

PHOTOCIRCUITS - Glen Cove
Division of Kollmorgen Corporation

Engineering Report

New York State D.E.C.-Part 360

Solid Waste Facility Permit

March 1981



Holzmacher, McLendon and Murrell, P.C. / H2M Corp.
Consulting Engineers, Planners and Environmental Scientists
Melville, N.Y. Farmingdale, N.Y. Riverhead, N.Y.

HOLZMACHER, McLENDON and MURRELL, P.C.

H2M Corp.



CONSULTING ENGINEERS, ENVIRONMENTAL SCIENTISTS and PLANNERS

75 BROAD HOLLOW ROAD, SUITE 200, GLEN COVE, N.Y. 11542
125 BAYLOR STREET, SUITE 200, GLEN COVE, N.Y. 11542
173 PLAZA STREET, CARROLLTON, N.Y. 11515
200 WEST MAIN STREET, HEMPSTEAD, N.Y. 11550

ROBERT G. HOLZMACHER, P.E., P.P., L.S.
SAMUEL C. McLENDON, P.E.
NORMAN E. MURRELL, P.E.
HAROLD A. DOMBECK, P.E.
HUGO D. FREUDENTHAL, Ph.D.
CARL E. BECKER, P.E.
JOHN J. MOLLOY, P.E.
DONALD A. SIOSS, P.E.
GARY E. LOESCH, P.E.
BRIJ M. SHRIVASTAVA, P.E.
CHARLES E. BANKS, P.E.

March 20, 1981

Photocircuits
Division of Kollmorgen Corp.
31 Sea Cliff Avenue
Glen Cove, New York 11542

Re: Engineering Report
Part 360 Solid Waste
Facility Permit

Attention: Mr. Francis L. Fuggini
Vice President

Gentlemen:

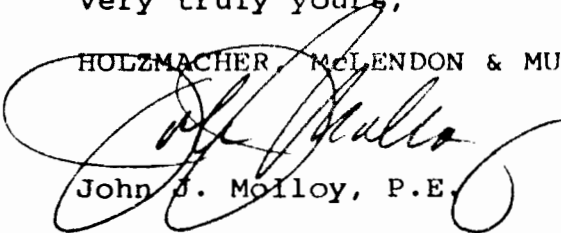
We transmit herewith our Engineering Report entitled,
"New York State DEC Part 360 Solid Waste Facility Permit,"
dated March 1981.

Based upon your authorization, we have transmitted
copies of this report to the Nassau County Department of
Health.

We wish to take this opportunity to thank you, Messrs.
George Butter and Joseph Shaulys and Ms. Michelle Principe
of your staff, for your invaluable assistance during this
study.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.


John J. Molloy, P.E.

BAS:vm

PHOTOCIRCUITS
DIVISION OF KOLLMORGEN CORP.

TABLE OF CONTENTS

	<u>PAGE NO.</u>
SCOPE	1
INTRODUCTION	1
LOCATION	2
DESCRIPTION	3
WASTEWATER GENERATING OPERATIONS	4
BRUSHING MACHINES	4
SCREEN PROCESS	5
PHOTOGRAPHIC DEPARTMENT	5
PLATING	5
BRIGHTENER - SCRUBBERS	8
LACQUER LINE	9
ETCHING	9
ADDITIONAL WASTEWATER SOURCES	10
CC-4 RECOVERY	11
COPPER (OXIDE) RECOVERY	12
SLUDGE PRODUCTION AND DISPOSAL	14
FACILITY LOCATION	14
SPECIFIC OWNERSHIP	15
STORAGE FACILITY LAYOUT	15
STORAGE TANKS	16

TABLE OF CONTENTS - CONT'D.

