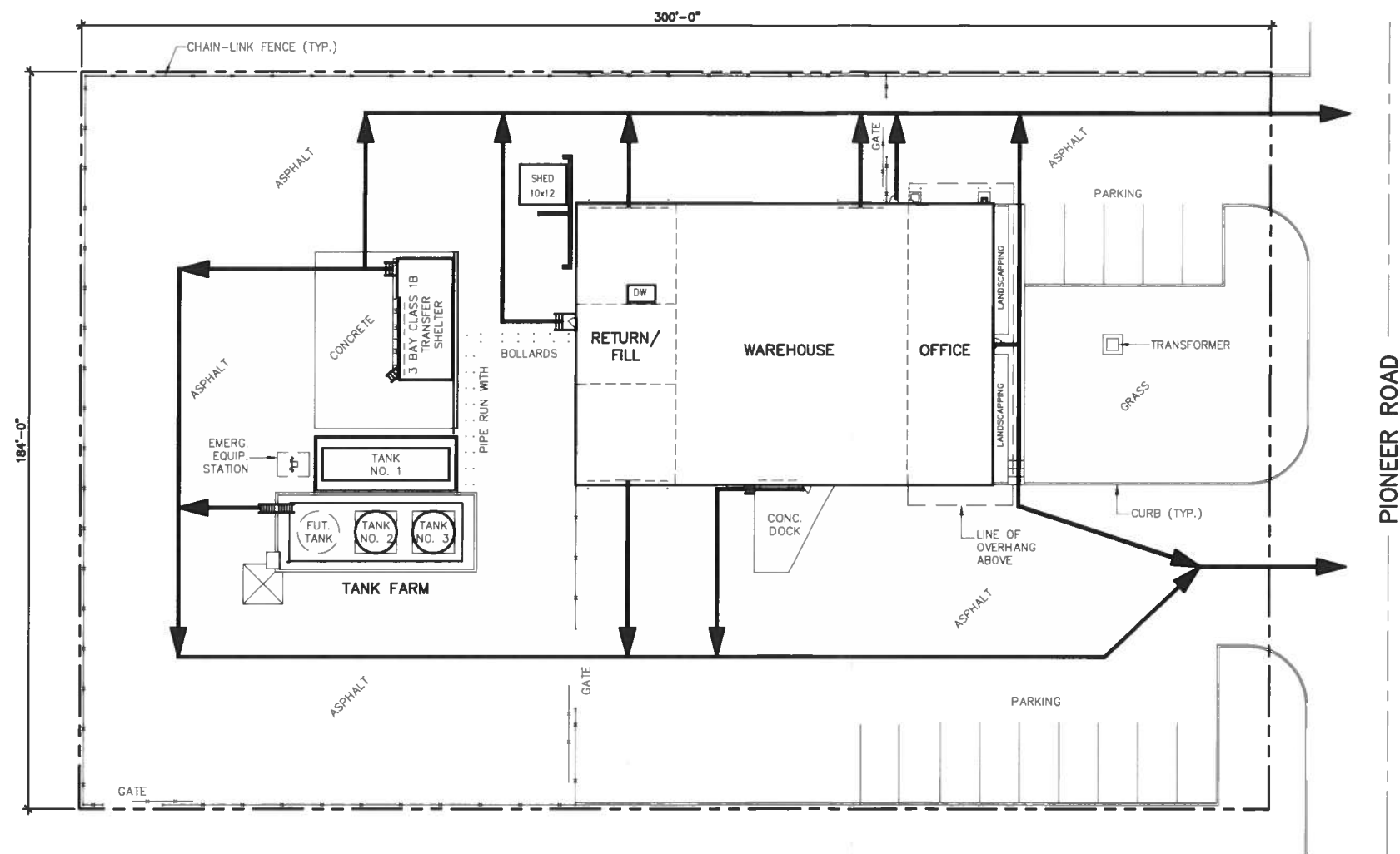
TANK EVALUATION AND REPAIR PLAN

8.C.I.

The waste to be stored in the hazardous waste tanks at the Facility is petroleum based parts cleaning solvent, which is compatible with the carbon steel structure. If corrosion is noted, the waste shall be removed and the tank repaired. If corrosion is significant and localized, the tank shall be immediately taken out of service and repaired, (e.g., a patch welded over the corroded area). Should the corrosion of the vessel be extensive or irreparable, the vessel shall be immediately taken out of service and replaced. In the case of a tank that leaks outside of the dike, the service center's Contingency Plan shall be implemented.

Insert -

- ~~-12K & 15K Gal 10'6" Vertical Tank Fabrication Details~~ 15K 10'-6" Ø Flat Bottom Vertical Storage Tank Fabrication Details – 7113-4100-900, Rev A
- ~~-Tank Skid 10'-6" Flat Bottom Tank Galvanized Bars Base Mounting Detail – BSD 893, Rev A~~
- ~~-Used Solvent Storage~~ Vertical Tank Installation Details – BSD 310
- ~~-High Level Alarm System Installation Details~~ Waste Mineral Spirits HLA System Diagram – 7113-4100-400, Rev A
- ~~-High Level Alarm System Installation Information~~
- ~~-Drum Washer/Dumpster Isometric – 7113-5600-299, Rev B~~ Assembly
- ~~-SWIC Drum Washer Screens & Filters~~ Screen & Filter Details – BSD-918, Rev 1
- ~~-Typical Concrete Construction Details~~ Tank Farm Concrete and Fabrication Details – 7113-4100-511, Rev B
- Proposed Tank Farm Concrete Pad Replacement – 7113-4100-505, Rev B
- Tank Farm & Return/Fill Piping Plan – Proposed – 7113-5600-303, Rev B
- Integrity Assessment of Tank and Secondary Containment System



GENERAL NOTES

- 1.) NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE
- 2.) ACTUAL EVACUATION ROUTES MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.

EVACUATION ROUTE LEGEND

→ EVACUATION ROUTE

TANK LEGEND

TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS
1	12,000 USG	CLEAN 150' MINERAL FLUID	8'-0" HORIZONTAL STORAGE TANK
2	15,000 USG	SPENT PARTS WASHER SOLVENT	10'-6" FLAT BOTTOM VERTICAL STORAGE TANK
3	15,000 USG	WINDSHIELD WASHER FLUID	10'-6" FLAT BOTTOM VERTICAL STORAGE TANK

REVISIONS

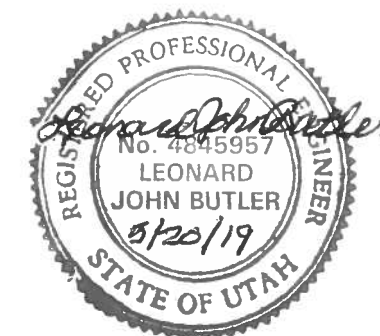
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A	RELEASED TO CL FOR PERMIT MOD.	MBH	KJM	WEY/CL	072696
B	REVISE TO SHOW CURRENT CONDITIONS	JEK	RS	RS	050707
C	REVISE TANK #5/ISSUE FOR PERMIT	JEK	NC	NC	041519

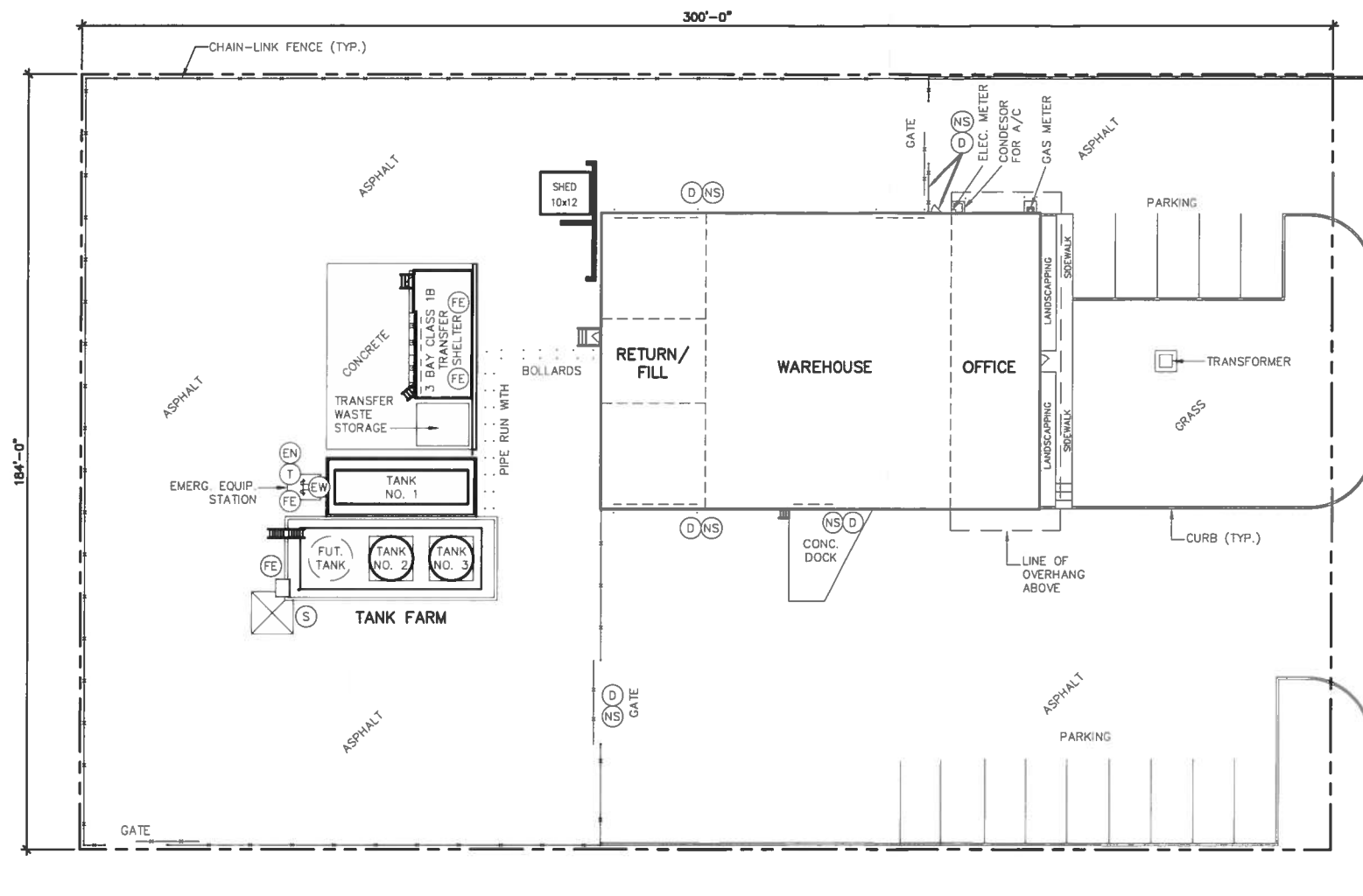
TITLE
SITE PLAN SHOWING EVACUATION ROUTES

S SAFETY-KLEEN SYSTEMS, INC.
5400 LINDSEY DR. SUITE 100 BLDG. 3 PLANO, TX 75074
PHONE 972-455-2740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=20'-0"	MBH				07-25-96
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV			
SALT LAKE CITY, UT	7113-SP00-003	C			

ATTACHMENT 2
APPENDIX A





PIONEER ROAD

GENERAL NOTES

- 1.) NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE
- 2.) ACTUAL EMERGENCY EQUIPMENT LOCATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.

LEGEND

- (R) RESPIRATORS
- (EW) EYE WASH
- (S) SORBENTS
- (T) TELEPHONE
- (FE) FIRE EXTINGUISHER (TYP. ABC)
- (FA) FIRST AID STATION
- (D) DANGER SIGN
- (NS) NO SMOKING SIGN
- (EN) EMERGENCY NUMBER

TANK LEGEND

TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS
1	12,000 USG	CLEAN 150' MINERAL FLUID	8'-0"Ø HORIZONTAL STORAGE TANK
2	15,000 USG	SPENT PARTS WASHER SOLVENT	10'-6"Ø FLAT BOTTOM VERTICAL STORAGE TANK
3	15,000 USG	WINDSHIELD WASHER	10'-6"Ø FLAT BOTTOM VERTICAL STORAGE TANK

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	RELEASED TO CL FOR PERMIT MOD.	MBH	KJM	WEY/CL	072696
B	MOVED NORTH GATE AND EXTEND NORTH FENCE	JKM	CL		111201
C	REVISE TO SHOW CURRENT CONDITIONS	JEK	RS	RS	050707
D	REMOVE RECYCLE SYSTEM	JEK	RS	RS	121510
E	ISSUED FOR PERMIT	JEK	NC	NC	041219

TITLE
SITE PLAN SHOWING EMERGENCY EQUIPMENT

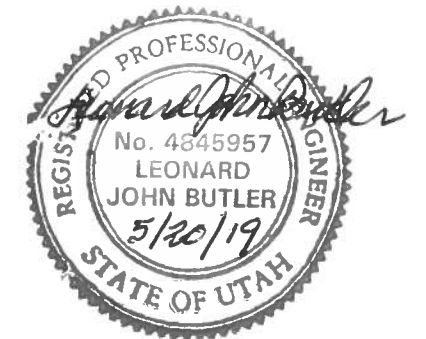
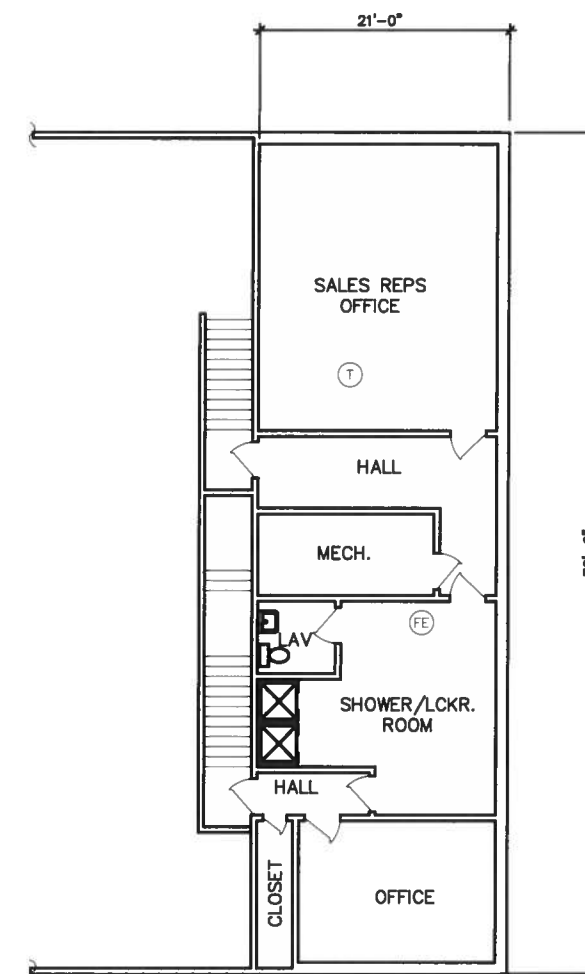
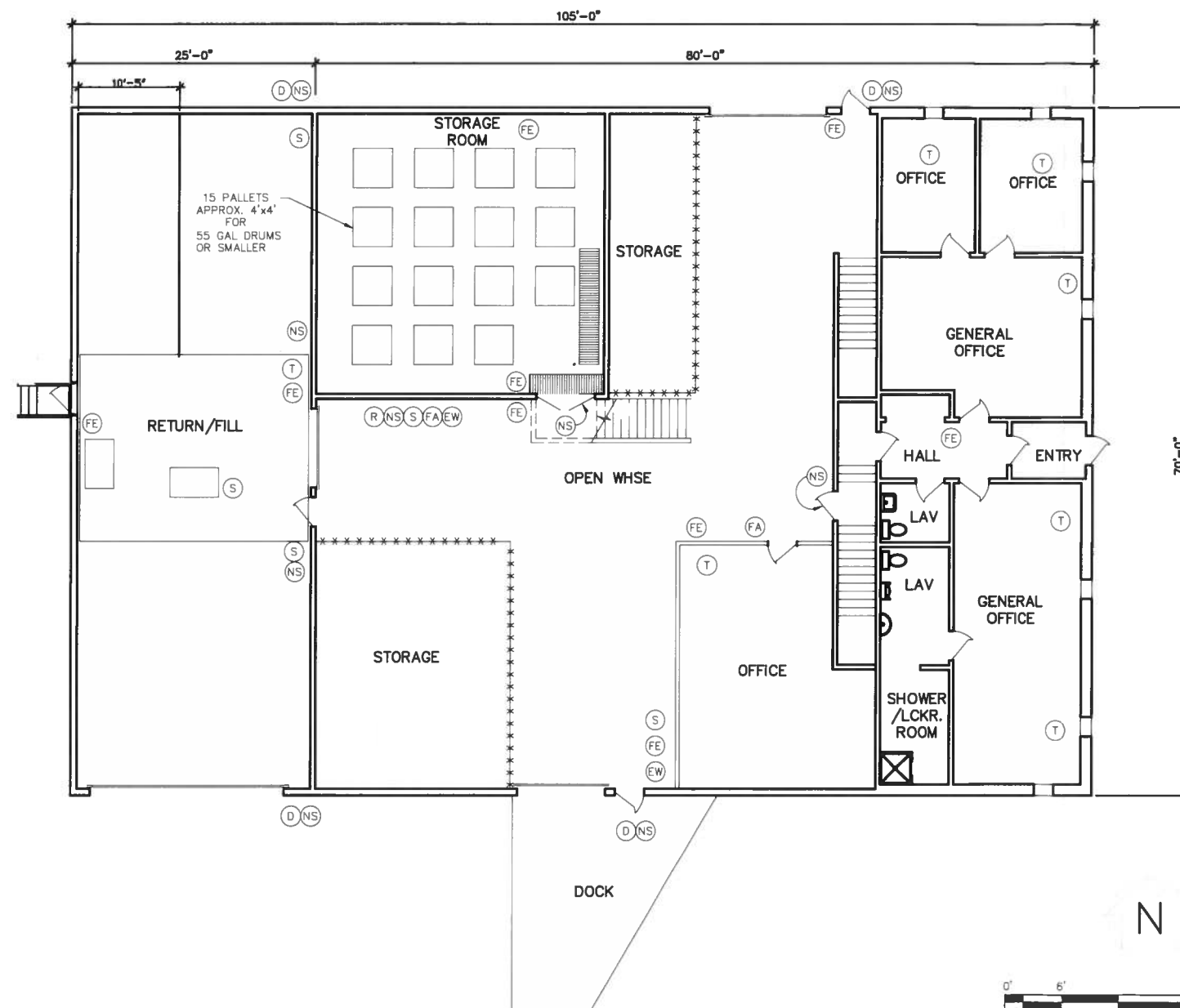
SAFETY-KLEEN SYSTEMS, INC.
8400 LIBRARY DR. CLUTIER B BLDG. 3 PLANO, TEXAS 75075
PHONE 972-455-0700

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=20'-0"	MBH				07-25-96
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV			
SALT LAKE CITY, UT	716601-QJPB002	E			



ATTACHMENT 3

MEZZANINE FLOOR PLAN



- 1.) NON-PERMITTED AREAS MAY CHANGE.
- 2.) ACTUAL EQUIPMENT LOCATION MAY VARY DUE TO CONSTRUCTION, MAINTENANCE AND/OR UPKEEP AT THE FACILITY.

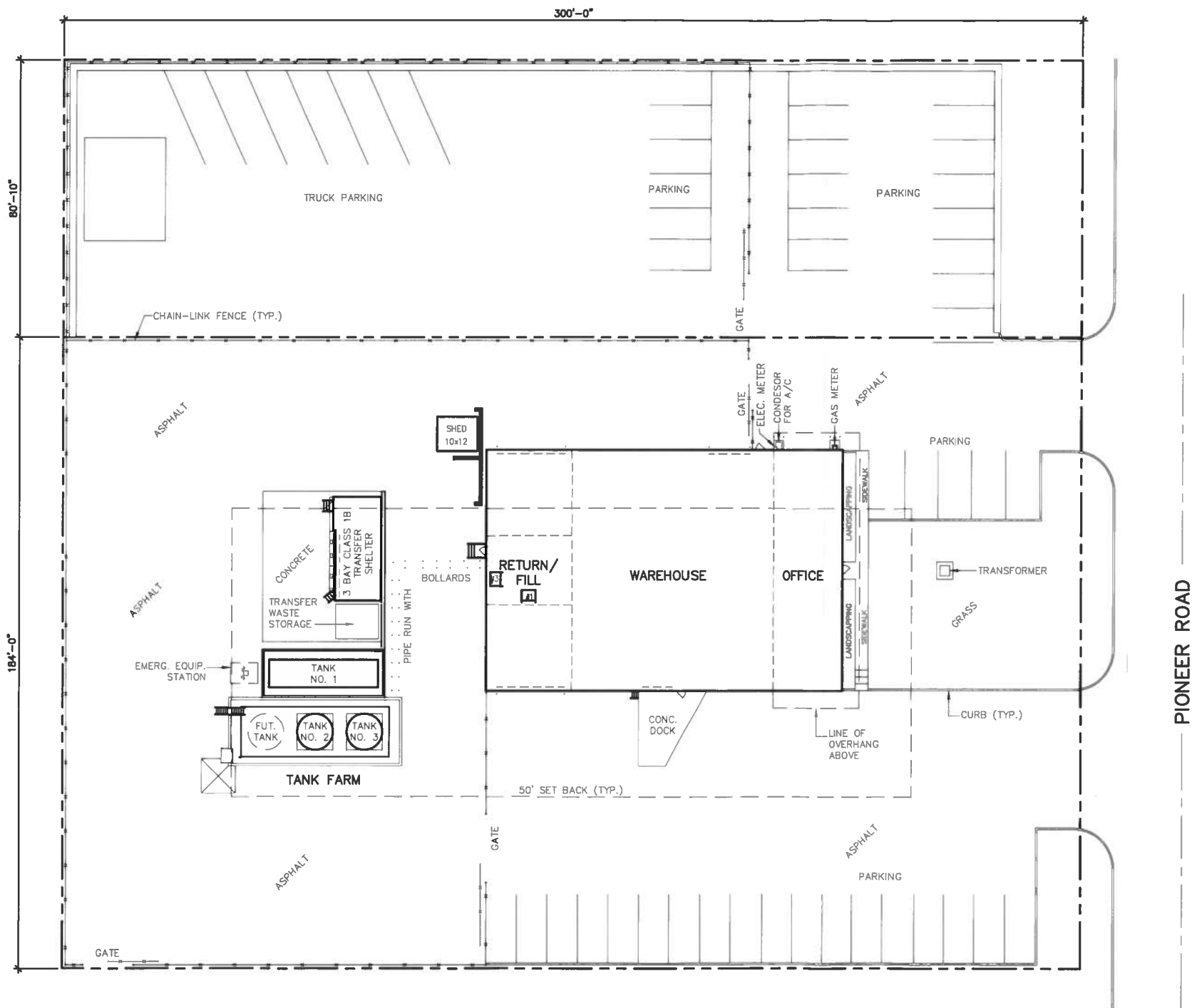
(R)	RESPIRATORS
(EW)	EYE WASH
(S)	ABSORBENTS
(T)	TELEPHONE
(FE)	FIRE EXTINGUISHER
(FA)	FIRST AID STATION
(D)	DANGER SIGN
(NS)	NO SMOKING SIGN

G	REMOVE RECYCLE AREA	JEK	RS	RS	121510
F	SHOW ASBUILT CONDITIONS	JEK	RS	RS	071017
E	ADD RECYCLE SYSTEM AREA	JEK	RS	RS	6/17/0
D	ADD OFFICE AND REVISED EQP. LOCATIONS	JEK	RS	RS	5/03/0
C	ADDED 15 PALLETS IN STORAGE ROOM	RDK	KJM	WEY/CL	2/15/9
B	ADDED EGRESS DOOR IN R/F RELEASED TO CL FOR PERMIT MOD	MBH	KJM	WEY/CL	072699
A	NEW RELEASE	MBH	KJM	WEY/CL	05239
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

07	TITLE
07	OFFICE, WHSE, & R/F FLOOR PLAN SHOWING EMERGENCY EQUIPMENT LOCATIONS - EXISTING

S SAFETY-KLEEN SYSTEMS, INC.
5400 LEGACY DR. CLUSTER II BLDG. 3 PLANO TX 75024 800-669-5748

SCALE 1/8" = 1'-0"	BY MBH	CHKD KJM	APPROVED WEY	ENS CL	DATE 05-23-94
SERVICE CENTER LOCATION SALT LAKE CITY, UT			SC-DWG NUMBER 7113-WB00-004		REV. NO. G



GENERAL NOTES

- 1.) NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE
- 2.) ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.

TANK LEGEND

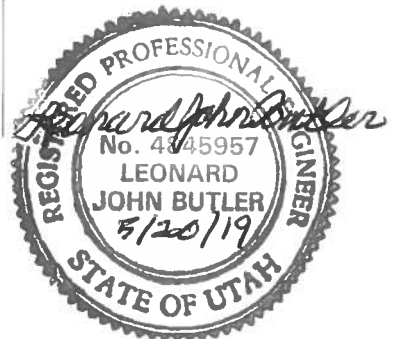
TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS
1	12,000 USG	CLEAN 150' MINERAL FLUID	8'-0"Ø HORIZONTAL STORAGE TANK
2	15,000 USG	SPENT PARTS WASHER SOLVENT	10'-6"Ø FLAT BOTTOM VERTICAL STORAGE TANK
3	15,000 USG	WINDSHIELD WASHER	10'-6"Ø FLAT BOTTOM VERTICAL STORAGE TANK

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	NEW RELEASE	MBH	KJM	WEY/CL	052394
B	ADDED TANK 3 & TRANSFER STOR RELEASED TO CL FOR PERMIT MOD.	MBH	KJM	WEY/CL	072696
C	ADD STILL EQUIPMENT	JEK	RS	RS	032907
D	ADD DETAILS	JEK	RS	RS	033007
E	ADD WASTE STORAGE	JEK	RS	RS	051707
F	REMOVE RECYCLE SYSTEM	JEK	RS	RS	121510
G	ISSUED FOR PERMIT	JEK	NC	NC	041519

PROPRIETARY STATEMENT

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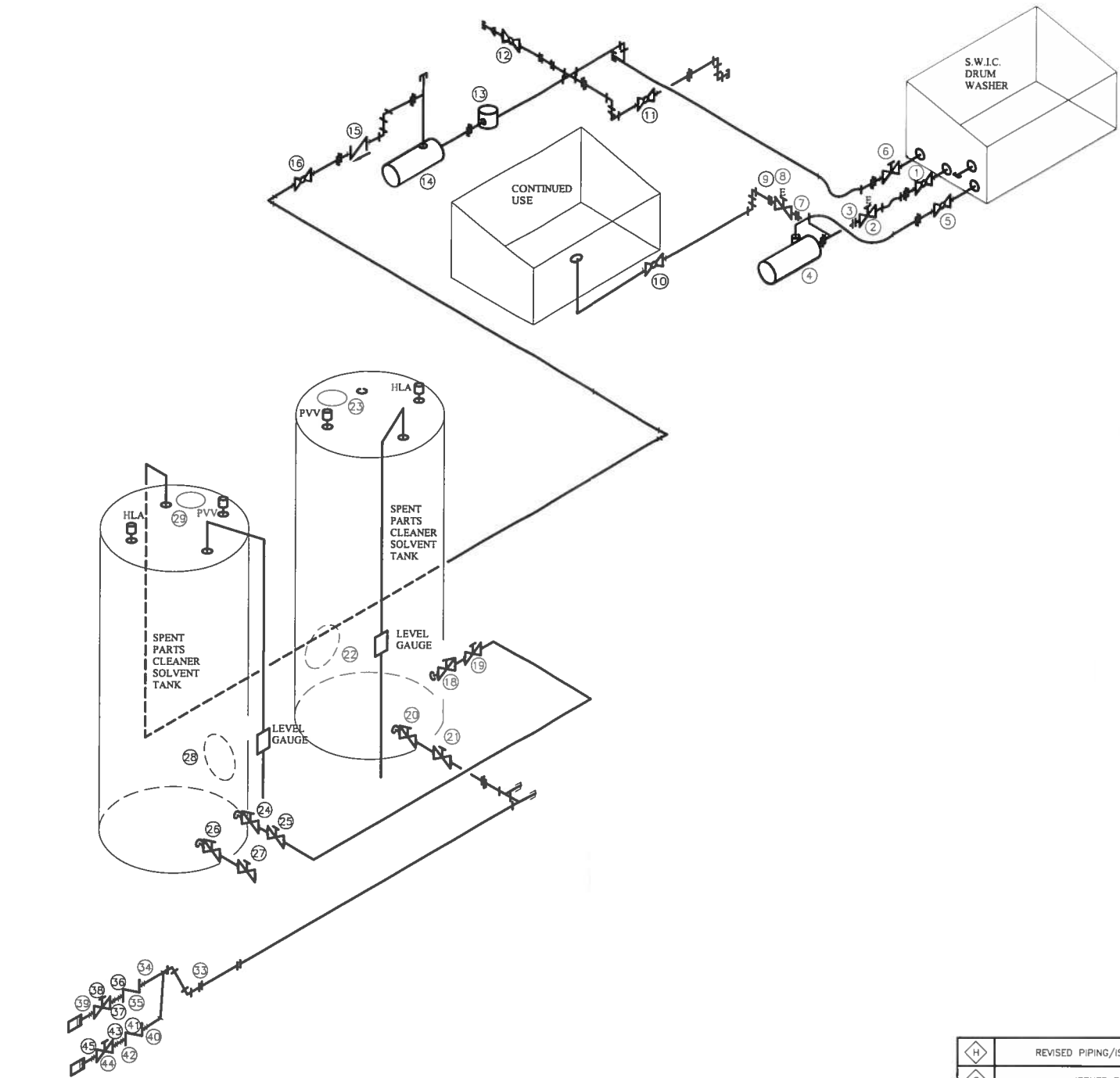


TITLE
EXISTING SITE PLAN
1066 S. PIONEER RD.

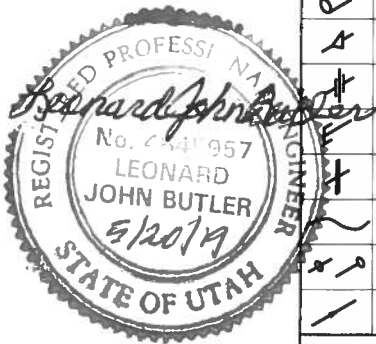
SAFETY-KLEEN SYSTEMS, INC.
5400 LINDSEY DR. CLAYTON 8 BLVD. 3 FLOOR, TX 75704
PHONE 800-488-2740

SCALE 1"=20'-0"	BY MBH	CHKD	APPROVED	OPERATIONS	DATE 05-23-94
SERVICE CENTER LOCATION SALT LAKE CITY, UT	SC-DWG NUMBER 7113-SP00-001	REV G			

FITTING SCHEDULE	
1	1. 5" THREADED BALL VALVE
2	ELECTRONIC VALVE
3	FLANGE
4	RE-CIRCULATION PUMP DRUM WASHER
5	1. 5" THREADED BALL VALVE
6	2" THREADED GATE VALVE
7	FLANGE
8	ELECTRONIC VALVE
9	FLANGE
10	2" THREADED BALL VALVE
11	2" THREADED BALL VALVE
12	2" THREADED BALL VALVE
13	STRAINER
14	UMS PUMP
15	2" CHECK VALVE
16	2" THREADED BALL VALVE
17	NOT USED
18	3" EMERGENCY VALVE
19	3" GATE VALVE
20	3" EMERGENCY VALVE
21	3" GATE VALVE
22	SIDE MANWAY
23	TOP MANWAY
24	3" EMERGENCY VALVE
25	3" GATE VALVE
26	3" EMERGENCY VALVE
27	3" GATE VALVE
28	SIDE MANWAY
29	TOP MANWAY
30	NOT USED
31	NOT USED
32	NOT USED
33	FLANGE
34	FLANGE
35	3" CHECK VALVE
36	FLANGE
37	FLANGE
38	3" GATE VALVE
39	FLANGE
40	FLANGE
41	3" CHECK VALVE
42	FLANGE
43	FLANGE
44	3" GATE VALVE
45	FLANGE
46	
47	
48	
49	
50	
51	
52	
53	
54	
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57	
58	
59	



HAZARDOUS WASTE PARTS CLEANER SOLVENT TANK SYSTEM PIPING SCHEMATIC
NO SCALE



TITLE	GENERAL NOTES
	1. PIPING CONFIGURATION AS INDICATED WAS FIELD VERIFIED ON 5-9-07.
	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.

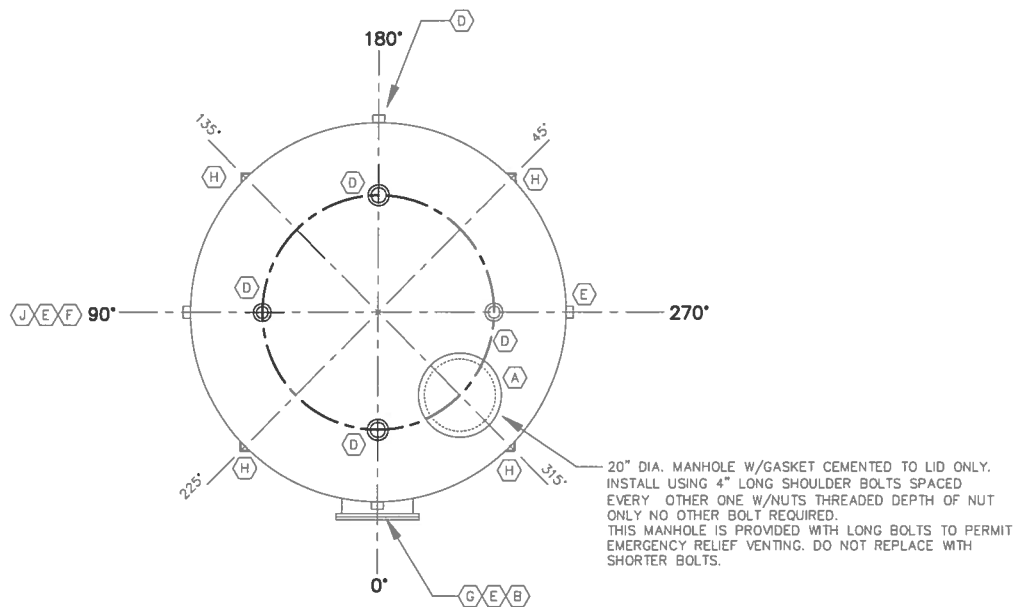
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SYMBOL LIST	
	CAMLOC COUPLING
	90° CAMLOC COUPLING
	GATE VALVE
	INTERNAL EMERGENCY VALVE
	BALL VALVE
	SCREWED COUPLING
	CHECK VALVE
	STRAINER
	PUMP
	REDUCER/INCRASER
	SCREWED UNION
	CAP
	HOSE CLAMP
	FLEXIBLE HOSE
	PIPE PENETRATION/ATTACHMENT TO EQUIPMENT
	DIRECTION OF FLOW

CONNECTION TYPES	
	FLANGED
	SCREWED
	WELDED

H	REVISED PIPING/ISSUED FOR PERMIT	JEK	NC	NC	052019
G	ISSUED FOR PERMIT	JEK	NC	NC	041519
F	REVISED TAGGING/PIPING FOR STILL REMOVAL	JEK	JB	JB	071411
E	REMOVE VALVE & TAG # 32	JEK	RS	RS	121207
D	SHOW ASBUILT CONDITIONS	GAS	GAS	RS	071007
C	REVISED TAGGING	GAS	GAS	RS	062807
B	REVISED TAGGING	GAS	GAS	RS	051707
A	R3VEDISED TAGGING	GAS	GAS	RS	051407
O	NEW ISSUE FOR PERMIT	GAS	GAS	GAS	031407
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

TITLE					
ENVIRONMENTAL PIPING SCHEMATIC (SPENT PARTS CLEANER SOLVENT)					
S SAFETY-KLEEN SYSTEMS, INC. 2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE: 800-888-5740					
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NONE	PSC	GAS	GAS	GAS	3/14/07
SERVICE CENTER LOCATION			SC-DWG. NO.		REV. NO.
SALT LAKE CITY, UT			7113-5600-351		H

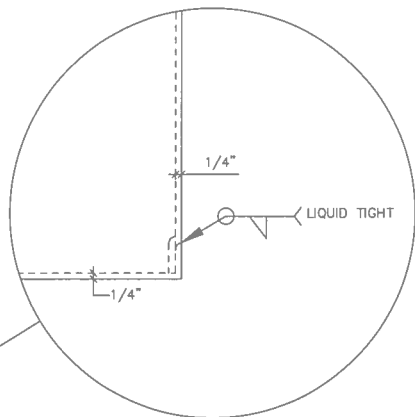
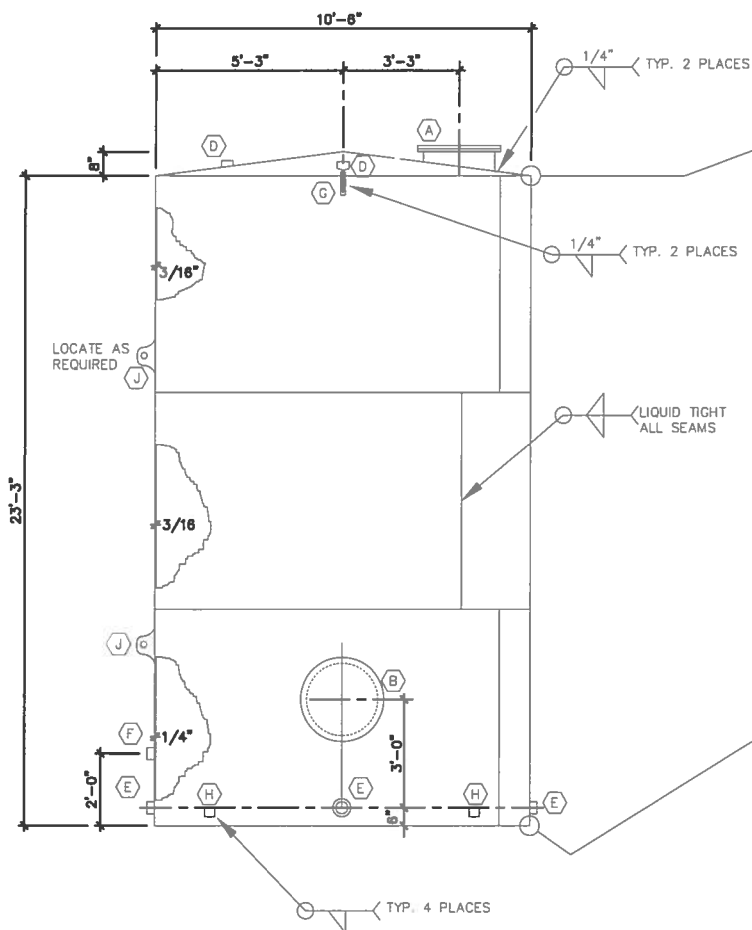


TOP OR SHELL CONNECTION
U.L. 142 WELD
PAGE 15, FIG. 11.2
FLANGE WITHOUT
REINFORCING PLATE

D E F

TANK CONNECTIONS

NOT TO SCALE



TANK PLAN AND ELEVATION

SCALE: 3/8" = 1'-0"

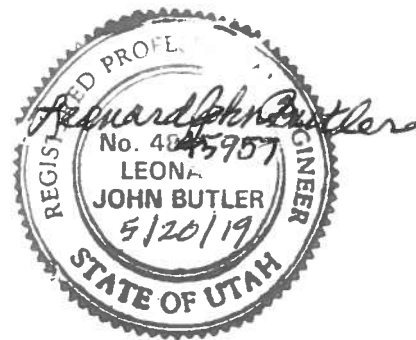
EQUIPMENT SCHEDULE

MARK	QTY.	SIZE	DESCRIPTION
A	1	20"	ROOF MANWAY W/12 - 1/2" x 4"L SHOULDER BOLTS
B	1	20"	SHELL MANWAY W/24 BOLT PATTERN
D	4	4"	FULL COUPLING
E	4	4"	FULL COUPLING
F	1	4"	FULL COUPLING
G	2	-	TOP LIFT LUG
H	4	-	TANK ANCHOR BRACKET 5" x 3" x 3/8" x 3" LONG
J	2	-	SIDE LIFT LUG

GENERAL NOTES

MANUFACTURER

- PRESSURE TESTING PROCEDURES SHALL STRICTLY ADHERE TO SAFETY-KLEEN CORP'S SPECIFICATIONS. TEST PRESSURE SHALL BE 1-1/2 PSI AIR MIN. & 5 PSI MAX.
- ALL PERTINENT SAFETY REGULATIONS, "OWNER'S AND OSHA'S", SHALL BE ADHERED TO RIGIDLY. IN ADDITION, ALL SAFETY PRECAUTIONS NOTED ON THE MANUFACTURER'S PRODUCT DATA SHEETS AND LABELS SHALL BE OBSERVED FOR BOTH MATERIAL AND EQUIPMENT.
- CONSTRUCTION OF THIS STORAGE UNIT SHALL BE UNDERWRITERS LABORATORIES APPROVED AND SO MARKED IN ACCORDANCE WITH UL 142, 7TH EDITION DATED APRIL 1, 1993 AND EFFECTIVE APRIL 1, 1994, MINIMUM.
- THE ROOF OF THE TANK SHALL BE WEAK SEAMED PER UL REQ'D.
- INITIALLY ALL SURFACES TO BE COATED SHALL BE PREPARED IN A WORKMANLIKE MANNER WITH THE OBJECTIVE OF OBTAINING A CLEAN, DRY, AND PROPERLY PREPARED SUBSTRATE.
- ALL COATINGS SHALL BE APPLIED IN A WORKMANLIKE MANNER TO ACHIEVE THE SPECIFIED DRY MIL FILM BUILD. LEAVING A SMOOTH UNIFORM APPEARING FILM. SPRAY APPLICATION SHALL BE USED WHEREVER POSSIBLE.
- THE APPLICATION SHALL LEAVE NO SAGS, BRUSH MARKS, OR OTHER DEFECTS.
- CLEAN AND REMOVE ALL SAND AND DEBRIS FROM THE JOB WHEN COMPLETE.
- COATING MANUFACTURER'S INSTRUCTIONS MUST BE FOLLOWED WITHOUT EXCEPTION.
- SURFACE PREPARATION - COMMERCIAL BLAST CLEANING (MINIMUM) IN ACCORDANCE WITH "STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION", SPEC. SSPC-SP6, WITH A PROFILE OF 1.5 - 2.0 MILS. (ALL NON-WETTED PROCESS AREAS)
- PRIMER COAT FOR TANK - SHALL BE APPLIED SAME DAY AS SAND BLASTING. APPLY ONE COAT SHERMAN WILLIAMS KEM KROMIC #850W1 WHITE OXIDE PRIMER, 1 MIL DFT, OR APPROVED EQUAL. ALLOW TO DRY 24 HOURS. (ALL NON-WETTED PROCESS AREAS, INCLUDING INSIDE OF SKIRT)(EXCLUDING OUTSIDE OF TANK SKIRT, SEE NOTE 12)
- COATING SYSTEM REQUIRES MINIMUM SURFACE AND MATERIAL TEMPERATURES OF 50 - 55° FAHRENHEIT FOR PROPER CURING/DRYING. DO NOT APPLY OVER MOISTURE OR CONDENSATION.
- ALL OPENINGS TO THE TANK SHALL BE COVERED PRIOR TO SHIPPING.
- ROOF MANWAY TO BE SUPPLIED WITH UL APPROVED GASKET, (12) 4" LONG SHOULDER BOLTS AND NUTS, EVERY OTHER BOLT HOLE AND LONG BOLT LABLE ON LID AS INDICATED.
- TANK SHALL BE TRANSPORTED ON WOOD SURFACES AND PROPER ANCHORING USED TO MINIMIZE TANK DAMAGE DURING SHIPPING.



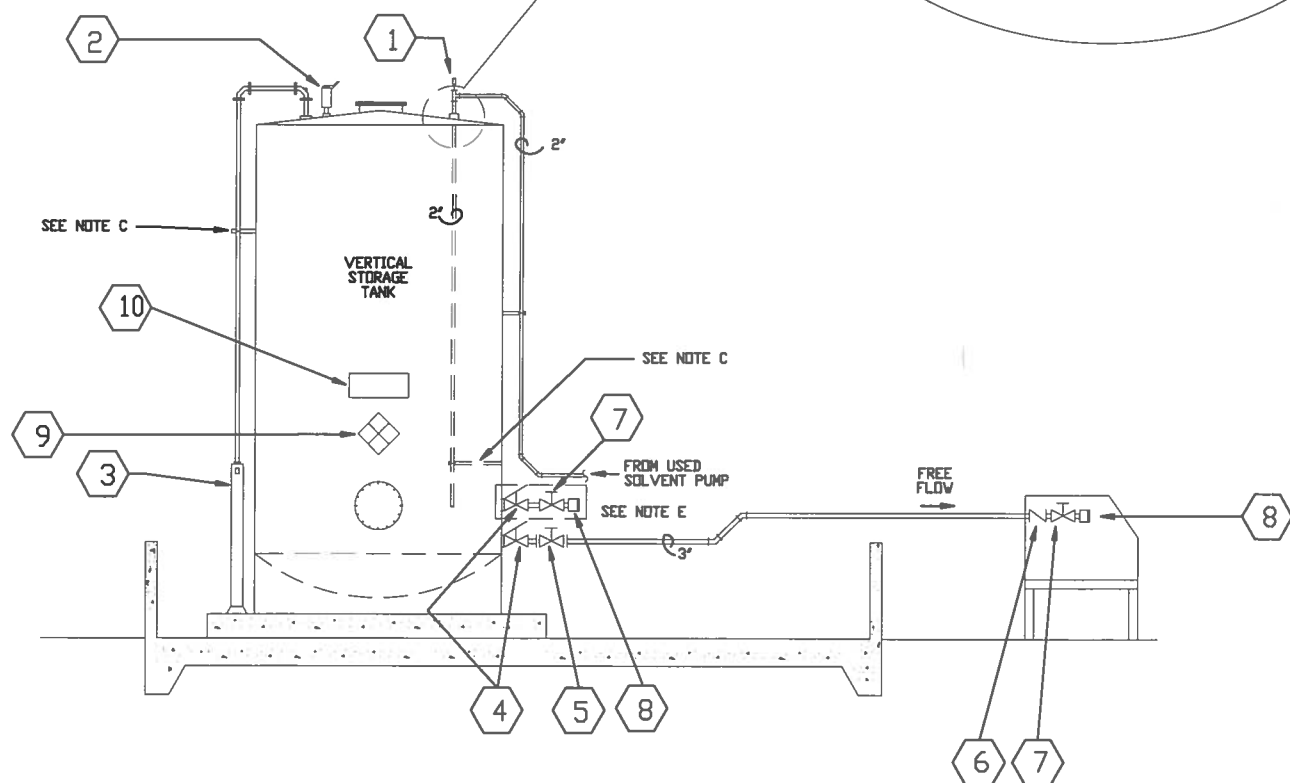
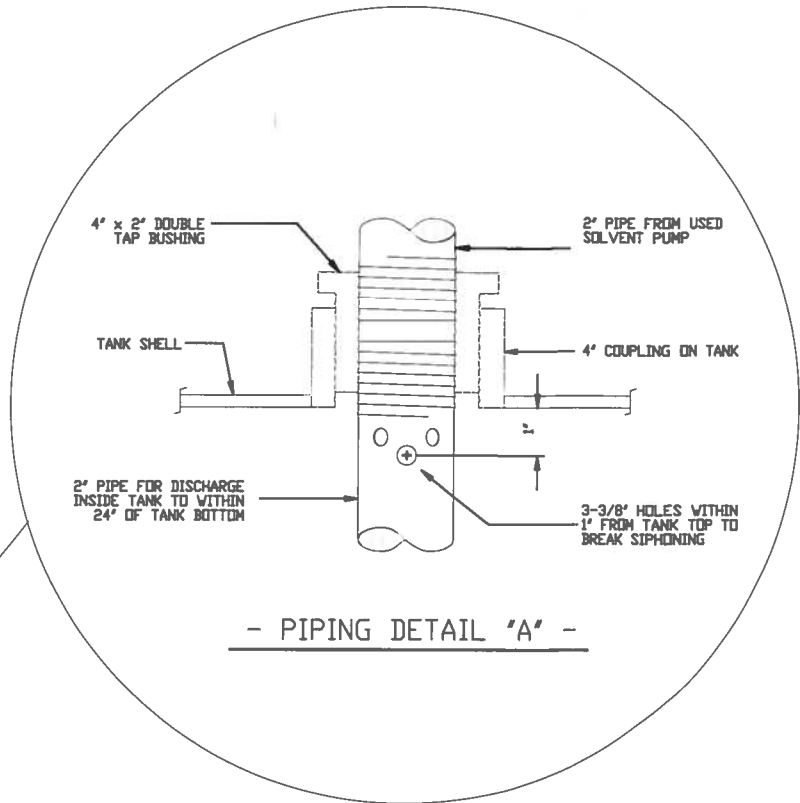
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TITLE
**15K 10'-6"Ø FLAT BOTTOM
VERTICAL STORAGE TANK
FABRICATION DETAILS**