	<u>PAGE NO.</u>
CONTAINMENT AREAS	16
OPERATION PROCEDURE	24
EMERGENCY CONTINGENCY PROGRAM	25
FIRE INSPECTION	25
FACILITY SECURITY	26
SITE CLOSURE	27
IMPLEMENTATION	27
APPENDICES	

LIST OF TABLES

<u>TABLE NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
II-1	MAIN BUILDING - WASTEWATER SOURCES	10
II-2	ADDITIONAL WASTEWATER SOURCES	11
II-3	CHEMICAL STORAGE LOCATIONS	13
III-1	CHEMICAL STORAGE TANKS	17

LIST OF DRAWINGS

SITE PLAN & LOCATION MAP	NO. 1 OF 5
BULK CHEMICAL STORAGE - AREA B	NO. 2 OF 5
BULK CHEMICAL STORAGE - AREA C	NO. 3 OF 5
WASTE TREATMENT FACILITY - AREA D	NO. 4 OF 5
DRUM STORAGE & CONTAINMENT - AREAS E & A	NO. 5 OF 5

ENGINEERING REPORT
NEW YORK STATE DEC - PART 360
SOLID WASTE FACILITY PERMIT
PHOTOCIRCUITS
DIVISION OF KOLLMORGEN CORP.
GLEN COVE, NEW YORK

MARCH 1981

SCOPE

This report has been authorized by the management of the Photocircuits Division of Kollmorgen Corp. to meet the requirements of the New York State Department of Environmental Conservation (NYSDEC) for a permit to operate a solid waste facility. This report is intended to provide Photocircuits with the design parameters to meet the standards of Part 360, as outlined by the Nassau County Department of Health in Mr. Sama's letter to Photocircuits, dated December 17, 1980.

Included as part of this report are the plant modifications, which are depicted on the drawings, that are necessary for Photocircuits to meet the requirements of Part 360.

INTRODUCTION

Photocircuits is a division of Kollmorgen Corp. and operates a printed circuit manufacturing plant in the City of Glen Cove, Nassau County, New York. Photocircuits also operates a satellite

printed circuit board facility in Aquebogue, Suffolk County, New York. In addition, Kollmorgen operates a division manufacturing motors in Syosset, Nassau County, and a research and development division, PCK Technology, in Melville, Suffolk County.

The primary operations conducted at the Glen Cove plant relate to the production of printed circuit boards by the conventional process, whereas the principal production route to printed circuit boards at the Aquebogue facility is by the Photocircuits' proprietary additive method (CC-4*). The Syosset operations relate to the design and assembly of specialty "pancake" motors. All Photocircuits' printed circuit boards are manufactured for use and assembly by others. Their products find application in a myriad of different end uses, such as, automotive, telecommunication, communication, digital and consumer products. Product quality is dependent upon end use application with the manufacturing facility and processes subject to the ever changing needs and requirements of their clients in this highly competitive and cost-conscious business.

LOCATION

Photocircuits' original plant and headquarters is located in the City of Glen Cove - west of Glen Cove - Massapequa Highway, immediately south of Sea Cliff Avenue and north of Glen Head Country Club, on approximately 11 acres of land; the

*CC-4 is a registered trademark of Photocircuits

northern portion of the facility is in the City of Glen Cove, while the southern part is in the Town of Oyster Bay. See Location Map, Drawing 1 of 5.

DESCRIPTION

The Glen Cove facility has a number of buildings on-site covering approximately three acres and affording about 158,000 square feet (SF) of office and manufacturing space. As shown in Drawing PHTC 80-01-01 (Site Plan), the facility is comprised of: Main building (offices, engineering and printed circuit board production); Butler building I (machine shop, receiving, warehousing and material testing); Butler building II (waste-water treatment). Utilities, chemical recovery and maintenance occupy the one-story complex north of Butler II; Butler building III houses Multiwire. A fifty-foot County easement runs northwesterly through the entire property. A County drainage stream (Cedar Swamps Creek) runs through this easement, which physically separates Butler III from the balance of the facility.

The topography of the plant site is very gradually sloped with existing grades varying from approximately 99 feet to 103 feet above mean sea level in the southern portions of the plant site to about 97 feet in the northern portion of the plant. The first floor elevation of the main building is about 100 feet above mean sea level.

WASTEWATER GENERATING OPERATIONS

The major wastewater generating operations at the Glen Cove facility relate to the production of printed circuit boards by the conventional process. The conventional process entails the removing of copper from a copper clad dielectric which has been imaged for the desired circuit pattern. The additive process (CC-4), which is the main production process at the Aquebogue plant, involves electroless plating of the desired pattern onto previously sensitized, catalyzed unclad dielectrics.

The design and specifications for a particular printed circuit board are always provided by the customer. Photocircuits' personnel then prepare the art work, photography and screen preparation patterns. The boards (averaging 4 SF) are mechanically drilled or punched with the required holes and these holes are metalized to electrically connect the two sides of the board. The holes are also used to mount components.