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
phone 800-869-5740

NO.	DESCRIPTION	BY	CHK	APPR	DATE	SCALE AS SHOWN	BY JEK	CHKD NC	APPROVED NC	OPERATIONS NC	DATE 4/4/19
A	NEW RELEASE/CONVERTED TO CAD	JEK	NC	NC	040419						
STANDARD BRANCH LOCATION						STD-DWG NUMBER					
REVISIONS						SALT LAKE CITY, UT					
						7113-4100-900					
						A					

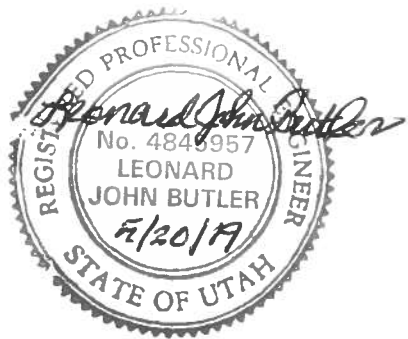


VERTICAL INSTALLATION

- EQUIPMENT/FIXTURE SCHEDULE -				
MARK	SIZE	DESCRIPTION	SK PART NO.	REMARKS
1	3/8"	3/8" AUTOMATIC VACUUM BREAKERS MORRISON BROS. FIG. 134-A	5274	—
2	3"	3" SCREWED PRESSURE/VACUUM VENT MORRISON BROS. FIG. 548 (2 OZ. PRESSURE - 1 OZ. VACUUM)	5339	—
3		TANK GAUGE - MORRISON BROS. MODEL NO. 7-S	5277	SEE INSTALLATION DETAILS ON SAFETY-KLEEN DWG. A10243
4	3"	3" INTERNAL EMERGENCY VALVE MORRISON BROS. FIG. 272-HD W/212-F FUSIBLE LINK	5267	SEE INSTALLATION DETAILS ON SAFETY-KLEEN DWG. C11302
5	3"	3" DUCTILE IRON GATE VALVE W/ROUND FLANGED ENDS - MORRISON BROS. FIG. 234-DI	5276	SEE INSTALLATION DETAILS ON SAFETY-KLEEN DWG. C11302
6	3"	3" BRONZE CHECK VALVE - MORRISON BROS. FIG. 246-A	5266	—
7	3"	3" BRONZE GATE VALVE - MORRISON BROS. FIG. 235-B LOCKING TYPE	5265	—
8	3"	3" ALUMINUM CAMLOCK QUICK COUPLING - MORRISON BROS. MALE ADAPTOR PART F W/DUST CAP & CHAIN	5264	COUPLING TO BE INSTALLED SIX (6) INCHES ABOVE DIKE WALL
9	—	NFPA MATERIAL IDENTIFICATION PLACARD	2452	DISPLAY IN PLAIN SIGHT ABOVE DIKE WALL
10	—	"COMBUSTIBLE-KEEP FIRE AWAY" SIGN	81207	DISPLAY IN PLAIN SIGHT ABOVE DIKE WALL

- GENERAL NOTES -

- (A) THIS DRAWING SUPERCEDES SAFETY-KLEEN CORP. DRAWINGS C10235, C10236 & D11124.
- (B) SEE INDIVIDUAL SERVICE CENTER SITE PLANS FOR DIKE DIMENSIONS AND RELATED INFORMATION AND ALSO LOCATION AND ARRANGEMENT OF THESE PIPING DETAILS.
- (C) ALL PIPING TO BE SCHEDULE 40 BLACK STEEL PIPE AND BE SUPPORTED EVERY (8) RUNNING FEET - CONTRACTOR TO SUPPLY ALL BRACKETS, CLAMPS, ETC. AS REQUIRED FOR SUPPORTING PIPE - ALL EXPOSED PIPE AND THREADS TO BE PAINTED WITH A RUST RESISTANT EXTERIOR GRADE PAINT. PIPING SUPPORT HARDWARE TO BE UNISTRUT BRAND OR APPROVED EQUIVALENT.
- (D) ALL DIRECTION CHANGES IN DIRTY SOLVENT LINES TO BE MADE USING A COMBINATION OF 45-ELBOWS OR LONG SWEEP 90° ELBOWS.
- (E) THIS INSTALLATION TO BE MADE WHERE NEW TANKS ARE TO BE INSTALLED AT ANY LOCATIONS PRONE TO FREEZING. SEE INSTALLATION DETAILS ON SAFETY-KLEEN DWG. C11302.
- (F) ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL BE SUPPLIED TO CONTRACTOR.



PROPRIETARY STATEMENT

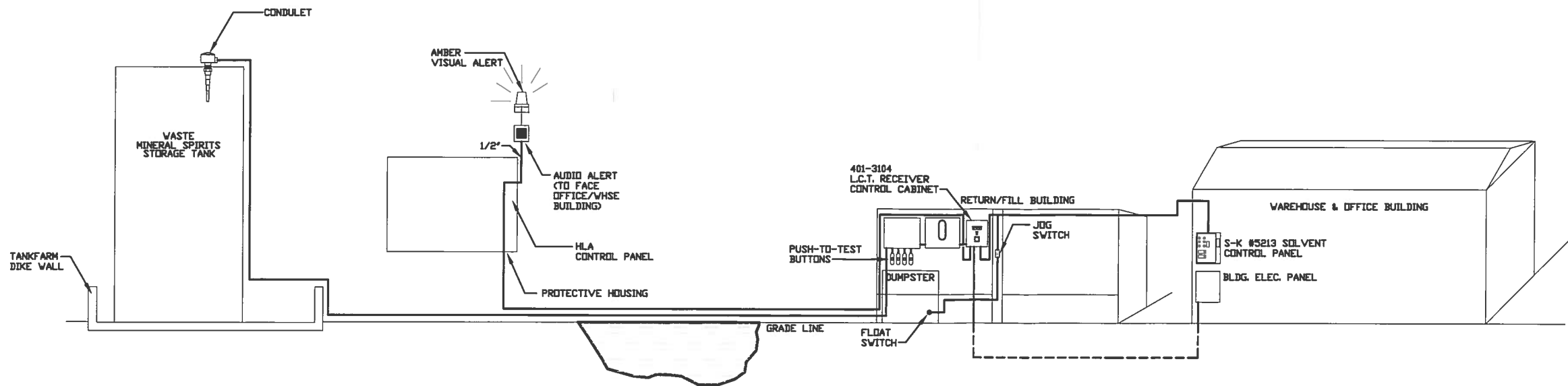
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USED SOLVENT VERTICAL TANK INSTALLATION DETAILS

SAFETY-KLEEN SYSTEMS, INC.
2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE: 800-889-5740

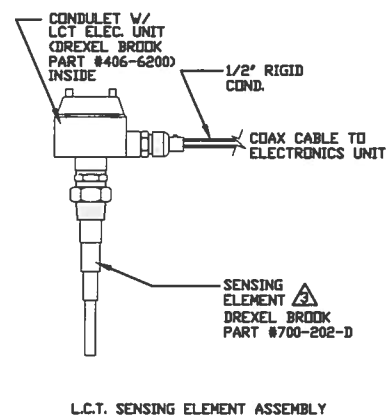
DATE	7/12/90
BY	R.D.
FOR	BRANCH SERVICE CENTER
NO.	BSD 310

REV	DESCRIPTION	BY	CHKD	APPR	DATE
0	CONVERTED TO CAD FROM HAND DRAWN	RD	JDP	JDP	07/12/90



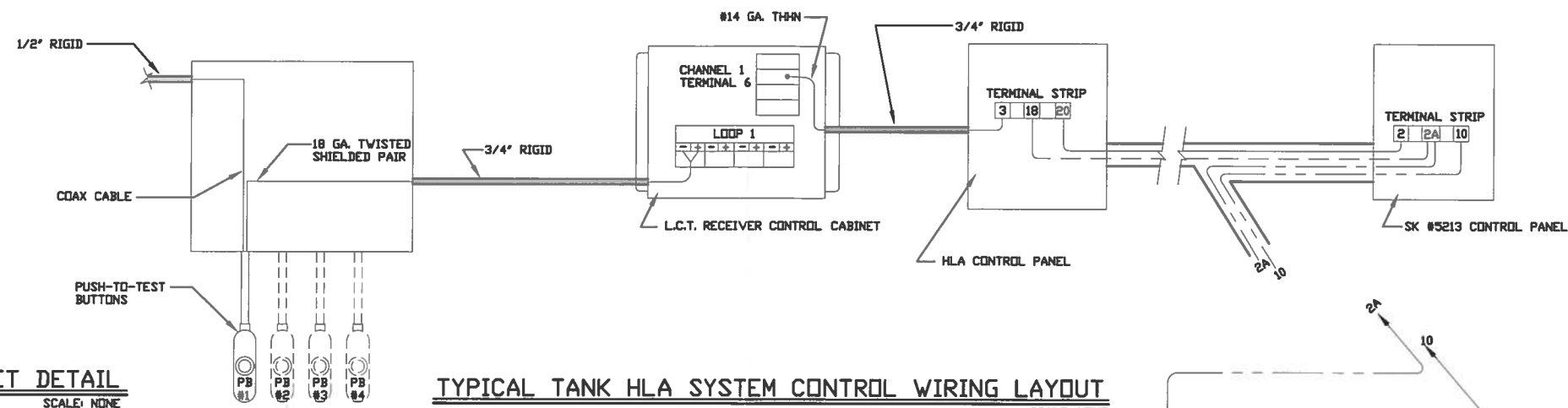
HIGH LEVEL ALARM SYSTEM DIAGRAM

SCALE: NONE



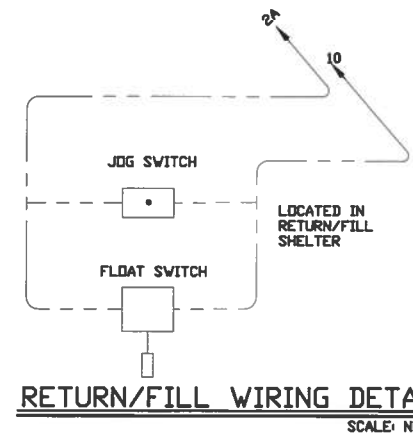
L.C.T. SENSING ELEMENT AND CONDULET DETAIL

SCALE: NONE



TYPICAL TANK HLA SYSTEM CONTROL WIRING LAYOUT

SCALE: NONE



RETURN/FILL WIRING DETAIL

SCALE: NONE

GENERAL NOTES

1. L. C. T. = LEVEL CONTROL TRANSMITTER
2. ALL ELECTRICAL WITHIN 10 FEET OF TANK TO BE CLASS I, DIV. 2, PER LOCAL CODE. SEE SITE UTILITY PLAN FOR ADDITIONAL SPECIFICATIONS.
3. DO NOT INSTALL L. C. T. SENSING ELEMENT IN COUPLING IN CENTER OF TANK.
4. THIS DRAWING IS SCHEMATIC AND SHOWS TYPICAL INSTALLATION DETAILS ONLY.

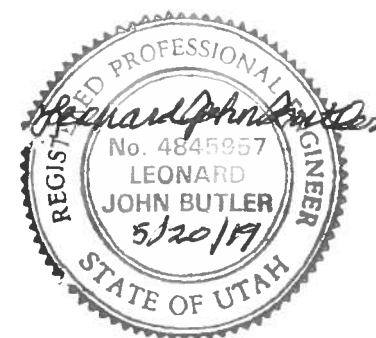
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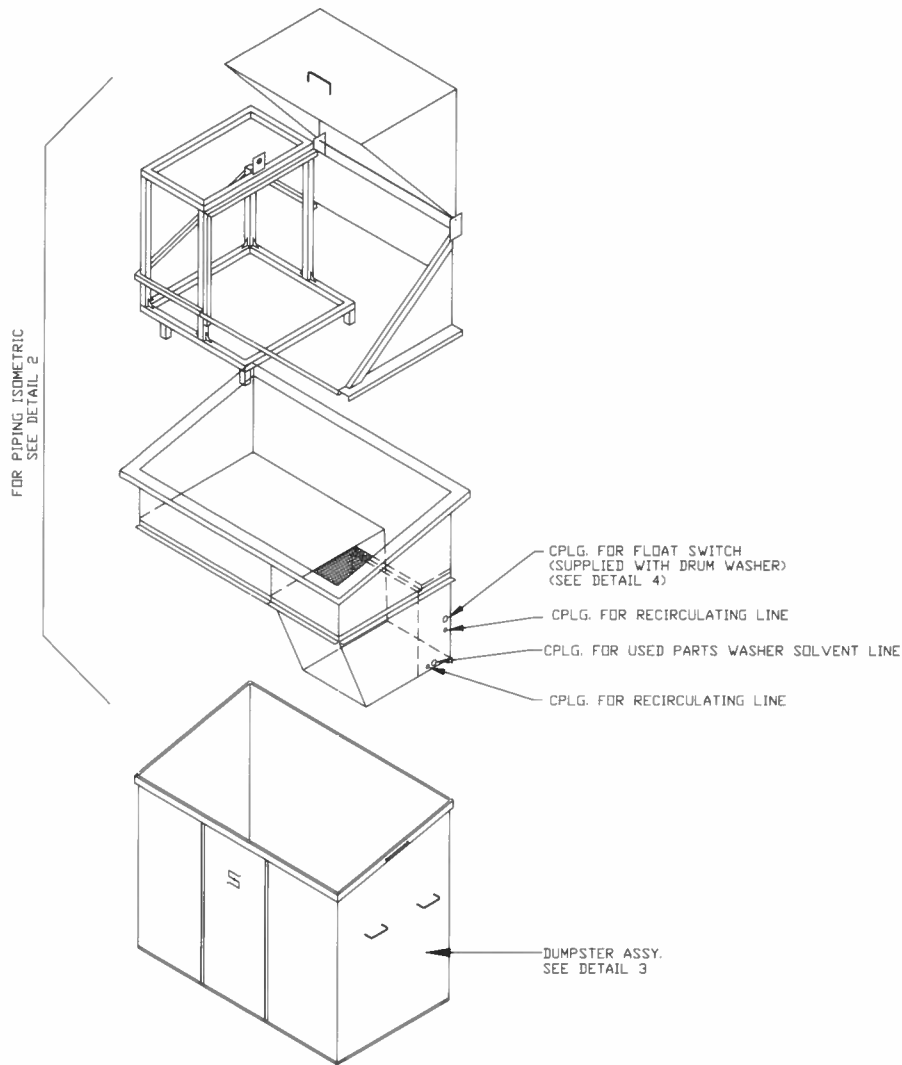
**WASTE MINERAL SPIRITS
HLA SYSTEM DIAGRAM**

SAFETY-KLEEN SYSTEMS, INC.
2000 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080
PHONE 800-368-5740

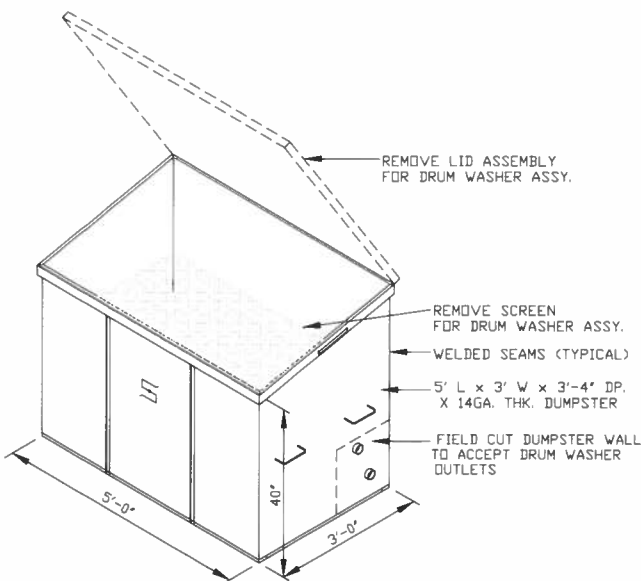
REVISIONS				DATE			
NO.	DESCRIPTION	BY	CHK	APPR	DATE	SERVICE CENTER LOCATION	SHEET NO.
1	REVISED TO SHOW CURRENT CONDITIONS	JEK	NC	NC	041219	SALT LAKE CITY, UT.	1-24-92
2	MISCELLANEOUS REVISIONS	TYJ	RAB	-	9-3-92	7113-4100-400	



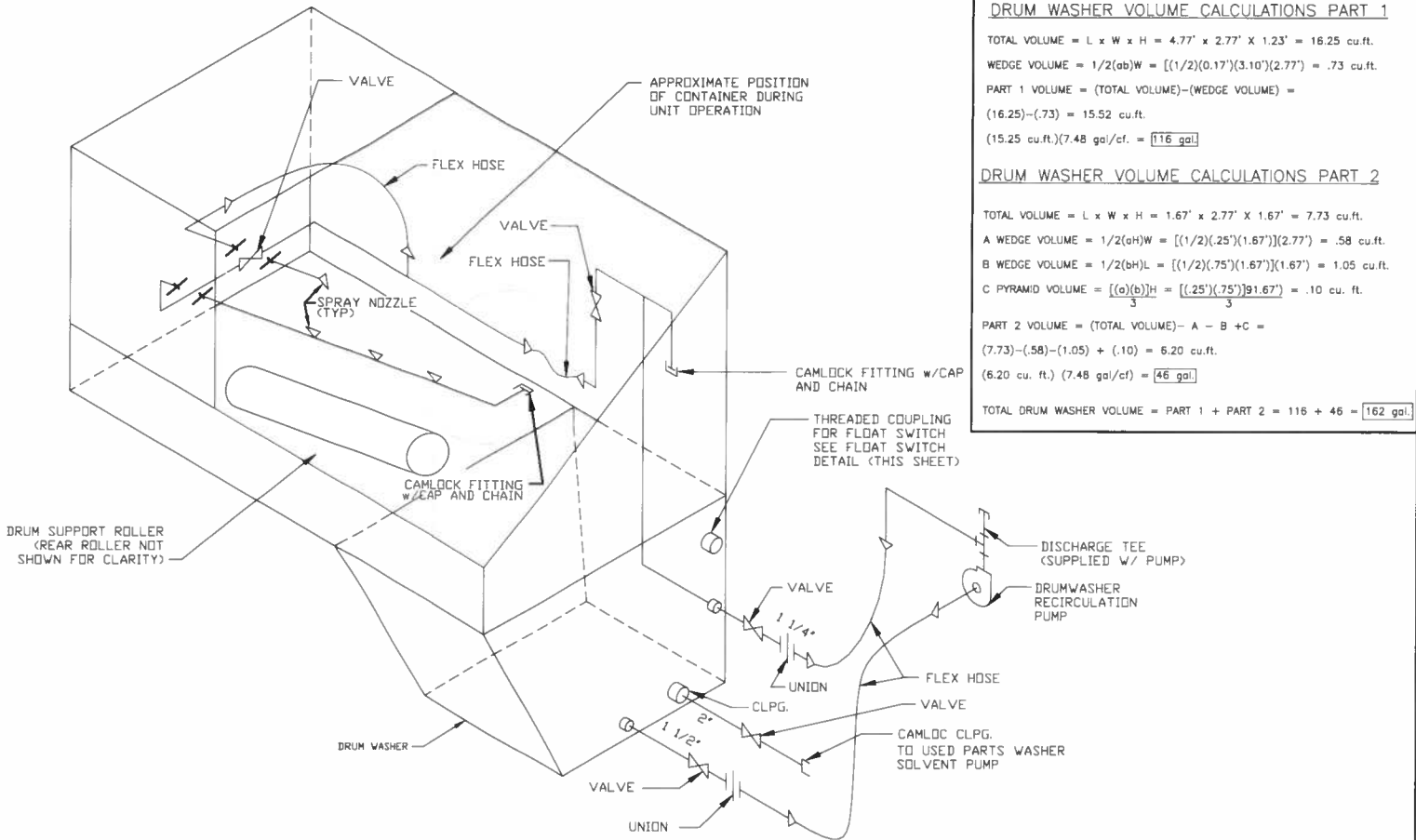
DUMPSTER/BARREL WASHER ASSY – DETAIL 1



DUMPSTER ASSY. – DETAIL 3



BARREL WASHER PIPING ISOMETRIC – DETAIL 2



DRUM WASHER VOLUME CALCULATIONS PART 1

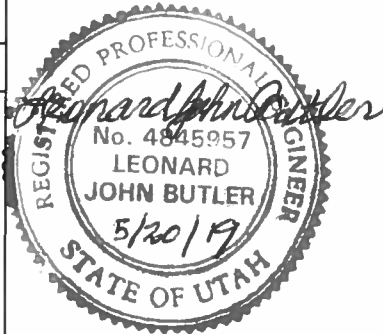
TOTAL VOLUME = L x W x H = 4.77' x 2.77' x 1.23' = 16.25 cu.ft.
WEDGE VOLUME = 1/2(ab)W = [(1/2)(0.17')(3.10')(2.77')] = .73 cu.ft.
PART 1 VOLUME = (TOTAL VOLUME)-(WEDGE VOLUME) = (16.25)-(.73) = 15.52 cu.ft.
(15.52 cu.ft.)(7.48 gal/cf. = 116 gal)

DRUM WASHER VOLUME CALCULATIONS PART 2

TOTAL VOLUME = L x W x H = 1.67' x 2.77' x 1.67' = 7.73 cu.ft.
A WEDGE VOLUME = 1/2(ab)W = [(1/2)(.25')(1.67')(2.77')] = .58 cu.ft.
B WEDGE VOLUME = 1/2(bh)L = [(1/2)(.75')(1.67')(1.67')] = 1.05 cu.ft.
C PYRAMID VOLUME = [(a)(b)(h)]/3 = [(.25')(1.67')(1.67')]/3 = .10 cu. ft.
PART 2 VOLUME = (TOTAL VOLUME)- A - B + C = (7.73)-(.58)-(1.05) + (.10) = 6.20 cu.ft.
(6.20 cu. ft.)(7.48 gal/cf) = 46 gal
TOTAL DRUM WASHER VOLUME = PART 1 + PART 2 = 116 + 46 = 162 gal

GENERAL NOTES

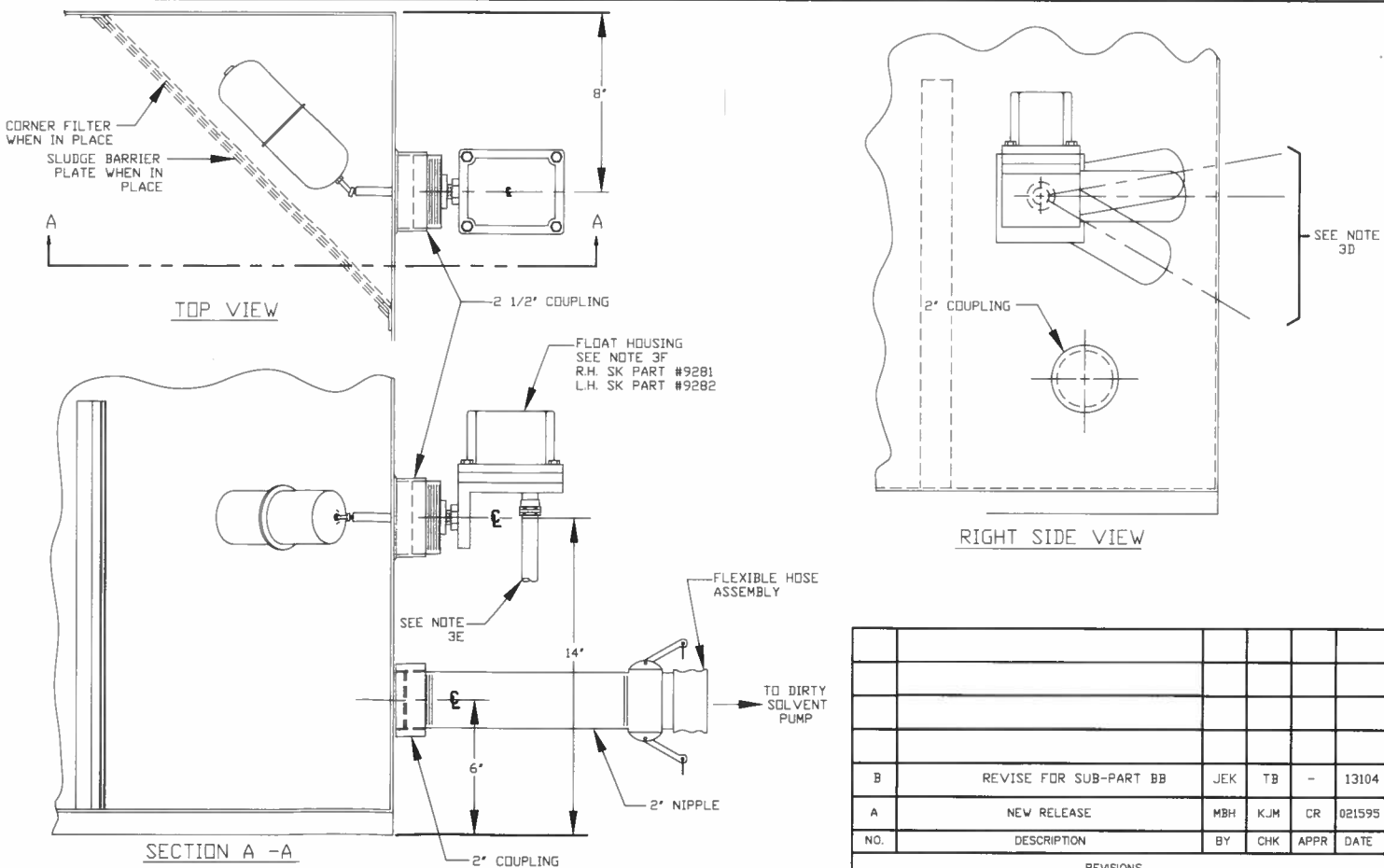
1. THE BARREL WASHER UNIT AND DUMPSTER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND COMBINED BY CONTRACTOR. RECIRCULATING PUMP, AND VALVES FOR DRUM WASHER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND INSTALLED WITH CONTRACTOR SUPPLIED PIPE UNIONS AND HOSES.
2. ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL 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 MFGS. 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.



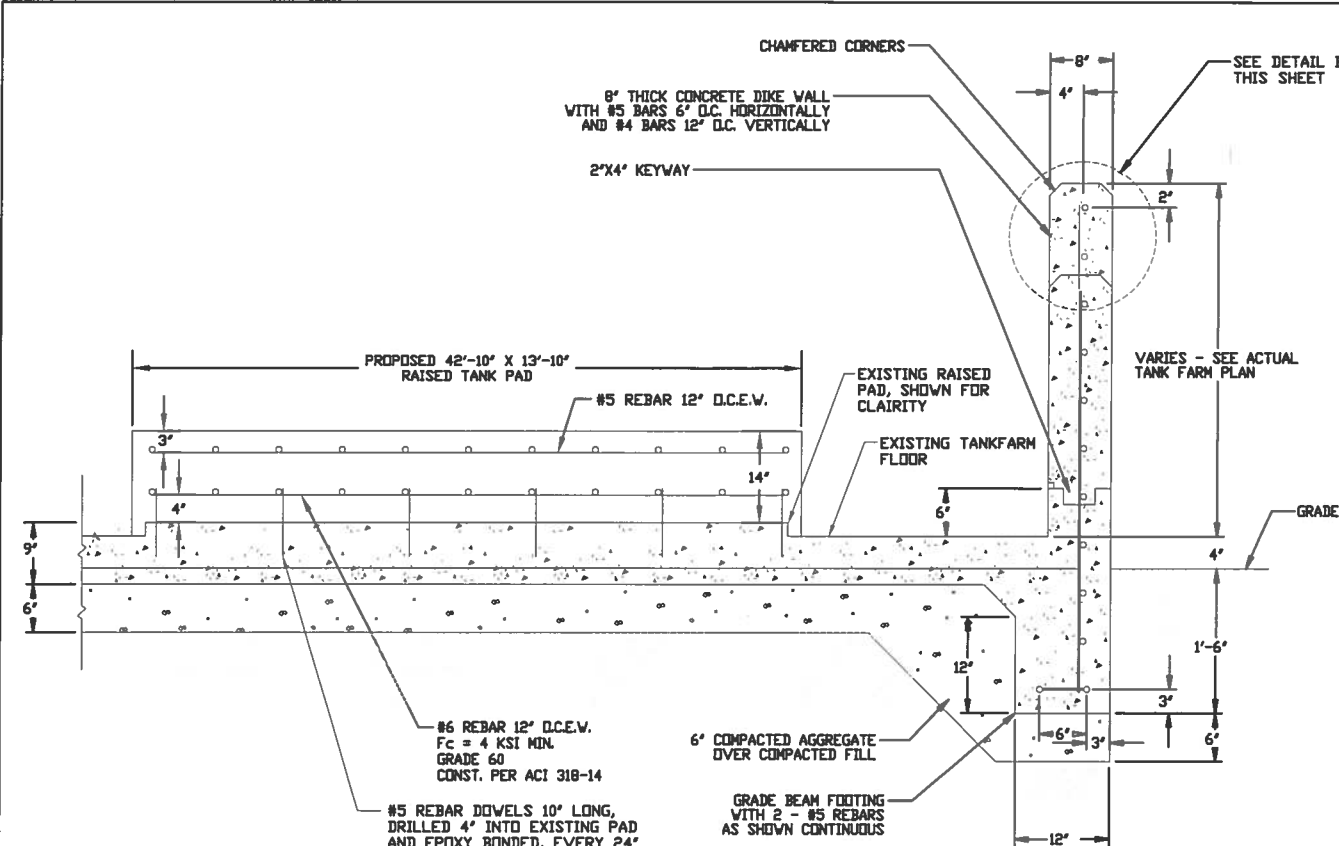
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FLOAT SWITCH INSTALLATION – DETAIL 4

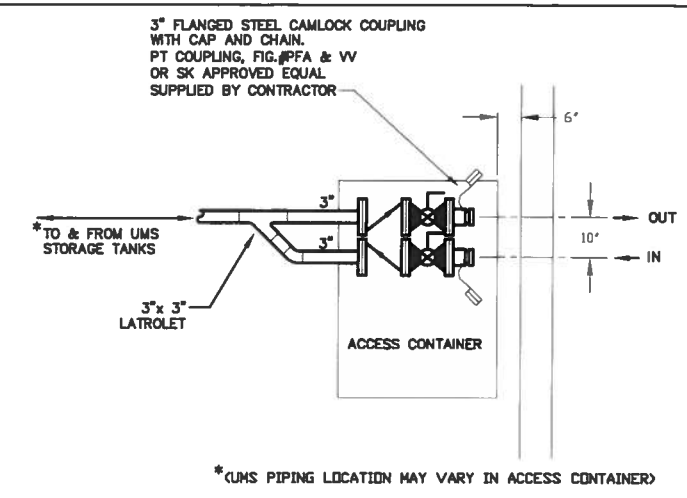
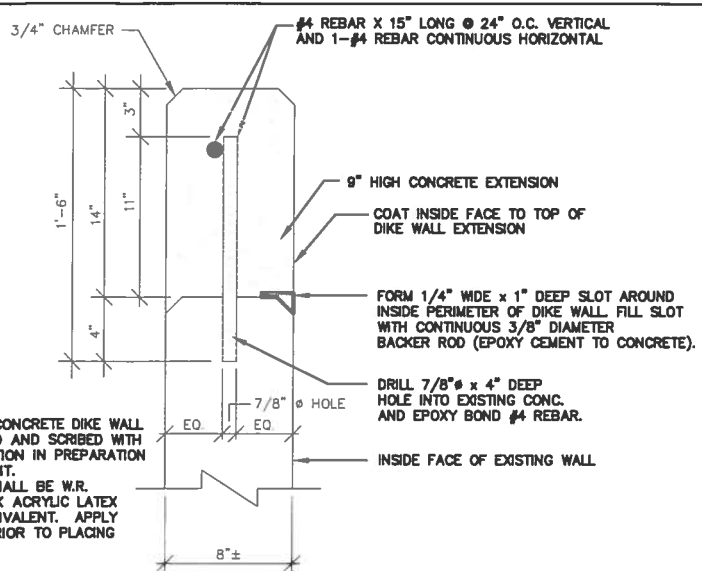


TITLE					DRUM WASHER/DUMPSTER ISOMETRIC				
B					REVISE FOR SUB-PART BB				
A					NEW RELEASE				
NO.					DESCRIPTION				
BY					CHKD				
DATE					APPROVED				
SCALE					NONE				
SERVICE CENTER LOCATION					SALT LAKE CITY UT.				
REV. NO.					B				

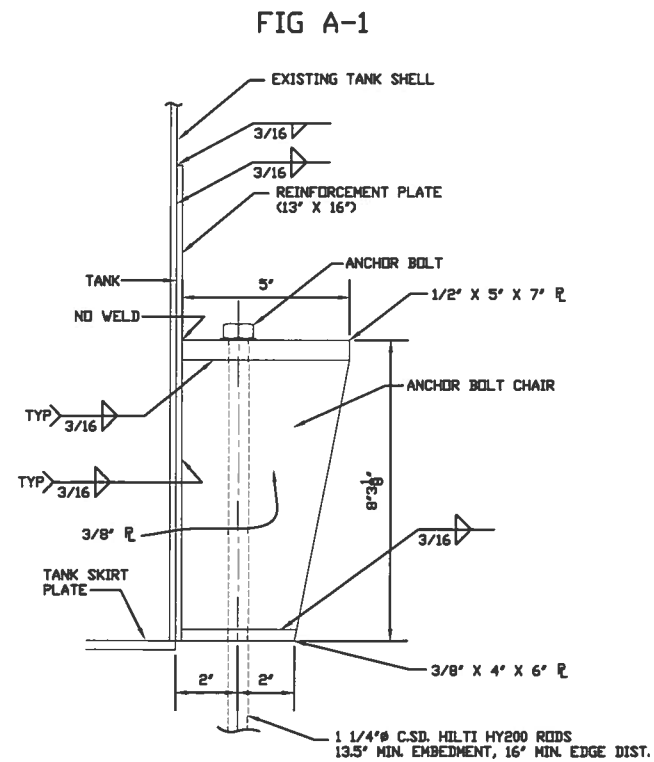


DETAIL A

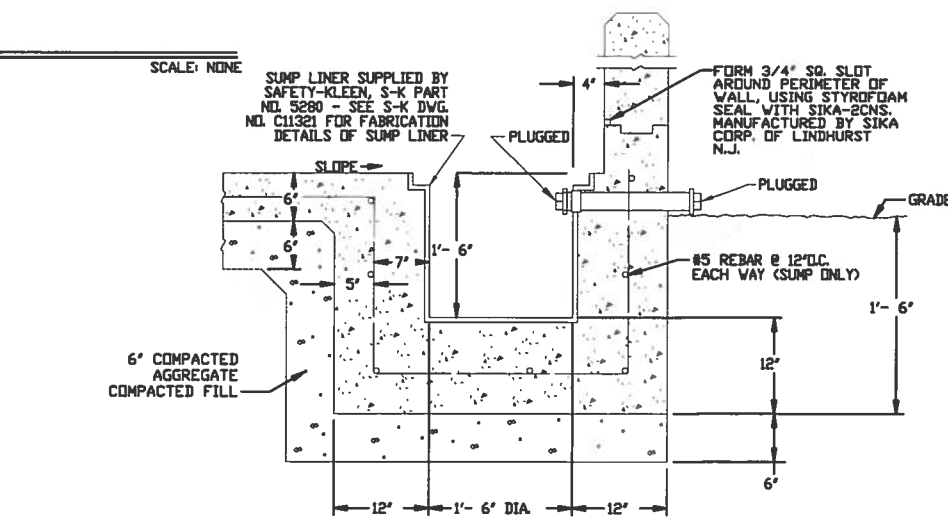
DETAIL B-14' DIKE WALL EXTENSION



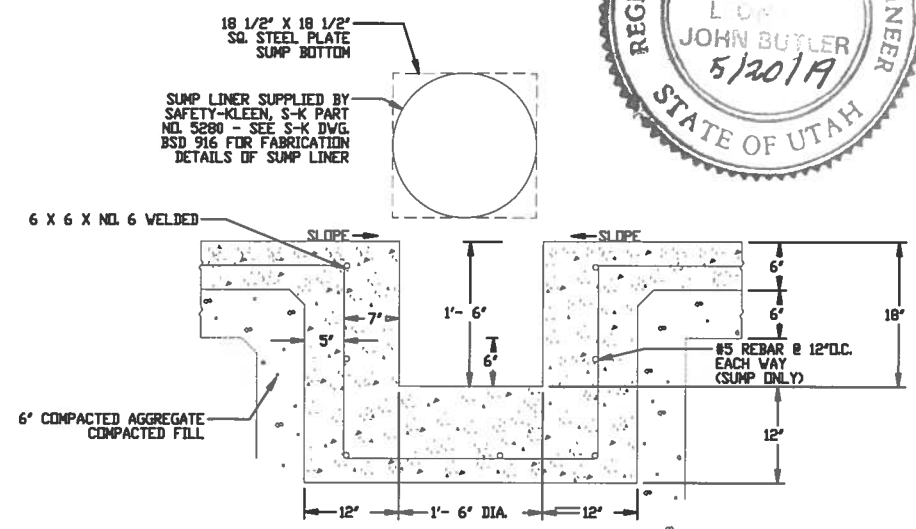
DETAIL C-USED MINERAL SPIRITS TANK ACCESS DETAIL



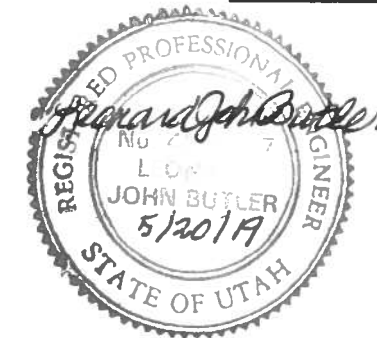
ANCHOR LUG DESIGN (10 REQ'D.)



PLAN VIEW OF STEEL LUG



CROSS SECTION OF FOOTING



NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	ADD SUMP DETAILS	JEK	NC	NC	050919
A	NEW ISSUE FOR REVIEW	JEK	LB	LB	121018

GENERAL NOTES

- ALL CONCRETE AREAS TO BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM OF THREE DAYS AFTER PLACEMENT AND FINISHING.
- ALL CONCRETE WORK SHALL HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS AND 3% TO 5% AIR ENTRAINING ADMIXTURE. CONTRACTOR TO OBTAIN AND SUPPLY TESTING RESULTS OF CONCRETE CYLINDER TESTS.
- ALL REBAR TO BE GRADE 60.
- ALL NEW CONCRETE SURFACES TO BE SEALED WITH EPOXY COATING AS PREVIOUSLY APPLIED IN TANKFARM.
- REFER TO DRAWING BSD893 FOR GALVANIZED TANK BAR DETAILS.

PROPRIETARY STATEMENT

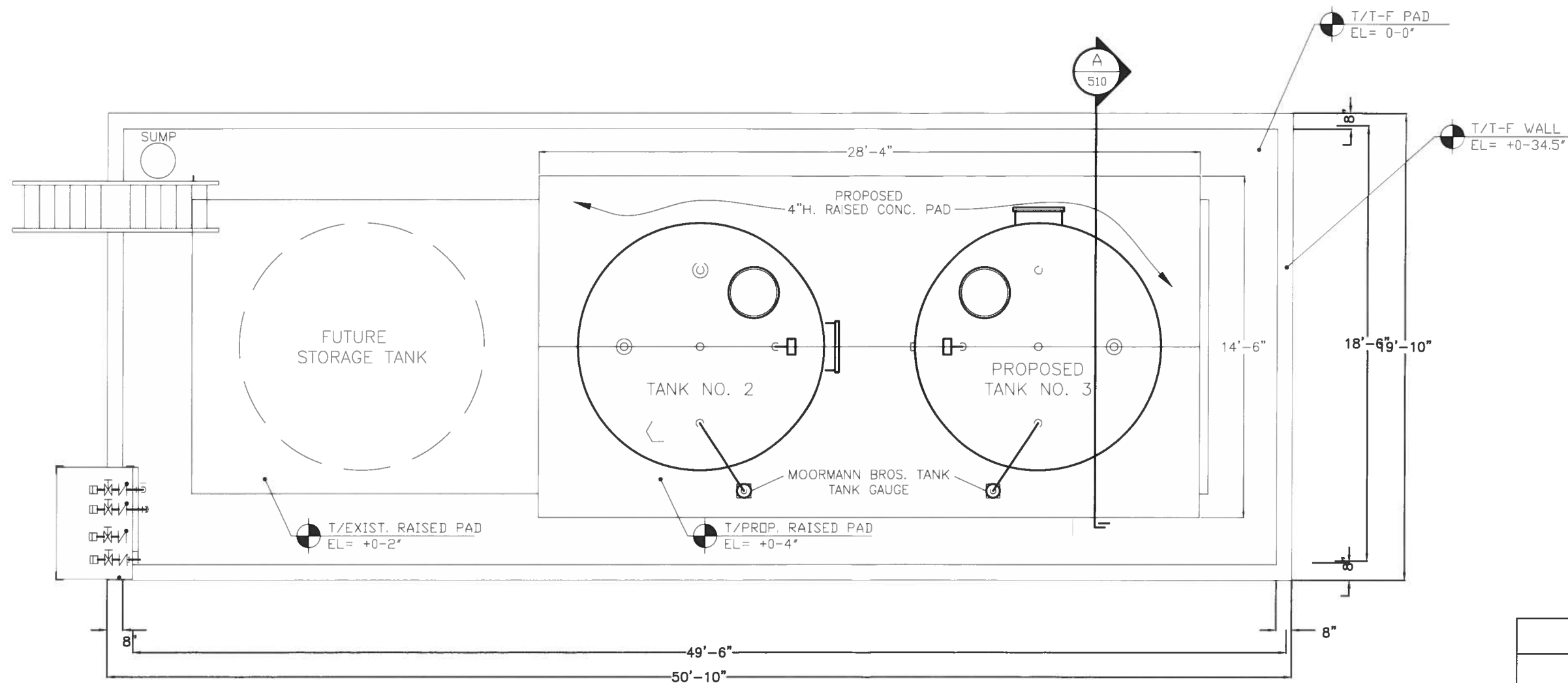
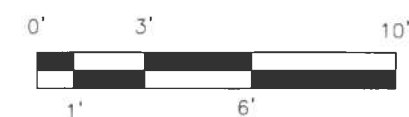
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TITLE
TANKFARM CONCRETE AND FABRICATION DETAILS

SAFETY-KLEEN SYSTEMS INC.
8640 N. CENT. EXPRESSWAY STE. 400 RICHMOND, TX 75080
PHONE 800-469-5748

SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
NONE	JEK	LB	LB	LB	12/10/18
SERVICE CENTER LOCATION					STD-DWG-REV NO.
SALT LAKE CITY, UT.					7113-4100-511

N

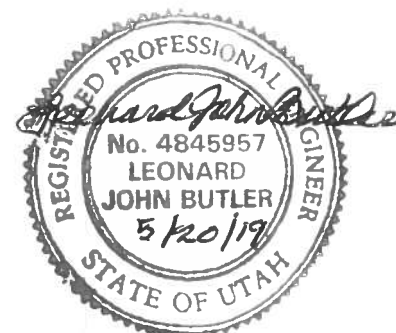


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TITLE
**PROPOSED TANKFARM
CONCRETE PAD REPLACEMENT**



B	ISSUED FOR PERMIT	JEK	NC	NC	052019				
A	REVISED PAD TO 14'-6"	JEK	LB	LB	021219				
D	NEW ISSUE	JEK	LB	LB	111518				
NO.	DESCRIPTION	BY	CHK	APPR	DATE				
REVISIONS									
						SCALE 3/8"=1'	BY JEK	CHKD LB	APPROVED LB
						SERVICE CENTER LOCATION SALT LAKE CITY, UT.	SC-DWG NUMBER 7113-4100-505		DATE 11/15/18
								OPERATIONS LB	REV. NO. B

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE: 800-669-5740

(A separate log must be kept for each tank farm which contains a hazardous storage tank)

INSPECTOR'S NAME/TITLE: _____

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
DATE (MM/DD/YYYY)					
Time:					
Inspector's Signature:					

TANKS MUST NEVER BE MORE THAN 95% FULL

~~WWF PRODUCT WASTE~~ STORAGE
TANK #3

150 SOLVENT STORAGE TANK

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

A N A N A N A N A N

If "N", circle appropriate problem: rust, or loose anchoring, lack of grounding, wet spots, discoloration, leaks, distortion, other:

A N A N A N A N A N

If "N", circle appropriate problem: malfunction "Power light", malfunctioning siren/strobe light, other: _____

A N A N A N A N A N

If "N", circle appropriate problem: leaks, sticking, other: _____

A N A N A N A N A N

If "N", circle appropriate problem: disconnected, sticking, condensation, other: _____

A N A N A N A N A N

If "N", circle appropriate problem: cracks, debris in dike, open drums in dike, ponding, wet spots, stains, sealant is pitted, cracked or shipped, deterioration, displacement, leaks, other: _____

A N A N A N A N A N

If "N", circle appropriate problem: distortion, corrosion, paint failure, leaks, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF REPAIRS:

An item not applicable, enter "N/A" after it and draw a line through the Acceptable/Not Acceptable row.