Photocircuits' wastewater treatment processes produce sludges, which are then stored in 55 gallon drums. It is the storage of these drums, prior to their removal by scavenger waste trucks, which presents one of the problems to be addressed in this report.

BRUSHING MACHINES

Following the mechanical sizing, punching and drilling of the boards, they pass through a brushing machine where brushing and high pressure water removes the loose plastic and burrs

from the panels. No chemicals are used in this operation. There are six (6) of these brushing machines, each generating approximately ten (10) gallons per minute (gpm). These six units operate approximately eight (8) hours per day, six (6) days per week.

After this operation and hole metalizing, the work is passed through the pattern imaging stage, either screen or photo, and then placed in a pre-plating storage section to await a plating schedule.

SCREEN PROCESS

In the screen process for image formation on the panelboards, use is made of gelatins, oxides of iron, polyvinyl acetate and peroxide to prepare the screens.

After completion of the particular screen image operation, the screens are stripped using a sodium hypochlorite solution.

PHOTOGRAPHIC DEPARTMENT

In the photographic method for forming the image, use is made of typical photochemistry, including hydroquinone, sodium thiosulfate, carbonates, bicarbonates and hydroxides.

PLATING

By far the largest water consumption, and therefore waste production, is a result of the various plating operations

conducted in the main building. The plating operations can be categorized as follows: Copper Reduction, Acid Copper, Nickel/Gold Plating, Solder Plating, Automatic Copper/Solder Plating, and Nickel/Gold Finger Plating. It is estimated that about fifty-five per cent of the total plant water consumption is utilized in plating.

Copper Reduction

This entails electroless copper plating. This line consists of an alkaline soak followed by a 5 gpm overflow rinse. The panels are then immersed in a tank containing sodium persulfate. This is followed by a 5 gpm overflow rinse. The boards are then placed in a hydrochloric acid dip tank followed by immersion in a seeder tank (palladium chloride and hydrochloric acid). The boards are then placed in a rinse tank with a 5 gpm overflow. This is followed by an acclerator dip and another 5 gpm overflow rinse.

The boards are then placed in the copper reduction tanks for electroless copper deposition. After copper deposition is completed, the boards are placed in a two-stage countercurrent rinse operating at 3 gpm.

The sodium persulfate and hydrochloric acid (37%) tanks are located in an outdoor storage area (see Drawing No. 2 of 5 - Area B). These are some of the chemicals that must be contained in the event of tank spillage or failure.

Acid Copper Plating

Following the electroless copper deposition process previously described (copper reduction), copper is electrically plated on the circuit boards from a solution of acid copper or in a solution of copper sulfate (matte finish).

Nickel/Gold Finger Plating

Many of the printed circuit boards produced require that the fingers or connection points of the boards be finished with an electroplated surface of nickel - gold. The sequence of operations in the nickel - gold plating systems is a hand-scrubbing operation followed by a two-stage (2 gpm per stage) cold water running rinse. The next step is a hydrochloric acid dip followed by a 3 gpm cold water rinse, a nickel electroplating bath, followed by two-stage warm water rinse, then gold plating followed by a gold dragout tank and a 1 gpm cold water rinse. Most of the work in the nickel - gold finger plating line is done in shallow trays with the solution recirculated from a master tank. The hydrochloric acid (37%) is stored in Area B. See Drawing No. 2 of 5.

Lead/Tin Plating (Solder Plating)

Solder is electrolytically plated onto circuit boards in lead/tin plating baths.

Typically, boards are subjected to an electrolytic alkaline cleaning, rinsed, then given a hydrochloric acid dip and

then rinsed before immersion in the lead/tin plating tank.
There are currently two (2) lead/tin plating baths in operation.

Nickel/Gold Plating

In addition to the nickel/gold finger plating, which is utilized to make the connectors for both additive (CC-4) and conventional boards, nickel and gold are also electroplated onto boards where customers require a higher grade circuit than the more typical copper or solder circuit.

These operations are similar to those as described for the finger plating operation, except that the plating is conducted in full tanks as opposed to shallow trays.