INSPECTION LOG SHEET FOR: DAILY INSPECTION OF STORAGE TANK SYSTEM

INSPECTOR'S NAME/TITLE: _____

DATE (MM/DD/YYYY)

Time:

Inspectors Signature::

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

TRANSFER PUMPS AND HOSES

Pump Seals: A N A N A N A N A N
If "N", circle appropriate problem: leaks, other: _____

Motors A N A N A N A N A N
If "N", circle appropriate problem: overheating, other: _____

Fittings: A N A N A N A N A N
If "N", circle appropriate problem: leaks, other: _____

Valves: A N A N A N A N A N
If "N", circle appropriate problem: leaks, sticking, other: _____

Hose Connections and Fittings: A N A N A N A N A N
If "N", circle appropriate problem: cracked, loose, leaks, other: _____

Hose Body: A N A N A N A N A N
If "N", circle appropriate problem: crushed, thin spots, leaks, other: _____

RETURN AND FILL STATION:

Wet Dumpster: A N A N A N A N A N
If "N", circle appropriate problem: excess sediment buildup, leaks, rust, split seams, distortion, deterioration, excess debris, other: _____

Secondary Containment: A N A N A N A N A N
If "N", circle appropriate problem: : cracks, ponding/wet spots, deterioration, other: _____

Loading/Unloading Area: A N A N A N A N A N
If "N", circle appropriate problem: sediment/liquid, leaks, deterioration, distortion, excess debris, other: _____

OBSERVATIONS, COMMENTS, DATE AND NATURE OF REPAIRS: _____

INSPECTION LOG SHEET FOR:
DAILY SUBPART BB INSPECTION OF STORAGE TANK SYSTEM

INSPECTOR'S NAME/ TITLE _____

INSPECTOR'S SIGNATURE:				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

_____/_____/_____ ____/____/_____ ____/____/_____ ____/____/_____ ____/____/_____
DATE: (M/D/Y)

TIME

Pump, Flange, or Valve number:

		Monday		Tuesday		Wednesday		Thursday		Friday	
1	1.5" Ball valve south drum washer	A	N	A	N	A	N	A	N	A	N
2	1.5" flange to electronic valve #3	A	N	A	N	A	N	A	N	A	N
3	Electronic valve	A	N	A	N	A	N	A	N	A	N
4	1.5" flange from electronic valve #3	A	N	A	N	A	N	A	N	A	N
5	1.5" flange to electronic valve #6	A	N	A	N	A	N	A	N	A	N
6	Electronic valve to CUP vat line	A	N	A	N	A	N	A	N	A	N
7	1.5" flange to electronic valve #6	A	N	A	N	A	N	A	N	A	N
8	Re-circulating pump south washer	A	N	A	N	A	N	A	N	A	N
9	1.5" ball valve south drum washer	A	N	A	N	A	N	A	N	A	N
10	2" Gate valve south drum washer	A	N	A	N	A	N	A	N	A	N
11	1.5" ball valve north drum washer	A	N	A	N	A	N	A	N	A	N
12	1.5" flange re-circulating pump #13	A	N	A	N	A	N	A	N	A	N
13	Recirculating pump north drum washer	A	N	A	N	A	N	A	N	A	N
14	1.5 " Ball valve north drum washer	A	N	A	N	A	N	A	N	A	N
15	2" Gate valve north drum washer	A	N	A	N	A	N	A	N	A	N
16	2" Ball valve auxiliary line	A	N	A	N	A	N	A	N	A	N
17	Basket strainer	A	N	A	N	A	N	A	N	A	N
18	Trash pump	A	N	A	N	A	N	A	N	A	N
19	2" Check Valve	A	N	A	N	A	N	A	N	A	N
20	2" Ball valve sump line	A	N	A	N	A	N	A	N	A	N
75	2" Check Valve sump line	A	N	A	N	A	N	A	N	A	N
21	3" Emergency valve waste tank	A	N	A	N	A	N	A	N	A	N
22	3" Gate valve waste tank	A	N	A	N	A	N	A	N	A	N
23	3" Emergency valve auxiliary line	A	N	A	N	A	N	A	N	A	N
24	3" Gate valve auxiliary line waste tank	A	N	A	N	A	N	A	N	A	N
25	3" Flange waste line	A	N	A	N	A	N	A	N	A	N
26	3" check valve	A	N	A	N	A	N	A	N	A	N
27	3" Gate valve tanker connection	A	N	A	N	A	N	A	N	A	N
28	20 inch Flange Waste Tank Manway	A	N	A	N	A	N	A	N	A	N

If 'N', enter pump or valve # _____ and circle appropriate problem: potential leaks, active leak, sticking, wear, does not operate smoothly, other:

**A = acceptable N = not acceptable Draw a line through pump and valve I.D. numbers that do not apply

OBSERVATIONS, COMMENTS, DATE AND NATURE OF REPAIRS: _____

Integrity Assessment of Tank and Secondary Containment System

For

Safety Kleen Systems, Inc. – Salt Lake City, UT Facility

**1066 South Pioneer Road
Salt Lake City, UT 84104**

June 3, 2019

**Prepared by:
Blaine Zwahlen, P.E.**

 Engineering and Environmental Services, Inc.

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I. Executive Summary

An integrity assessment of the proposed installation of spent solvent Tanks 2 and 3, and associated secondary containment structures, at the Safety Kleen Systems, Inc. (SKS) Salt Lake City, Utah facility was conducted by Blaine Zwahlen, a Utah licensed Professional Engineer (see qualifications in Appendix A).

The SKS Salt Lake City facility stores new and spent parts-washer solvent in above-ground tanks. Tank 2 is currently permitted to store solvents. Tank 3 is being evaluated and assessed as an additional tank for storing spent solvent in accordance with State and Federal rules, regulations and standards for owners and operators of hazardous waste storage facilities¹. A recent tank inspection and structural evaluation of Tank 3 shows the tank meets acceptable industry design standards of UL-142². New foundations and anchors for Tanks 2 and 3 were designed by Dr. Plecnik, Utah PE. If installed as designed the tanks will meet UL-142 installation requirements.

The tanks and ancillary equipment will be located within concrete secondary containment. The secondary containment has adequate capacity to hold a discharge from the largest tank within the containment area with additional capacity to hold precipitation from a worst-case 25-year, 24-hour rainfall event. The tanks will be elevated over the concrete pad on 1" x 2" galvanized steel bars so that a leak from the tank bottom would be readily detected by onsite personnel within 24-hours during operating hours. This will also keep the tanks from direct contact with the concrete floor and accumulated water.

This assessment concludes that if Tanks 2 and 3 and associated piping and equipment are installed as designed the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste.

¹ 40 CFR Part 264-Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Subpart J – Tank Systems

² UL-142, Underwriters laboratories Inc. Standard for Safety, "Steel Aboveground Tanks for Flammable and Combustible Liquids".

II. Introduction

SKS has a RCRA-permitted tank (Tank 2) for storing spent solvents. SKS plans to permit an additional tank (Tank 3) to facilitate storage of spent parts-washer solvent. As part of the permitting process Utah Department of Environmental Quality (UDEQ) requires SKS submit a written assessment showing the tank foundations, structural supports, seams and connections are adequately designed and that the tank system has sufficient structural strength and compatibility for storing spent solvent. This written assessment is being prepared to meet UDEQ's requirements.

Tanks 2 and 3 are existing tanks that were installed at the same time. However, this will be the first time Tank 3 is placed in hazardous service. The secondary containment system surrounding the tanks is also existing. To insure Tanks 2 and 3 meet required design specifications, the existing tank farm is being modified to provide new structural foundations for the tanks. The accompanying drawings and secondary containment calculations are reflective of the proposed facility.

III. Assessment of Tank System's Integrity

The following assessment corresponds to the minimum requirements for design and installation of new tank systems or components as listed in 40 CFR 264.192:

(1). Design Standards

Tanks 2 and 3 are above-ground vertical steel tanks. The tanks have been designed to meet tank standard UL-142, Underwriters laboratories Inc. Standard for Safety, "Steel Aboveground Tanks for Flammable and Combustible Liquids". A copy of the Tank 3 Analysis and Design by Testing, Inspection & Certification Services (TI&CS) is included in Appendix C. A copy of the most recent Tank 3 inspection is attached in Appendix B. All new piping will be installed in accordance with ASME B31 standards for piping systems.

(2). Hazardous Characteristics of the Handled Materials

Tanks 2 and 3 will be used to store spent parts washer solvent. A Safety Data Sheet (SDS) showing the hazardous characteristics of spent solvent is included in Appendix F. Spent solvent is a combustible liquid and is not known to be corrosive to steel. Steel tanks are adequate for the storage of spent solvent.

(3). Existing Corrosion Protection Measures

The tanks will be elevated over the concrete pad on 1" x 2" galvanized steel bars so that a leak from the tank bottom would be readily detected by onsite personnel within 24-hours during operating hours. This will prevent tank corrosion from contact with concrete and/or water and will allow visual confirmation that the tank bottom is not leaking.

The tanks are painted with corrosion-inhibiting primer and paint. There are no sacrificial-anodes or impressed-current corrosion systems planned for these tanks.

(4). Underground Tank Systems

The tanks will be installed above ground tank; therefore §264.192 (a)(4) is not applicable.

(5). Design Considerations

(i) Tanks 2 and 3 meet the design requirements of UL-142, Underwriters Laboratories Inc. Standard for Safety, “Steel Aboveground Tanks for Flammable and Combustible Liquids”. A copy of the Tank 3 Analysis and Design by Testing, Inspection & Certification Services (TI&CS) is attached in Appendix C. A copy of the latest Tank 3 Inspection Report is attached in Appendix B. If installed as designed the tank foundations will maintain the load of a full tank.

(ii) If installed as designed the anchor system for Tanks 2 and 3 will prevent floatation or dislodgement due to being in a saturated zone or due to being located within a seismic fault zone.

(iii) If installed as designed Tanks 2 and 3 will withstand the effects of frost heave.

IV. Assessment of Secondary Containment System

The following assessment corresponds to the minimum requirements for Containment and Detection of Releases as defined in 40 CFR 264.193. As stated in §264.193 (b):

Secondary containment systems must be designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system. The containment system must also be capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

The secondary containment systems for Tanks 2 and 3 and associated ancillary equipment will be described below:

a. Secondary Containment Systems

1. Concrete Structures

The floor and walls of the tank containment structure are steel-reinforced concrete. The drawing(s) attached in Appendix D detail the concrete containment structures. The containment portions of the concrete structures will be epoxy coated. The epoxy coating will be compatible with spent solvent. Spent solvent is not known to be corrosive to concrete³.

³ Portland Cement Association, Concrete Technology, Effects of Substances on Concrete and Guide to Protective Treatments, by Beatrix Kerkhoff; page 25.

2. Containment Foundation or Base

The concrete containment drawings in Appendix D show the foundation and base for the containment structure. If installed as shown the foundation and base are capable of providing support to the containment system, are resistant to pressure gradients above and below the system, and are capable of preventing failure due to settlement, compression, or uplift.

3. Leak-Detection System

The tanks will be elevated over the concrete pad on 1" x 2" galvanized steel bars so that a leak from the tank bottom would be readily detected by onsite personnel within 24-hours during operating hours. Secondary containment will be capable of containing a release from the largest tank.

4. Drainage

Secondary containment for Tanks 2 and 3 slopes slightly towards a collection sump that is within the containment area. The sump will provide a convenient location for removing spilled or leaked waste and accumulated precipitation within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment,

b. Secondary Containment for Tanks

Secondary containment for Tanks 2 and 3 will be provided by an epoxy-coated steel-reinforced concrete structure that surrounds the tanks. The following section details pertinent features of the secondary containment area.

1. Containment Capacity

Tanks 2 and 3 will be located within a concrete containment structure with the capacity to contain 100% of the material from the largest tank (15,000 gallons). Containment capacity calculations are attached in Appendix E. An allowance is made to account for displacement from other tanks and equipment within the containment area. An additional allowance is made to account for precipitation from a worst-case 25-year, 24-hour storm event⁴.

2. Run-on Prevention

The walls of the secondary containment structure will prevent run-on of precipitation into the containment area.

3. Free of Cracks or Gaps

The secondary containment structure will be steel-reinforced concrete. Any cracks or gaps in the concrete floor or walls will be sealed. Sealants

⁴ Worst-case 25-year, 24-hour precipitation amount is 2.3 inches as recorded by the Western Regional Climate Center for the Salt Lake City International Airport for the period of May 1928 to June 2016.

for joints and cracks must be flexible and impermeable to oil and water and should be non-shrinking. Sealants must be applied in accordance with the manufacturer's recommendations. The tank farm will be recoated with an epoxy coating prior to being placed back in to use.

4. Containment Walls

The secondary containment system for Tanks 2 and 3 will completely encompass the tanks and prevent a release from the containment area (i.e., capable of preventing lateral as well as vertical migration of the waste).

c. Secondary Containment for Ancillary Equipment

Secondary containment for the majority of ancillary equipment associated with Tanks 2 and 3 will be provided by the same structure that provides containment for the tanks (see Section IV above). For the short section of piping between the tank farm and the warehouse; this piping is welded pipe that will be inspected for leaks on a daily basis during operating hours.

V. Tank System 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 fine and imprisonment for knowing violations.

Certified by: Blaine Zwahlen, P.E.

Professional Engineering Stamp

Date: June 3, 2019



exp 3-31-21

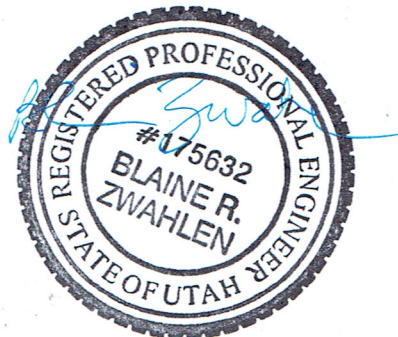
VI. Secondary Containment Certification

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 fine and imprisonment for knowing violations.

Certified by: Blaine Zwahlen, P.E.

Professional Engineering Stamp

Date: June 3, 2019



exp 3-31-21

VII. Findings and Conclusions

An assessment and certification of spent-solvent Tank 3 and secondary containment structures surrounding Tanks 2 and 3 at the Safety Kleen Systems' Salt Lake City Utah facility was conducted by Blaine Zwahlen, P.E. The findings, conclusions and recommendations in this report are based on sound engineering practices and applicable and recognized industry standards.

Tanks 2 and 3, if installed as designed, are adequate for the safe storage of spent solvent.

The secondary containment system associated with Tanks 2 and 3 has adequate capacity to contain a discharge from the largest tank in the containment with additional allowance for other tank and equipment displacement and for a worst-case 25-year, 24-hour precipitation event. Secondary containment for associated ancillary equipment is also adequate to prevent the release of hazardous constituents to the environment.

VIII. Appendices

- A. Qualification of Assessment Engineer**
- B. Tank 3 Inspection Report**
- C. Design Analysis of Tank 3 and Design of New Anchor Lugs and Bolts**
- D. Tank and Containment Drawings**
- E. Secondary Containment Calculations**
- F. Spent Solvent Safety Data Sheet (SDS)**

Appendix A

Qualification of Assessment Engineer

Blaine Zwahlen, P.E. is a registered professional engineer in Utah, California, Nevada, Wyoming and Idaho.

Mr. Zwahlen has over 30 years' experience as an engineer in the refining and petroleum industry and has the following qualifying experience:

- Providing environmental compliance services to industry including Air Quality, Hazardous and Solid Waste Management, Water, Groundwater, Oil Pollution Prevention, Toxic Release Inventory, SARA Community Right-to-Know, etc.
- Developed and certified SPCC and Facility Response Plans for many facilities throughout the United States.
- Completed Phase I and Phase II Environmental Site Assessments.
- Conducted Process Safety Management (PSM) Audits and Industrial Safety Training to help clients comply with OSHA regulations.
- Provided process-engineering support for large engineering and construction company.
- Three years as Superintendent of Maintenance and Engineer for Salt Lake area refinery.

Appendix B
Tank 3 Inspection Report



Inspection Services

"People and Technology Creating a Better Environment"

SLC - Salt Lake City, UT
Salt Lake City, UT

STI SP001 Formal Internal Inspection of Tank
3

Inspection Date:
April 25, 2019



Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Page 1 of 15



Inspection Services

"People and Technology Creating a Better Environment"

Tank Information

Unit #:	Tank farm	Tank #:	3
Construction Date:	Unknown	Design Temperature:	Unknown
In Service Date:	1986	Operating Temperature:	Ambient
Manufacturer:	Eaton Metal Product	Bottom Material:	Carbon Steel
Manufacturer Serial #:	Unknown	Ring Material:	N/A
Design Standard:	UL 142	Shell Material:	Carbon Steel Gr Unknown
Cont. Release Detection Method:	Elevated	Roof Material:	Carbon Steel
Release Prevention Barrier:	Concrete	Shell Diameter:	10' 0"
Spill Control:	Dike/Berm	Tank Height:	24' 0"
Type of Foundation:	Skids	Max. Design Liquid Level:	24' 0"
Orientation:	Vertical	Product Type:	Hazardous Waste
Bottom Type:	Flat	Specific Gravity:	1.000
Tank Insulated:	No	Est. Capacity:	14,100 gal (US)
CML's in Insulation:	NA	Name Plate Condition:	Not legible
No. of Shell Courses:	5	Plates per Shell Course:	2

Next External Inspection: 20 years

Next Internal Inspection: 20 years

Summary

Conclusion:

As determined by the condition found during the inspection of tank# 3, the tank appears to be in suitable condition at the time of this inspection for continued operation under normal operating parameters that the tank was designed and manufactured to.

Recommendations:

1. Facility personnel should perform periodic inspections in accordance with STI SP001.



Inspection Services

"People and Technology Creating a Better Environment"

Corrosion Rates

The below calculations are based on the average measured thickness and previous inspection thicknesses. If there is no previous measured thickness then an assumed or nominal thickness is utilized to establish a corrosion rate. The assumed thickness is based upon industry standard thickness for rolled plate steel. Remaining life could not be determined on courses where the actual thickness was greater than or equal to the past thickness readings.

Note: The thickness minimum requirement calculation is based upon water with a specific gravity of one.

Note: Without established Condition Monitoring Location (CML) points, data collection locations may vary between inspections.

Shell Courses							
Course	Year In Service	Assumed Thickness	2019 Measured Thickness	Long Term Corrosion Rate (in./yr.)	Remaining Corrosion Allowance	Minimum Required	Remaining Life (yrs.)
1	1986	0.250"	0.245"	0.00013"	0.145	0.100"	533
2	1986	0.187"	0.163"	0.00070"	0.063	0.100"	45
3	1986	0.187"	0.172"	0.00043"	0.072	0.100"	82
4	1986	0.187"	0.165"	0.00065"	0.065	0.100"	50
5	1986	0.187"	0.173"	0.00041"	0.073	0.100"	87

Floor							
Plate	Year In Service	Assumed Thickness	2019 Measured Thickness	Long Term Corrosion Rate (in./yr.)	Remaining Corrosion Allowance	Minimum Required	Remaining Life (yrs.)
1	1986	0.250"	0.246"	0.00010"	0.146	0.100"	666

Roof							
Plate	Year In Service	Assumed Thickness	2019 Measured Thickness	Long Term Corrosion Rate (in./yr.)	Remaining Corrosion Allowance	Minimum Required	Remaining Life (yrs.)
1	1986	0.187"	0.177"	0.00028"	0.077	0.100"	134

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Inspection Services

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External Visual Inspection

Foundation	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Coating condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Concrete condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Concrete pad	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dike walls / Containment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Drain opening in ring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Elastomeric liner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Levelness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Signs of settlement around tank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Site drainage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Foundation Support	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Base Support Type					Skid
Concrete Pad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Coating	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fireproofing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Outer Shell	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Attachments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bottom projection plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Coating condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion / Pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Deformation (bulges/buckling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Floor to shell weld	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Overflow vents / piping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Repair(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
UT measurements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Cathodic Protection	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Galvanized anode system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Impressed current system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Manways / Nozzles	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Bolting condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Coating condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion, pitting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Flange condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Repad condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
UT measurements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Roof	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Coating condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Corrosion, pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Proper drainage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
UT measurements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Roof Appurtenances	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Bolting condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of hatch(s), manway(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of pressure/vacuum vents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of screens on vents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Emergency venting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Insulation seal condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Mixer agitator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Normal venting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Appurtenances	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gauges, Sight glass (damage)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grounding (tightness & corrosion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Liquid level gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Handrails	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Attachment welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Coating condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Corrosion, pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Safety drop bar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Platforms/Stairs/Ladders	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Attachment weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bolting condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cage condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Coating condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Concrete base condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Corrosion, pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rung condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stairway tread condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Grating	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Coating condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Condition of grating welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Thinning on grating bars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Tie down clips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Internal Visual Inspection

Floor	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Annular ring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cleanliness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion/Pitting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Negligible Corrosion or Erosion.
Floor to Shell Weld	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Liner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Magnetic Flux Leakage Exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Repair(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sump(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Vacuum Box Bubble Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Void(s), low spots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Inner Shell	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Shell Wall Type					Single Wall
Cleanliness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion / Pitting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Deformation (bulges/blisters/buckling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Liner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Roof	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Bulges/Blisters/Deformation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Corrosion / Pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Liner	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Roof Support	General Condition				
Item	Acceptable	Findings	N/I	N/A	Comments
Base Plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Column(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rafters	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Reinforcing pads	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Restraining clip(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Manways/Nozzles/Attachments	General Condition				
	Acceptable	Findings	N/I	N/A	Comments
Baffles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Corrosion, pitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Downcomer(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Internal coils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Mixers, agitators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Thermowell(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Measured Thicknesses Summary

Shell Courses				
Course	Minimum	Average	Maximum	Standard Deviation
1	0.237"	0.245"	0.256"	0.004"
2	0.160"	0.163"	0.169"	0.002"
3	0.167"	0.172"	0.176"	0.002"
4	0.159"	0.165"	0.169"	0.002"
5	0.171"	0.173"	0.176"	0.001"

Floor				
Plate	Minimum	Average	Maximum	Standard Deviation
1	0.237"	0.246"	0.254"	0.005"

Roof				
Plate	Minimum	Average	Maximum	Standard Deviation
1	0.175"	0.177"	0.181"	0.002"

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Measured Thicknesses

Shell Courses				
Course	0°	90°	180°	270°
1	0.243"	0.240"	0.245"	0.237"
	0.243"	0.247"	0.244"	0.246"
	0.243"	0.248"	0.246"	0.256"
	0.245"	0.247"	0.245"	0.253"
2	0.161"	0.164"	0.164"	0.165"
	0.160"	0.165"	0.167"	0.162"
	0.164"	0.164"	0.166"	0.160"
	0.169"	0.164"	0.164"	0.163"
3	0.170"	0.176"	0.174"	0.170"
	0.174"	0.175"	0.175"	0.172"
	0.170"	0.174"	0.175"	0.167"
	0.170"	0.175"	0.174"	0.169"
4	0.164"	0.164"	0.167"	0.164"
	0.159"	0.168"	0.169"	0.166"
	0.166"	0.167"	0.168"	0.163"
	0.165"	0.165"	0.166"	0.166"
5	0.176"	0.173"	0.174"	0.174"
	0.175"	0.172"	0.174"	0.173"
	0.174"	0.173"	0.172"	0.173"
	0.172"	0.171"	0.173"	0.172"

Floor	
Plate	0°
1	0.250"
	0.243"
	0.254"
	0.248"
	0.241"
	0.253"
	0.245"
	0.237"

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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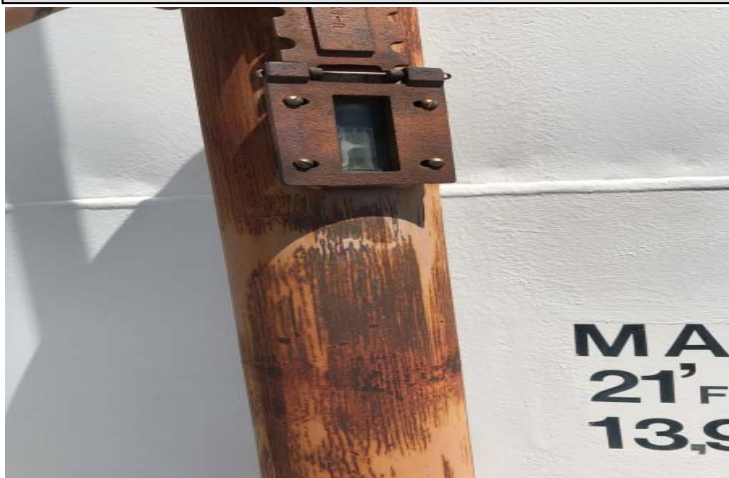
Roof	
Plate	0°
1	0.175"
	0.177"
	0.181"
	0.177"



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Images



Appurtenances - Liquid level gauge



Foundation Support - Coating



Manways / Nozzles - Flange condition



Outer Shell - Coating condition



Roof - Coating condition



Roof - Coating condition

Site: SLC - Salt Lake City, UT; Job #: 1900005965 - 137; Inspection #: 10381; Tank #: 3

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Images



Roof Appurtenances - Condition of screens on vents



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Inspection Certification Statement

Page DuBose under direct supervision of Taylor Sudol (Certified Inspector) has performed an STI SP001 Formal Internal Inspection of Tank# 3. The tank is located at the SLC - Salt Lake City, UT facility in Salt Lake City, UT.

As determined by the condition found during the inspection of tank# 3, the tank appears to be in suitable condition at the time of this inspection for continued operation under normal operating parameters that the tank was designed and manufactured to.

The services performed, documentation of inspection, identification of deterioration, and the generation of a report was performed within the generally accepted principles and practices of STI SP001 Standard for the inspection of above ground storage tanks 6th Edition January 2018, and Clean Harbors' Written Practice and Inspection procedures.

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 the 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 fines and imprisonment. My status as a Certified Inspector can be verified on the American Petroleum Institute and Steel Tank Institute websites at the below links.

A handwritten signature in black ink that reads "Taylor Sudol".

Taylor Sudol

API 510# 61515

API 570# 71792

API 653# 56977

STI SP001# AC44096

Designated Corporate Level III

API: <http://inspectorsearch.api.org>

STI: <https://www.steeltank.com/SP001StandardFAQs/tabid/463/Default.aspx> (Within question #9).

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Warranty

Clean Harbors Inspection Services, Inc ("Company") has performed inspection services on the equipment designated by SLC - Salt Lake City, UT (owner/operator) and has evaluated its condition based on observations and measurements made by Company's inspectors. While our evaluation accurately describes the condition of the equipment at the time of inspection, the owner/operator must independently assess the inspection information/report provided by Company and any conclusions reached by owner/operator and any action taken or omitted to be taken are the sole responsibility of the owner/operator. With respect to inspection and testing, Company warrants only that the services have been performed in accordance with accepted industry practice. If any such services fail to meet the foregoing warranty, Company shall re-perform the service to the same extent and on the same conditions as the original service.

Company makes no warranty, express or implied, regarding goods or services provided by Company other than those warranties set forth herein. The preceding paragraph sets forth the exclusive remedy for claims based on failure or of defect in materials or services, whether such claim is made in contract or tort (including negligence) and however instituted, and, upon expiration of the warranty period, all such liability shall terminate. The foregoing warranty is exclusive and in lieu of all other warranties, whether written, oral, implied or statutory. NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY, nor shall Company be liable for any loss or damage whatsoever by reason of its failure to discover, report, repair or modify latent defects or defects inherent in the design of any equipment inspected. In no event, whether a result of breach of contract, warranty or tort (including negligence) shall Company be liable for any consequential or incidental damages including, but not limited to, loss of profit or revenues, loss of use of equipment tested or services by Company or any associated damage to facilities, down-time costs or claims of other damages.

Appendix C
Analysis of Tank 3 and Design of New Anchor Lugs and Bolts

TESTING, INSPECTION & CERTIFICATION SERVICES
www.frpengineer.com

CLIENT: Safety-Kleen, Inc.
Salt Lake City, Utah

TI&CS Report Number: 18-10-3

Report Title: Design of Footing for 10.5 ft. Diameter by 274 in. High
Steel Cylindrical Tank for Salt Lake City Safety-Kleen Plant

Author(s): Joseph M. Plecnik, Ph.D., P.E.
TI&CS
3562 Cerritos Ave.
Los Alamitos, CA 90720
(562) 900-3118



EXP 3/31/2024

Date of Issue: October 15, 2018

NOTES: The footing design herein assumes that the existing containment walls will remain in place.

The calculations provided in this report also satisfy UL 142 requirements.

CHAPTER A: INTRODUCTION AND SUMMARY (18-10-3)

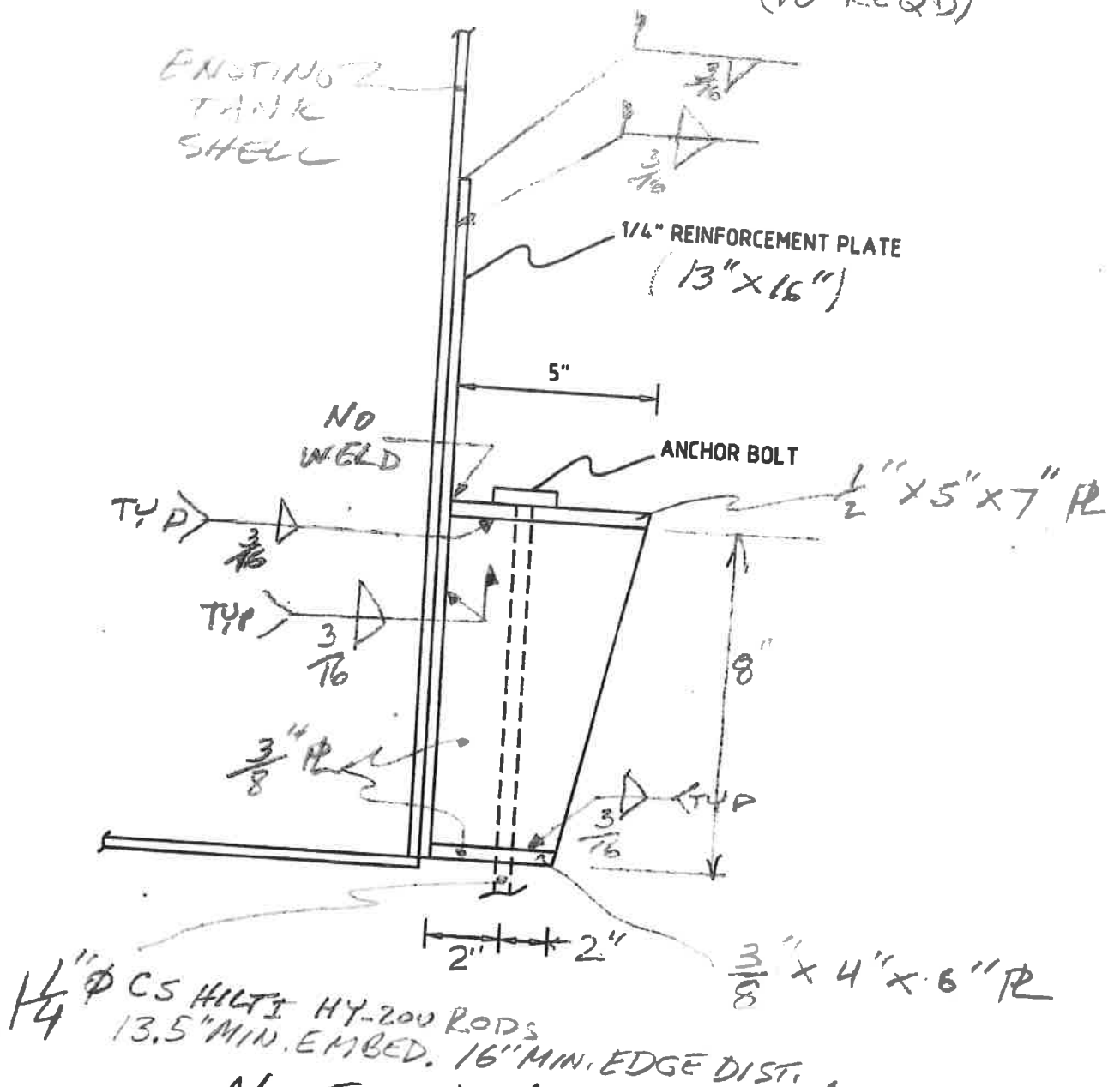
This report provides the design of anchorage system for existing tank provided in Fig. A-3 at the Safety-Kleen Facility in Salt Lake City, Utah. The tank was previously analyzed for seismic loads and Chapter D provides this analysis again using the latest for anchor lugs, anchor bolts, and concrete foundation.

Chapter B provides analysis of the concrete foundation, which is summarized in Fig. A-3. Note that it is assumed that the existing containment walls will remain in place. Hence, footing for the concrete alone is designed herein. Also note that a sealant must be provided for the new concrete footing as shown in Fig. A-3.

Chapter C provides the design for the anchor bolts using HILTI HY-200 system. The final design of the anchor bolts is provided in Fig. A-1. Fig. A-1 and A-2 also provide the anchor lug assembly. Note that the cover plate on the anchor lugs must be maintained at $\frac{1}{2}$ " in order to satisfy the yielding requirements. This analysis is provided in Chapter E.

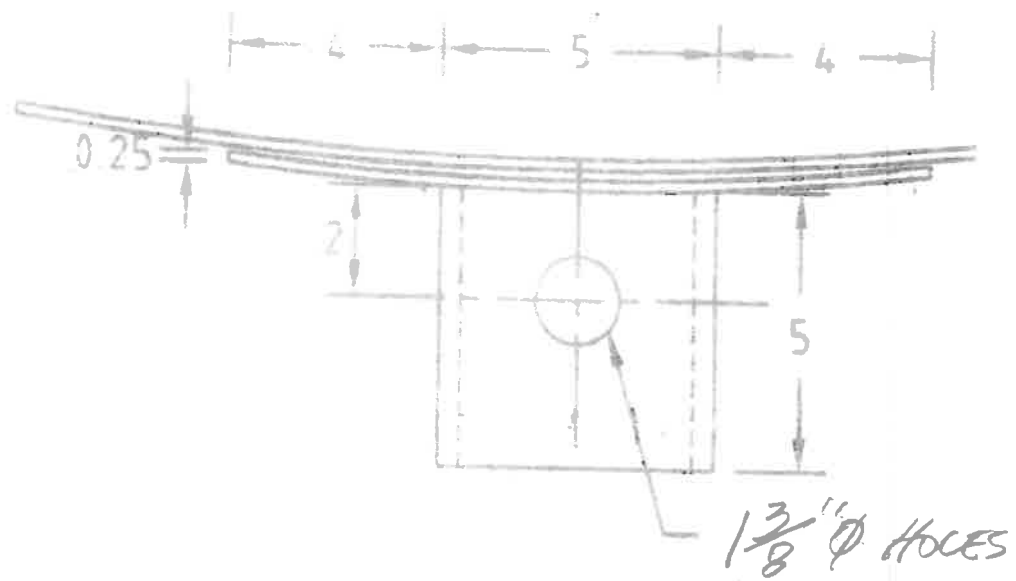
The concrete footing ACI 318-14. The anchor bolts are designed per ACI 318-14 Chapter 17. The seismic loads are based on IBC 2015 and ASCE 7-16

FIG. A -1/ ANCHOR LUG DESIGN (10 REQD)



NOTES: 1. ALL STEEL A36

2. ALL WELDS E70 ELECTRODES

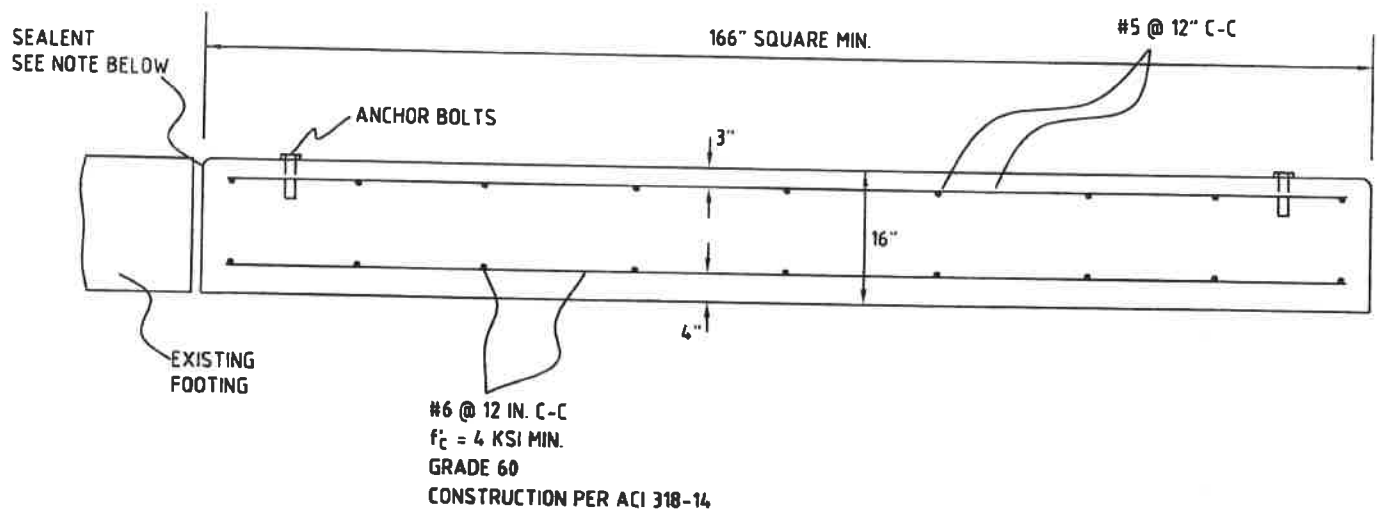


PLAN VIEW

FIG. A-2. PLAN VIEW OF STEEL LUG

SAFETY-KLEEN_18-10-3

FIG. A-3: CROSS-SECTION OF FOOTING



SOIL COMPACTION

1. COMPACT TO 90% PROCTOR TOP 6" OF SOIL OR BASE BELOW BOTTOM OF NEW FOOTING


NOTE: POUR NEW CONCRETE FLUSH AGAINST OLD CONCRETE WITH 1/4 X 1" DEEP STRIP ON TOP FOR POLYURETHANE SEALANT

A-5

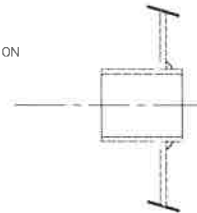
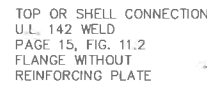


TANK LEGEND				REVISIONS											
TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS	REV.	DESCRIPTION	BY	CHK	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
1	12,000 USD	PURIFIED WATER STORAGE TANK	8'-0" HORIZONTAL STORAGE TANK	0	ORDER FOR REVIEW	GR	LS								
2	18,000 USD	PURIFIED WATER STORAGE TANK	10'-0" PLAT BOTTOM VERTICAL STORAGE TANK												
3	10,000 USD	PURIFIED WATER STORAGE TANK	10'-0" PLAT BOTTOM VERTICAL STORAGE TANK												

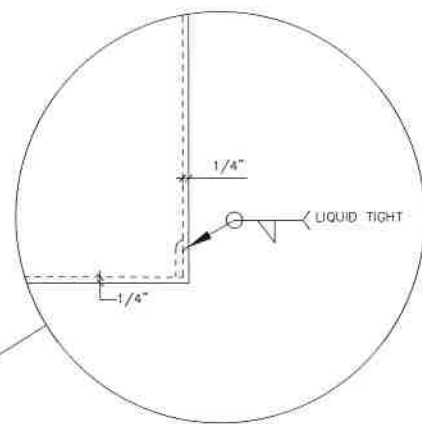
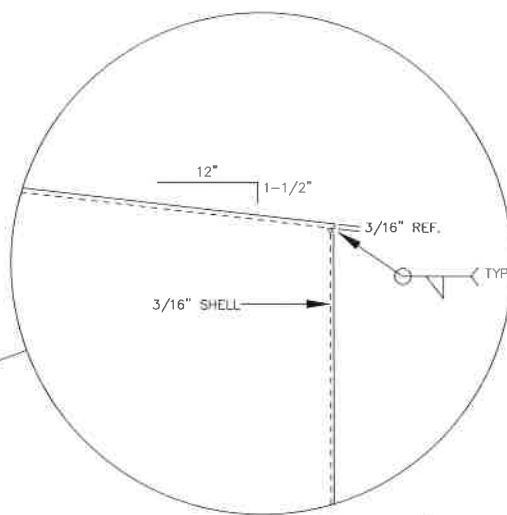
GENERAL NOTES	
1.)	NON-PURIFIED TANKS & EQUIPMENT MAY CHANGE
2.)	APPROVAL REQUIRED FOR ANY CHANGES MAINTENANCE/REPAIRS DUE TO FACILITY.

TANK FARM & WETLAND/FILL PERMITS											
PLANT-PROPOSED											
 SAFETY-KLEEN SYSTEMS, INC. 3900 E. 10TH, OKLAHOMA CITY, OK 73106-1100 PHONE: (405) 751-3300 FAX: (405) 751-3300 TOLL FREE: 1-800-451-3300 SERVICE OUTSIDE OKLAHOMA: (405) 751-3300 E-MAIL: OKLA@SKS.COM WEBSITE: WWW.SKS.COM											
DATE:	11/1/00	BY:	GR	CHK:	LS	DATE:	11/1/00	DATE:	11/1/00	DATE:	11/1/00
SCALE:	1" = 1'-0"	DATE:	11/1/00	DATE:	11/1/00	DATE:	11/1/00	DATE:	11/1/00	DATE:	11/1/00
OKLAHOMA DEPARTMENT OF REVENUE 1000 N. WESTERN AVENUE OKLAHOMA CITY, OK 73102-5000 PHONE: (405) 505-6000 FAX: (405) 505-6001 E-MAIL: OKLA@OKSTATE.GOV WEBSITE: WWW.OKSTATE.GOV											
OKLAHOMA DEPARTMENT OF REVENUE 1000 N. WESTERN AVENUE OKLAHOMA CITY, OK 73102-5000 PHONE: (405) 505-6000 FAX: (405) 505-6001 E-MAIL: OKLA@OKSTATE.GOV WEBSITE: WWW.OKSTATE.GOV											

Appendix D
Tank and Containment Drawings



NOT TO SCALE




SCALE: $3/8" = 1'-0"$

MANUFACTURER

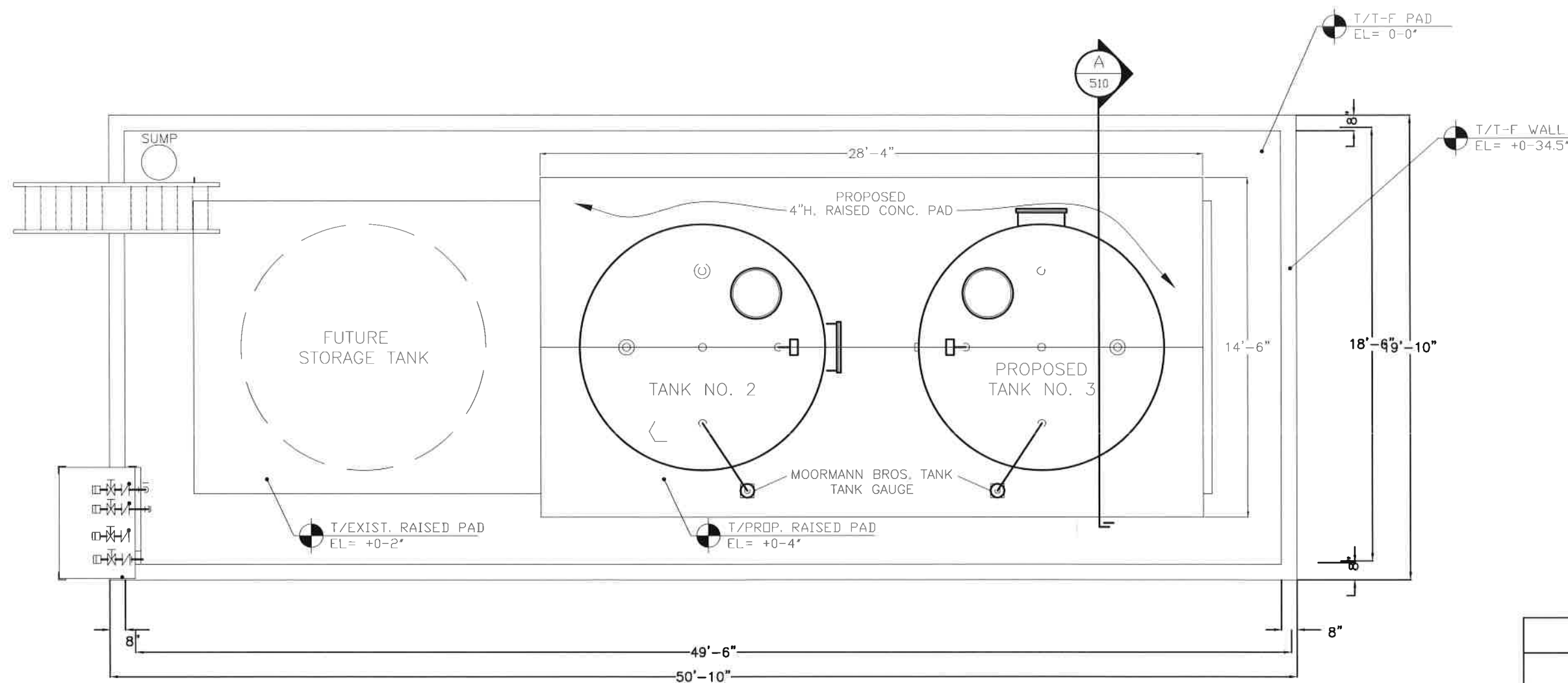
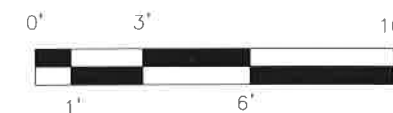
- 1.) PRESSURE TESTING PROCEDURES SHALL STRICTLY ADHERE TO SAFETY-KLEEN CORP.'S SPECIFICATIONS. TEST PRESSURE SHALL BE 1-1/2 PSI AIR MIN. & 5 PSI MAX.
- 2.) ALL PERTINENT SAFETY REGULATIONS, "OWNER'S AND OSHA'S", SHALL BE ADHERED TO RIGIDLY. IN ADDITION, ALL SAFETY PRECAUTIONS NOTED ON THE MANUFACTURER'S PRODUCT DATA SHEETS AND LABELS SHALL BE OBSERVED FOR BOTH MATERIAL AND EQUIPMENT.
- 3.) CONSTRUCTION OF THIS STORAGE UNIT SHALL BE UNDERWRITERS LABORATORIES APPROVED AND SO MARKED IN ACCORDANCE WITH UL 142, 7TH EDITION DATED APRIL 1, 1993 AND EFFECTIVE APRIL 1, 1994, MINIMUM.
- 4.) THE ROOF OF THE TANK SHALL BE WEAK SEALED PER UL REQ'D.
- 5.) INITIALLY ALL SURFACES TO BE COATED SHALL BE PREPARED IN A WORKMANLIKE MANNER WITH THE OBJECTIVE OF OBTAINING A CLEAN, DRY, AND PROPERLY PREPARED SUBSTRATE.
- 6.) ALL COATINGS SHALL BE APPLIED IN A WORKMANLIKE MANNER TO ACHIEVE THE SPECIFIED DRY MIL FILM BUILD, LEAVING A SMOOTH UNIFORM APPEARING FILM. SPRAY APPLICATION SHALL BE USED WHEREVER POSSIBLE.
- 7.) THE APPLICATION SHALL LEAVE NO SAGS, BRUSH MARKS, OR OTHER DEFECTS.
- 8.) CLEAN AND REMOVE ALL SAND AND DEBRIS FROM THE JOB WHEN COMPLETE.
- 9.) COATING MANUFACTURER'S INSTRUCTIONS MUST BE FOLLOWED WITHOUT EXCEPTION.
- 10.) SURFACE PREPARATION - COMMERCIAL BLAST CLEANING (MINIMUM) IN ACCORDANCE WITH "STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION", SPEC. SSPC-SP-6, WITH A PROFILE OF 1.5 - 2.0 MILS. (ALL NON-WETTED PROCESS AREAS)
- 11.) PRIMER COAT FOR YIANK - SHALL BE APPLIED SAME DAY AS SAND BLASTING, APPLY ONE COAT SHERMAN WILLIAMS KEM KROMIC #B50W1 WHITE OXIDE PRIMER, 1 MIL DFT, OR APPROVED EQUAL. ALLOW TO DRY 24 HOURS. (ALL NON-WETTED PROCESS AREAS, INCLUDING INSIDE OF SKIRT)(EXCLUDING OUTSIDE OF TANK SKIRT, SEE NOTE 12)
- 12.) COATING SYSTEM REQUIRES MINIMUM SURFACE AND MATERIAL TEMPERATURES OF 50 - 55° FAHRENHEIT FOR PROPER CURING/DRYING. DO NOT APPLY OVER MOISTURE OR CONDENSATION.
- 13.) ALL OPENINGS TO THE TANK SHALL BE COVERED PRIOR TO SHIPPING.
- 15.) ROOF MANWAY TO BE SUPPLIED WITH UL APPROVED GASKET, (12" 4" LONG SHOULDER BOLTS AND NUTS, EVERY OTHER BOLT HOLE AND LONG BOLT LABEL ON LID AS INDICATED.
- 14.) TANK SHALL BE TRANSPORTED ON WOOD SURFACES AND PROPER ANCHORING USED TO MINIMIZE TANK DAMAGE DURING SHIPPING.

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S SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080
phone 800-569-5740

						FROM KEY PLAN REQUEST								
						TITLE								
						15K 10'-6"Ø FLAT BOTTOM VERTICAL STORAGE TANK FABRICATION DETAILS								
						 SAFETY-KLEEN SYSTEMS, INC. 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080 phone 800-569-5740								
A	NEW RELEASE/CONVERTED TO CAD				JEK	NC	NC	040419	SCALE AS SHOWN	BY JEK	CHKD NC	APPROVED NC	OPERATIONS NC	DATE 4/4/19
NO.	DESCRIPTION				BY	CHK	APPR	DATE	STANDARD BRANCH LOCATION			STD-DWG NUMBER		REV. NO.
REVISIONS									SALT LAKE CITY, UT			7113-4100-900		A

N



GENERAL NOTES

PROPRIETARY STATEMENT

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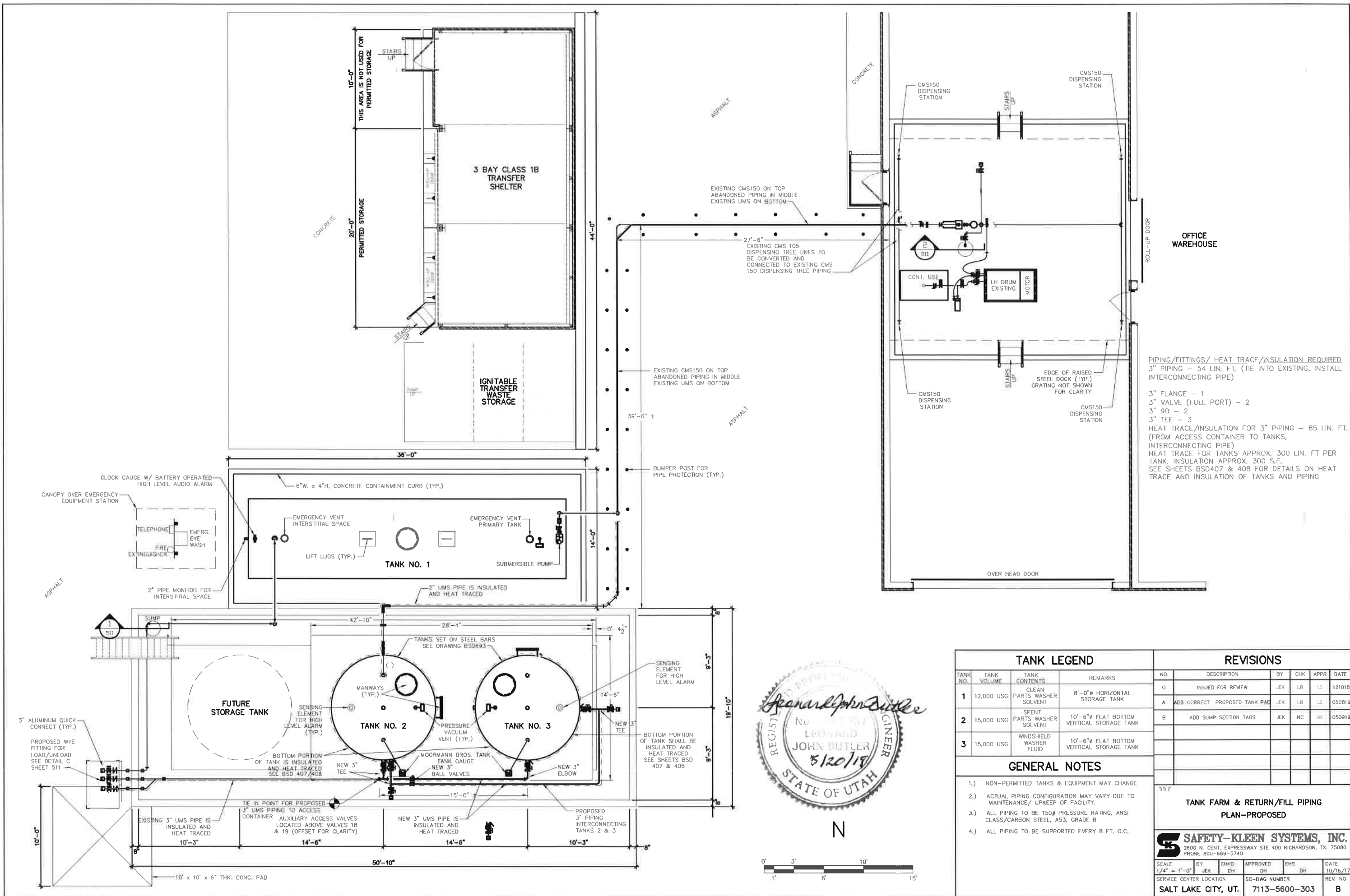
TITLE
**PROPOSED TANKFARM
CONCRETE PAD REPLACEMENT**

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX, 75080
PHONE: 800-669-5740

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	ISSUED FOR PERMIT	JEK	NC	NC	052019
A	REVISED PAD TO 14'-6"	JEK	LB	LB	021219
0	NEW ISSUE	JEK	LB	LB	111518
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

SCALE 3/8"=1'	BY JEK	CHKD LB	APPROVED LB	OPERATIONS LB	DATE 11/15/18
SERVICE CENTER LOCATION SALT LAKE CITY, UT,			SC-DWG NUMBER 7113-4100-505		REV. NO. B

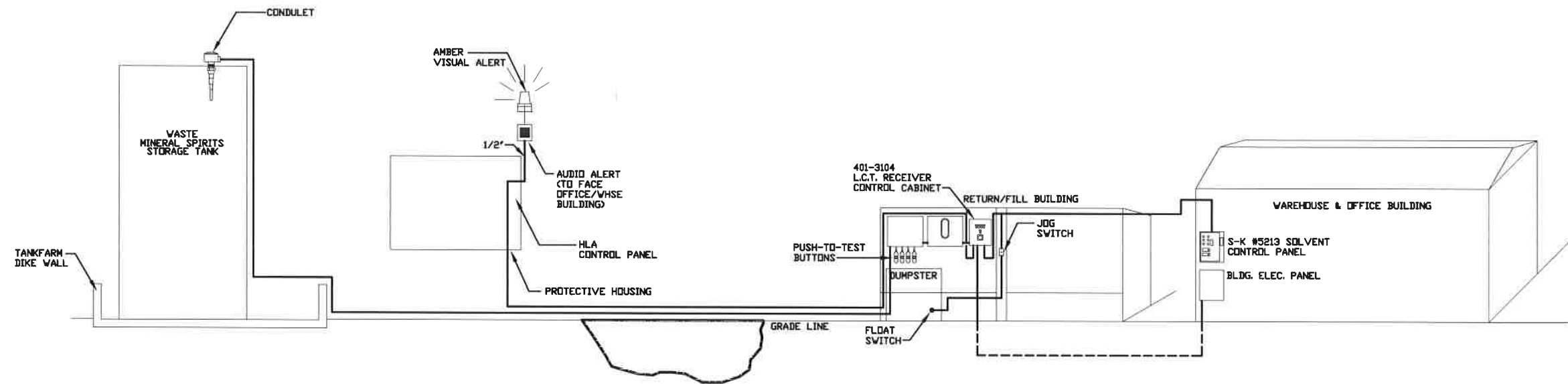




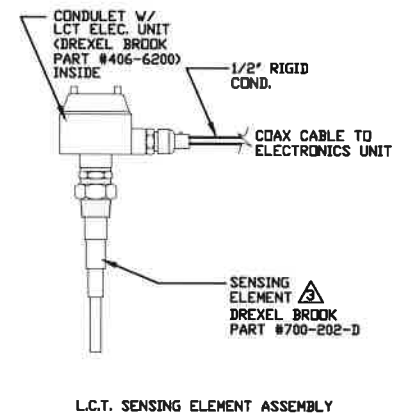
PIPING/FITTINGS/ HEAT TRACE/INSULATION REQUIRED
3" PIPING - 54 LIN. FT. (TIE INTO EXISTING, INSTALL INTERCONNECTING PIPE)
3" FLANGE - 1
3" VALVE (FULL PORT) - 2
3" 90 - 2
3" TEE - 3
HEAT TRACE/INSULATION FOR 3" PIPING - 85 LIN. FT. (FROM ACCESS CONTAINER TO TANKS, INTERCONNECTING PIPE)
HEAT TRACE FOR TANKS APPROX. 300 LIN. FT PER TANK. INSULATION APPROX. 300 S.F.
SEE SHEETS BSD407 & 408 FOR DETAILS ON HEAT TRACE AND INSULATION OF TANKS AND PIPING



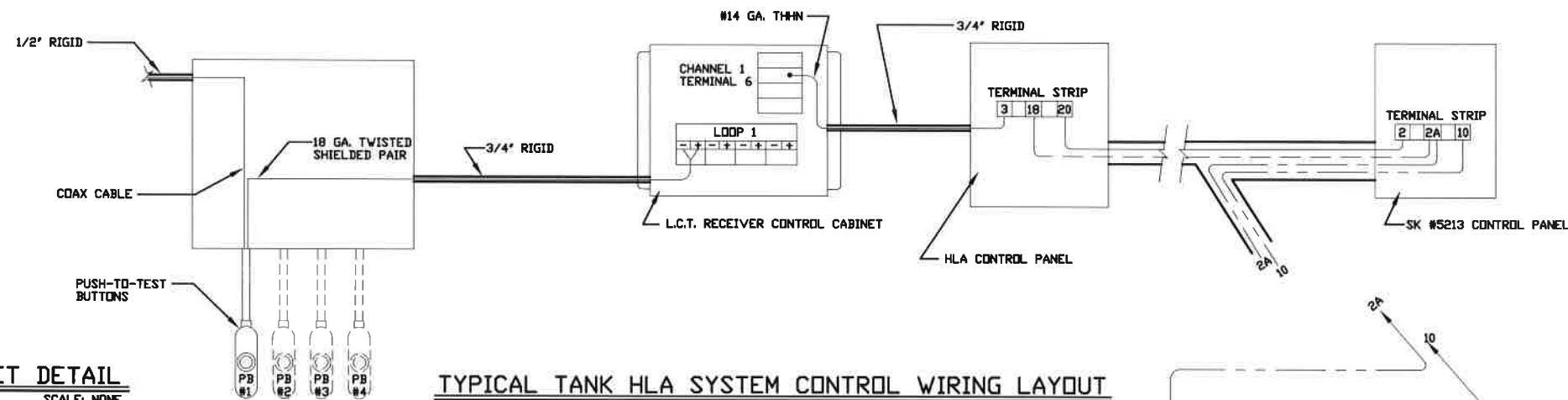
TANK LEGEND				REVISIONS					
TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS	NO.	DESCRIPTION	BY	CHK	APPR	DATE
1	12,000 USG	CLEAN PARTS WASHER SOLVENT	8'-0" HORIZONTAL STORAGE TANK	0	ISSUED FOR REVIEW	JEK	LB	LB	121018
2	15,000 USG	SPENT PARTS WASHER SOLVENT	10'-6" FLAT BOTTOM VERTICAL STORAGE TANK	A	ADD CORRECT PROPOSED TANK PAD	JEK	LB	LB	050819
3	15,000 USG	WINDSHIELD WASHER FLUID	10'-6" FLAT BOTTOM VERTICAL STORAGE TANK	B	ADD SUMP SECTION TAGS	JEK	NC	NC	050919
GENERAL NOTES									
1.) NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE									
2.) ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.									
3.) ALL PIPING TO BE 150# PRESSURE RATING, ANSI CLASS/CARBON STEEL, A53, GRADE B									
4.) ALL PIPING TO BE SUPPORTED EVERY 8 FT. O.C.									



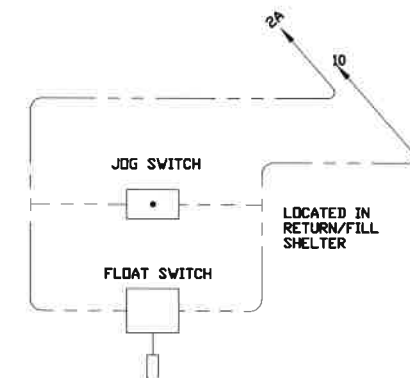
HIGH LEVEL ALARM SYSTEM DIAGRAM
SCALE: NONE



L.C.T. SENSING ELEMENT AND CONDULET DETAIL
SCALE: NONE



TYPICAL TANK HLA SYSTEM CONTROL WIRING LAYOUT
SCALE: NONE



RETURN/FILL WIRING DETAIL
SCALE: NONE

GENERAL NOTES

1. L. C. T. = LEVEL CONTROL TRANSMITTER
2. ALL ELECTRICAL WITHIN 10 FEET OF TANK TO BE CLASS 1, DIV. 2, PER LOCAL CODE. SEE SITE UTILITY PLAN FOR ADDITIONAL SPECIFICATIONS.
3. DO NOT INSTALL L. C. T. SENSING ELEMENT IN COUPLING IN CENTER OF TANK.
4. THIS DRAWING IS SCHEMATIC AND SHOWS TYPICAL INSTALLATION DETAILS ONLY.

PROPRIETARY STATEMENT

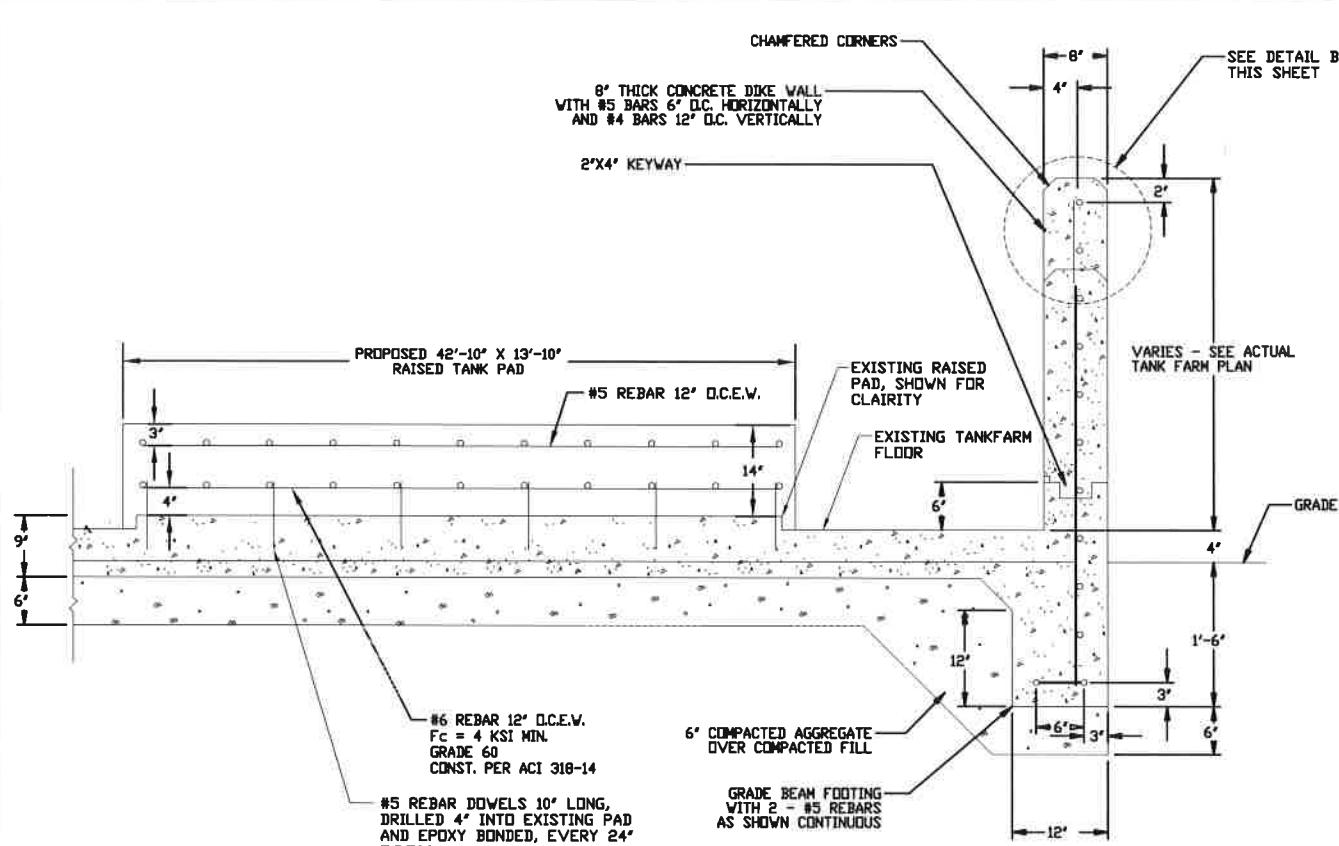
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TITLE
WASTE MINERAL SPIRITS
HLA SYSTEM DIAGRAM

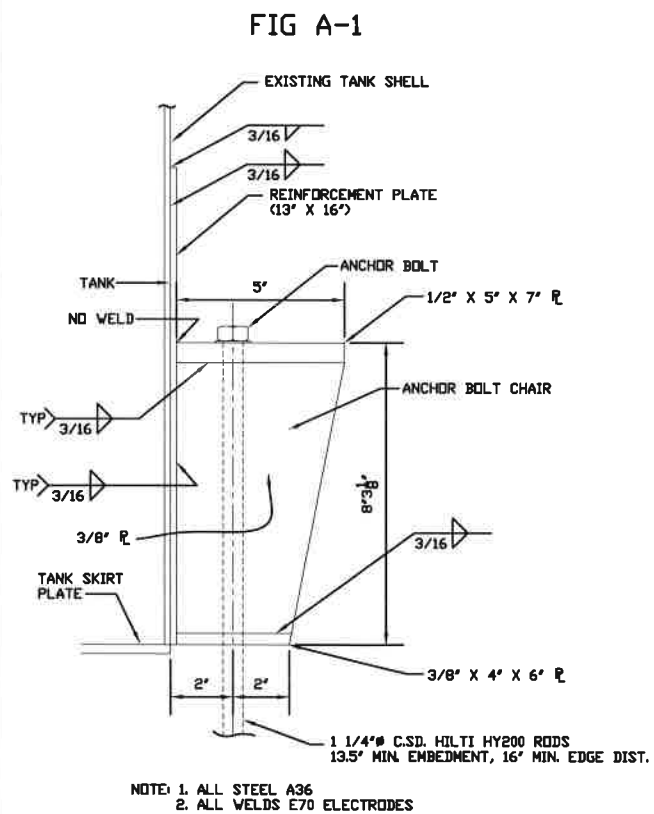
SAFETY-KLEEN SYSTEMS, INC.
2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800-509-5740

REVISIONS						SERVICE CENTER LOCATION				SC-DWG-REV NO.		SHEET NO.	
NO.	DESCRIPTION	BY	CHK	APPR	DATE	SALT LAKE CITY, UT.				7113-4100-400			
1	REVISED TO SHOW CURRENT CONDITIONS	JEX	NC	NC	041219								
2	MISCELLANEOUS REVISIONS	TYJ	RAB	-	9-3-92								
						SCALE				BY		DATE	
						NONE				PROJ.SOL		1-24-92	
										CHKD			
										P.E. APPR			
										OP. APPR			

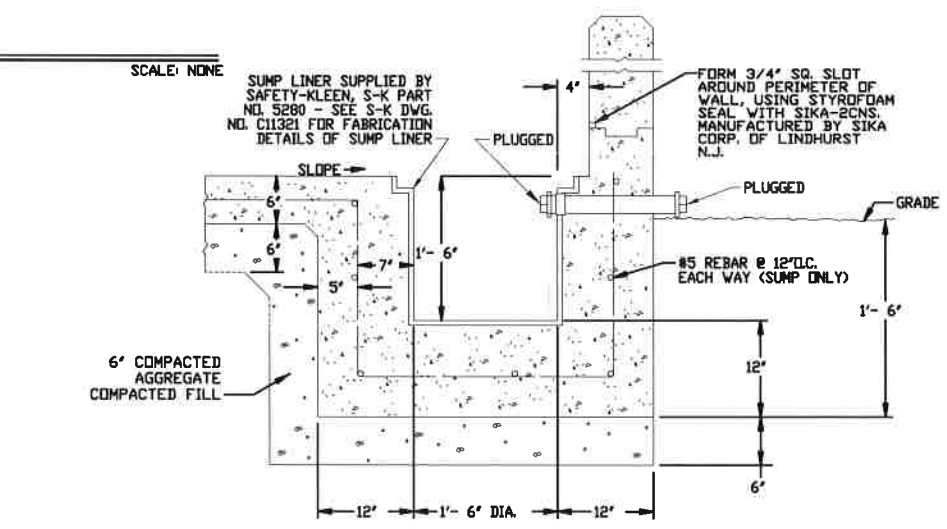




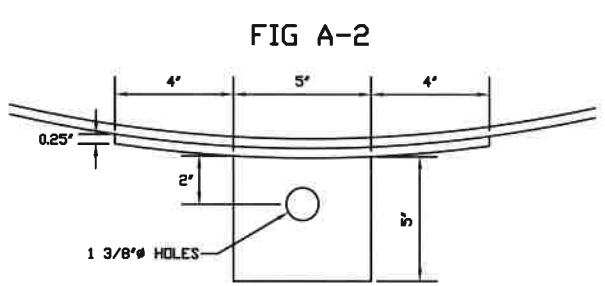
DETAIL A
SCALE: NONE



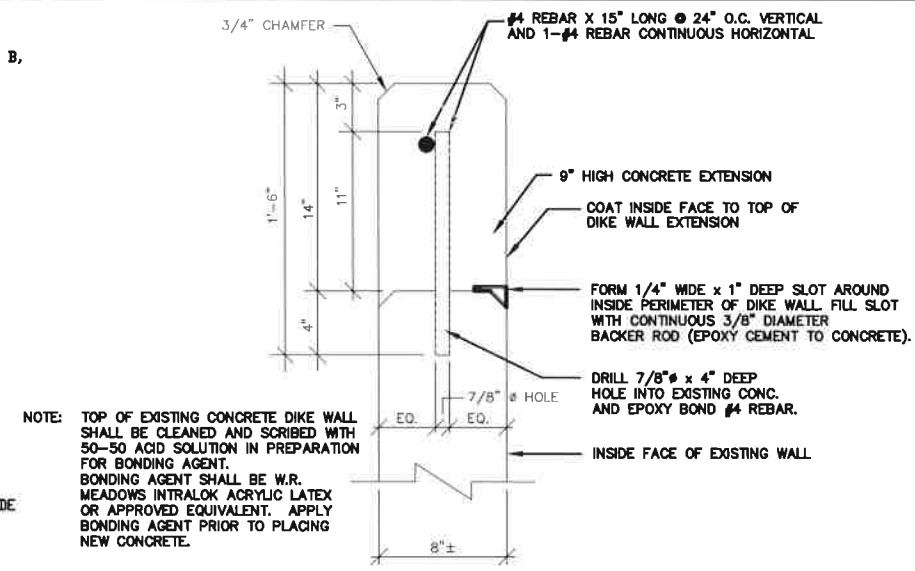
ANCHOR LUG DESIGN (10 REQ'D.)
SCALE: NONE



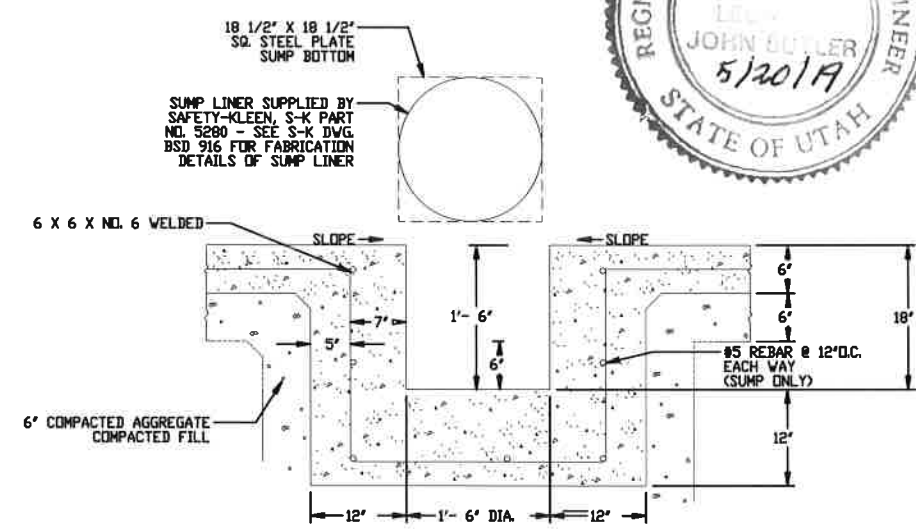
SECTION 1: TANK FARM SUMP CONSTRUCTION DETAIL
SCALE: 1"=1'-0"



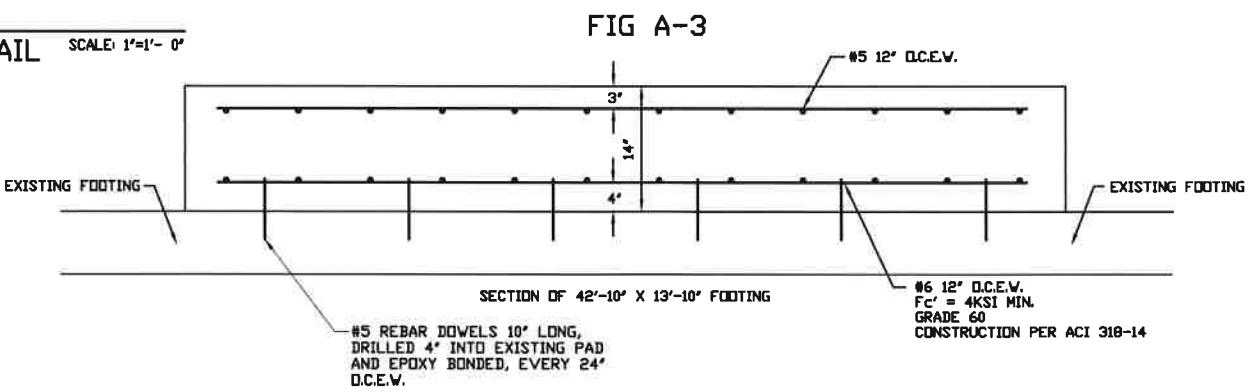
PLAN VIEW OF STEEL LUG
SCALE: NONE



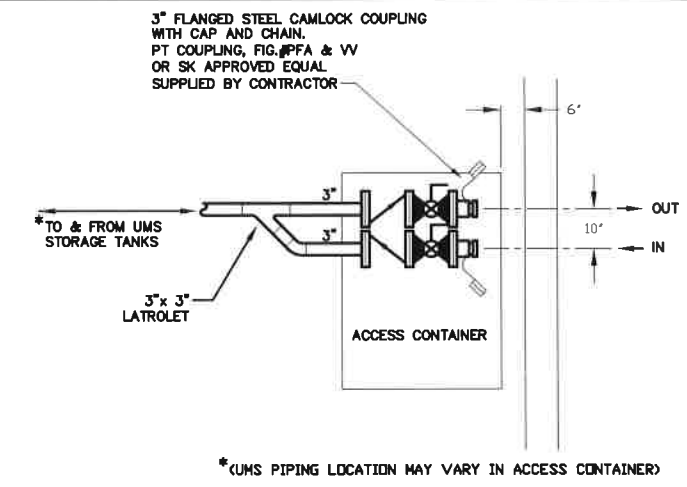
DETAIL B-14' DIKE WALL EXTENSION
N.T.S.



SECTION 2: RETURN & FILL AREA SUMP CONSTRUCTION DETAIL
SCALE: 1"=1'-0"



CROSS SECTION OF FOOTING
SCALE: NONE



DETAIL C-USED MINERAL SPIRITS TANK ACCESS DETAIL



NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	ADD SUMP DETAILS	JEK	NC	NC	050919
A	NEW ISSUE FOR REVIEW	JEK	LB	LB	121018

GENERAL NOTES

- ALL CONCRETE AREAS TO BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM OF THREE DAYS AFTER PLACEMENT AND FINISHING.
- ALL CONCRETE WORK SHALL HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS AND 3% TO 5% AIR ENTRAINING ADMIXTURE. CONTRACTOR TO OBTAIN AND SUPPLY TESTING RESULTS OF CONCRETE CYLINDER TESTS.
- ALL REBAR TO BE GRADE 60.
- ALL NEW CONCRETE SURFACES TO BE SEALED WITH EPOXY COATING AS PREVIOUSLY APPLIED IN TANKFARM.
- REFER TO DRAWING BSD893 FOR GALVANIZED TANK BAR DETAILS.

PROPRIETARY STATEMENT

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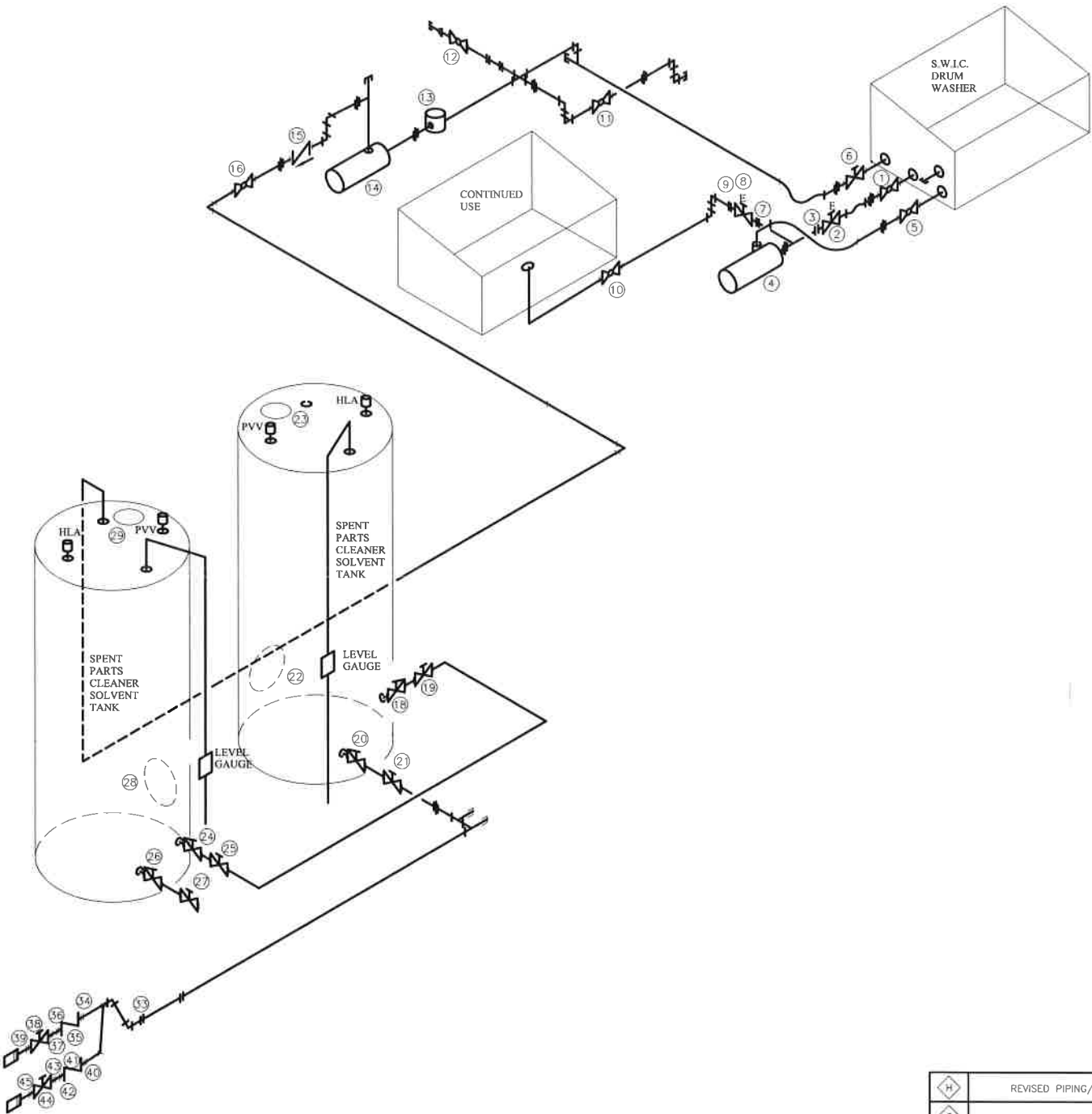
TANKFARM CONCRETE AND FABRICATION DETAILS

SAFETY-KLEEN SYSTEMS INC.
2600 N. CENT. EXPRESSWAY STE. 400 RICHARDSON, TX. 75080
PHONE: 800-669-5740

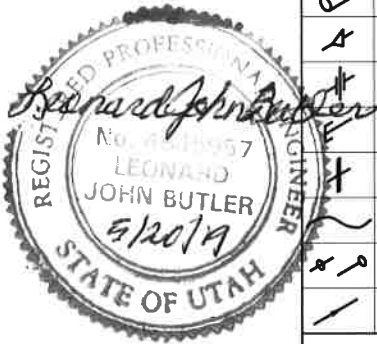
SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
NONE	JEK	LB	LB	LB	12/10/18

SERVICE CENTER LOCATION: SALT LAKE CITY, UT. STD-DWG-REV NO. 7113-4100-511





















FITTING SCHEDULE	
①	1, 5" THREADED BALL VALVE
②	ELECTRONIC VALVE
③	FLANGE
④	RE-CIRCULATION PUMP DRUM WASHER
⑤	1, 5" THREADED BALL VALVE
⑥	2" THREADED GATE VALVE
⑦	FLANGE
⑧	ELECTRONIC VALVE
⑨	FLANGE
⑩	2" THREADED BALL VALVE
⑪	2" THREADED BALL VALVE
⑫	2" THREADED BALL VALVE
⑬	STRAINER
⑭	UMS PUMP
⑮	2" CHECK VALVE
⑯	2" THREADED BALL VALVE
⑰	NOT USED
⑱	3" EMERGENCY VALVE
⑲	3" GATE VALVE
⑳	3" EMERGENCY VALVE
㉑	3" GATE VALVE
㉒	SIDE MANWAY
㉓	TOP MANWAY
㉔	3" EMERGENCY VALVE
㉕	3" GATE VALVE
㉖	3" EMERGENCY VALVE
㉗	3" GATE VALVE
㉘	SIDE MANWAY
㉙	TOP MANWAY
㉚	NOT USED
㉛	NOT USED
㉜	NOT USED
㉝	FLANGE
㉞	FLANGE
㉟	3" CHECK VALVE
㊱	FLANGE
㊲	FLANGE
㊳	3" GATE VALVE
㊴	FLANGE
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HAZARDOUS WASTE PARTS CLEANER SOLVENT TANK SYSTEM PIPING SCHEMATIC
NO SCALE



H	REVISED PIPING/ISSUED FOR PERMIT	JEK	NC	NC	052019
G	ISSUED FOR PERMIT	JEK	NC	NC	041519
F	REVISED TAGGING/PIPING FOR STILL REMOVAL	JEK	JB	JB	071411
E	REMOVE VALVE & TAG # 32	JEK	RS	RS	121207
D	SHOW ASBUILT CONDITIONS	GAS	GAS	RS	071007
C	REVISED TAGGING	GAS	GAS	RS	062807
B	REVISED TAGGING	GAS	GAS	RS	051707
A	RJEVISED TAGGING	GAS	GAS	RS	051407
O	NEW ISSUE FOR PERMIT	GAS	GAS	GAS	031407
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

TITLE		GENERAL NOTES			
		1. PIPING CONFIGURATION AS INDICATED WAS FIELD VERIFIED ON 5-9-07.			
		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.			
PROPRIETARY STATEMENT					
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SYMBOL LIST					
	CAMLOC COUPLING				
	90° CAMLOC COUPLING				
	GATE VALVE				
	INTERNAL EMERGENCY VALVE				
	BALL VALVE				
	SCREWED COUPLING				
	CHECK VALVE				
	STRAINER				
	PUMP				
	REDUCER/INCEASER				
	SCREWED UNION				
	CAP				
	HOSE CLAMP				
	FLEXIBLE HOSE				
	PIPE PENETRATION/ATTACHMENT TO EQUIPMENT				
	DIRECTION OF FLOW				
CONNECTION TYPES					
	FLANGED				
	SCREWED				
	WELDED				
TITLE					
ENVIRONMENTAL PIPING SCHEMATIC (SPENT PARTS CLEANER SOLVENT)					
 SAFETY-KLEEN SYSTEMS, INC. 2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE 800-888-5740					
SCALE NONE	BY PSC	CHKD GAS	APPROVED GAS	OPERATIONS GAS	DATE 3/14/07
SERVICE CENTER LOCATION SALT LAKE CITY, UT			SC-DWG. NO. 7113-5600-351		REV. NO. H

Appendix E

Secondary Containment Calculations

Spent Solvent Tanks Safety Kleen Systems - Salt Lake City, UT Facility

Containment Area: Tank Farm

Tanks included in this area: Tanks 2 and 3

Approximate Dimensions of Containment Area:

	Concrete Area	existing raised area	new raised area
Length, ft	49.50	15	28.33
Width, ft	18.50	14.5	14.5
Height, in	34	2	4
Capacity	19,409	274	1,024
Total	18,111		

Largest Tank, Tank 3

Tank Capacity, gal		15,000	
Estimated Displacement Calculations			
Tank	gal/ft	Displaced, gal	
2	648	1,566	elev 5"
Aux. Equip/Pipe	varies	100	est.
misc.	varies	100	est.
Total		1,766	

containment capacity = Length(ft) x Width (ft) x h(in)/12(in/ft) x 7.4805 gal/ft³

Sump Capacity, gal. 20 Sump is 18" dia x 18" deep

Precipitation Allowance:

25-year, 24-hour amount*, in. 2.3 in.

Precipitation Amount: 1,313 gal.

Total Available Secondary Containment:

Capacity - Precipitation - Displacement = Available Containment = 15,052 gal.

Excess capacity = Available Containment - Tank Capacity = 52 gal.

Containment Area: Drum Transfer Area Inside Warehouse

Included in this area: Drums

Approximate Dimensions of Containment Area:

	Concrete Area	less raised area
Length, ft	24.00	
Width, ft	23.00	
Height, in	5	
Capacity	1,721	
		gallons

Largest Container: drum

Tank Capacity, gal		55	
Estimated Displacement Calculations			
Items	gal/ft	Displaced, gal	
Drain Vessels	100	283	est.
Aux. Equip/Pipe	varies	200	est.
misc.	varies	200	est.
Total		683	

containment capacity = Length(ft) x Width (ft) x h(in)/12(in/ft) x 7.4805 gal/ft³

Sump Capacity, gal. 20 Sump is 18" dia x 18" deep

Precipitation Allowance:

25-year, 24-hour amount*, in. 0.0 in. indoors

Precipitation Amount: 0 gal.

Total Available Secondary Containment:

Capacity - Precipitation - Displacement = Available Containment = 1,057 gal.

Excess capacity = Available Containment - Tank Capacity = 1,002 gal.

* 24-hour worst-case precipitation data from Western Regional Climate Center for Salt Lake City Airport

Appendix F
Spent Solvent Safety Data Sheet (SDS)



Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

Synonyms

Safety-Kleen Premium Gold Solvent; Safety-Kleen Continued Use Product Solvent (CUP); High Flash Degreasing Solvent; Parts Washer Solvent; Petroleum Distillates; Petroleum Naphtha; Naphtha, Solvent; Mineral Spirits

Product Use

Cleaning and degreasing metal parts. If this product is used in combination with other products, refer to the Safety Data Sheets for those products.

Restrictions on Use

None known.

MANUFACTURER/SUPPLIER

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080
www.safety-kleen.com
Phone: 1-800-669-5740
Emergency Phone #: 1-800-468-1760

IMPORTER/DISTRIBUTOR

Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario, Canada L1A 1B2

Phone: 1-800-669-5740
Emergency # 1-800-468-1760

Issue Date

September 30, 2016

Supersedes Issue Date

June 28, 2016

Original Issue Date

January 26, 1995

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 4

Aspiration Hazard - Category 1

Specific Target Organ Toxicity - Single Exposure - Category 3 (central nervous system)

GHS Label Elements

Symbol(s)



Signal Word

Danger

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Hazard Statement(s)

Combustible liquid.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye protection/face protection. Avoid breathing vapor or mist.

Response

In case of fire: Use Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular foam, dry chemical, water spray, or water fog for extinction. IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-47-8	Petroleum distillates, hydrotreated light	100

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and wash it before reuse. Get medical attention if irritation develops or persists.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Ingestion

Aspiration hazard. IF SWALLOWED: Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms/Effects

Acute

May be fatal if swallowed and enters airways. May cause drowsiness or dizziness.

Delayed

May cause damage to central nervous system.

Indication of any immediate medical attention and special treatment needed

IF exposed: Immediately call a POISON CENTER or doctor/physician. Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Media to use includes Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular dry chemical, foam, water spray, and water fog.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Combustible liquid and vapor. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Do not allow run-off from fire-fighting to enter drains or water courses. Closed containers may rupture violently when heated. Empty containers may retain product residue including flammable/explosive vapors. Take precautionary measures against static discharge: May cause fire or explosion.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and other organic compounds.

Advice for firefighters

Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Keep away from ignition sources - No smoking. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Remove all sources of ignition. Do not touch or walk through spilled material. Stop leak if safe to do so. Wear personal protective clothing and equipment. Appropriate engineering controls: Keep unnecessary people away, isolate hazard area and deny entry. Ventilate the area. Avoid breathing vapor or mist. Use foam on spills to minimize vapors. Keep out of water supplies and sewers. Absorb with earth, sand or other non-combustible material and transfer to container. Use non-sparking tools. Large spills: Reduce vapors with water spray. Dike for later disposal.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks and flame. Use personal protective equipment as required. When transferring product, trucks and tank cars should be grounded and bonded. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Keep away from heat and ignition sources. Do not cut, puncture, or weld on or near this container. Empty containers may contain product residue.

Incompatible Materials

Avoid acids, alkalis, oxidizing agents, reducing agents, halogens.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Petroleum distillates, hydrotreated light	64742-47-8
ACGIH:	100 ppm TWA (related to Stoddard solvent)
NIOSH:	350 mg/m ³ TWA (related to Stoddard solvent)
	1800 mg/m ³ Ceiling (15 minutes)
OSHA (US):	500 ppm TWA ; 2900 mg/m ³ TWA (Related to Stoddard solvent)
	100 ppm TWA (Related to Stoddard solvent); 525 mg/m ³ TWA (OSHA (Vacated))

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Safety glasses with side shields should be worn at a minimum. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

Respiratory Protection

Use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Wear appropriate chemical resistant gloves. In case of skin contact: neoprene, nitrile, as well as similar materials in protection gloves; do not use natural rubber.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and/or Lab coat or apron.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid	Physical State	Liquid
Odor	Mild ,hydrocarbon odor	Color	Colorless to pale yellow
Odor Threshold	30 ppm (based on Stoddard Solvent)	pH	Not applicable
Melting Point	-45 F (-43 C)	Boiling Point	350 F (177 C)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	<0.1 (butyl acetate = 1)	Flammability (solid, gas)	Not available
Autoignition Temperature	480 F (249 C)(minimum)	Flash Point	148 F (64 C)
Lower Explosive Limit	0.7 VOL%	Decomposition temperature	Not available
Upper Explosive Limit	5 VOL%	Vapor Pressure	0.2 mm Hg (at 68 F)
Vapor Density (air=1)	5 (air = 1) (approximately)	Specific Gravity (water=1)	0.77 - 0.82 (at 60 F)
Water Solubility	Insoluble	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	6.4 - 6.7 lb/US gal	VOC	100 WT%; 6.4 to 6.7 LB/US gal; 770 to 800 g/l; As per 40 CFR Part 51.100(s); VOC Vapor Pressure: <1.0 mmHg @ 20°C; Product may or may not be considered photochemically reactive (100% by weight); Consult your state or local air district regulations for location specific information.
Molecular Weight	Not available		
Other Information	No additional information is available.		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Avoid acids, alkalies, oxidizing agents, reducing agents, halogens.

Hazardous decomposition products

Not applicable under normal conditions of use and storage. Reference to other sections: Section 5.

Thermal decomposition products

Burning may produce carbon monoxide and other organic compounds.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause respiratory irritation, nausea, loss of appetite, headache, drowsiness, dizziness, disorientation, tremors, lung damage, convulsions, coma.

Skin Contact

May cause skin irritation.

Eye Contact

No information on significant adverse effects.

Ingestion

May cause drowsiness or dizziness, headache, loss of coordination, aspiration hazard.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Petroleum distillates, hydrotreated light (64742-47-8)

Oral LD50 Rat >5000 mg/kg

Dermal LD50 Rabbit >2000 mg/kg

Inhalation LC50 Rat >5.2 mg/L 4 h

Immediate Effects

May cause central nervous system depression. Aspiration may result in lung damage, respiratory tract irritation, May cause skin irritation.

Delayed Effects

May cause damage to central nervous system.

Irritation/Corrosivity Data

May cause respiratory tract irritation and skin irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

May cause central nervous system depression.

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to central nervous system.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Aspiration hazard

May be fatal if swallowed and enters airways. May cause lung damage.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), central nervous system, kidneys, and eye and/or skin disorders may have increased susceptibility to the effects of exposure.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

According to the California Code of Regulations, a toxicity to aquatic life, specifically fish, is determined using an acute 96 hour bioassay. A material is non-hazardous if the LC50 is >500 mg/L. This product passed the bioassay and is considered non-hazardous.

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

This material is believed not to bioaccumulate.

Mobility

Expected to have high mobility in soil.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Non-Bulk Packages (less than or equal to 119 gallons): Not regulated. Shipping Name: Cleaning compounds (Petroleum naphtha) (Not US DOT regulated)

Bulk Packages

Shipping Name: COMBUSTIBLE LIQUID, N.O.S., (Petroleum naphtha)

Hazard Class: 3 **UN/NA #:** NA1993 **Packing Group:** III **Required Label(s):** 3

IATA Information:

UN#: Not regulated as a dangerous good

TDG Information:

UN#: Not regulated as a dangerous good

Additional information

Emergency Response Guide Number: 128: Reference: North American Emergency Response Guide Book.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: yes **Chronic Health:** yes **Fire:** yes **Pressure:** no **Reactivity:** no

U.S. State Regulations

None of this product's components are listed on the state lists from MA, MN, NJ or PA

WARNING! This product can expose you to chemicals including benzene, dichlorobenzene, ethylbenzene, and naphthalene which are known to the State of California to cause cancer and benzene and toluene which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.gov.

Canada Regulations

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

WHMIS Classification

B3; D2B

Component Analysis - Inventory

Petroleum distillates, hydrotreated light (64742-47-8)

US	CA
Yes	DSL

U.S. Inventory (TSCA)

TSCA: All the components of this substance are listed on or are exempt from the inventory.

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision to meet Canadian WHMIS 2015.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA -

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

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National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.