Automatic Copper/Solder Plating Line

Photocircuits has installed an automatic processing line housed in an addition to the main building. This line is intended to phase out production from the existing manual copper/solder plating lines. The unit was installed in February 1979 and has been brought into full production at the present time.

In addition to the various plating and pre-plating operations previously described, there are a number of miscellaneous operations conducted in the main building which significantly affect wastewater volumes. These operations are:

BRIGHTENER - SCRUBBERS

One of the larger water consuming processes are the brightener - scrubber units. There are two (2) of these units

in operation. These brightener - scrubber units utilize sodium persulfate and running rinse waters to clean and brighten the boards, if necessary.

LACQUER LINE

The lacquer line consists of the following stages, wherein the boards are prepared for and receive a lacquer coating in an automatic conveyerized machine:

The first step is a cleaning or mild etching with sodium persulfate followed by single-stage, 5 gallon per minute cold water running rinse, followed by a sulfuric acid dip, followed by a 1 gallon per minute, multi-stage cold water running rinse. The last step is the lacquer application where the water is dried from the boards and the lacquer coating applied. The sulfuric acid (98%) is stored in Area B (see Drawing No. 2 of 5).

ETCHING

Conventional circuitry is processed with a proprietary commercial etchant which Photocircuits purchases, and contains ammonia, ammonium chloride and ammonium hydroxide. This process step removes copper in the unmasked portion of the board, leaving the desired circuitry. The etchant and waste etchant are also stored in Area B.

Summarized in Table II-1 are the various sources of wastewater generated in the main building.

TABLE II-1

MAIN BUILDING - WASTEWATER SOURCES

AREA

Plating
Copper Reduction
Acid Copper
Nickel/Gold Fingers
Solder Plating
Nickel/Gold Plating
Automatic Copper/Solder
Plating

Brushing
Brushing Boards
Brightening Boards

Etching

Screen Washing

Photo Department

Lacquer Line

Solder Reflow

Solder Stripping

Electrocleaning

ADDITIONAL WASTEWATER SOURCES

In addition to those sources outlined above, there are a number of significant wastewater generating operations conducted in other buildings in the facility. These are summarized in Table II-2.

TABLE II-2
ADDITIONAL WASTEWATER SOURCES

AREA

Butler Building III
Multiwire
Technology

Butler Building II

Utilities
Chemical Recovery
Boiler Room
Rack Stripping

Chemical Manufacturing

Although the Glen Cove facility no longer routinely manufactures additive boards by the CC-4 process (this work is now conducted at the Aquebogue plant), the facility still has available and still utilizes the recovery facilities.

CC-4 RECOVERY

The CC-4 recovery operation entails transfer of solution to a holding/electroplating tank, where copper is electroplated from solution onto immersed anodes (chemical processing is utilized at Aquebogue). Following electrolytic copper removal, the solution is transferred to a tank where it is treated with sulfuric acid, which causes the precipitation of the copper complexing agent EDTA (ethylenediaminetetraacetic acid). The precipitated EDTA is transferred to a separate EDTA holding tank. After the accumulation of several batches, the EDTA precipitate

is subjected to several rinses and is then available for reuse. The rinse waters, together with the initial supernatant from the precipitation step, are transferred to the main treatment sump.

The EDTA storage tank is located in Area C - Inside Chemical Storage (see Drawing 3 of 5). This area is another one which must provide containment in the event of any spillage or tank failure.

COPPER (OXIDE) RECOVERY

Since most of the spent sodium persulfate and cupric ammonia etchants contain high concentrations of copper, these spent etchants are transferred to a tank where sodium hydroxide is added to precipitate copper as copper oxide. The supernatant containing high salts and the rinses are transferred to the main chemical sump. Following the washing of the copper oxide, sulphuric acid and water are added to dissolve the copper oxide and form copper sulfate, which is then reusable in the CC-4 bath at Aquebogue.

The spent copper etchants are located in Area B. The sodium hydroxide and copper recovery tanks are located in Area C.

The locations of all chemical storage, which can be seen on the drawings, are summarized in Table II-3.

TABLE II-3

CHEMICAL STORAGE LOCATIONS

<u>PROCESS CHEMICAL</u>	<u>STORAGE LOCATION</u>
Cellosolve Acetate	Area B
Virgin Etchant	Area B
Waste Etchant	Area B
Hydrochloric Acid (37%)	Area B
Sulfuric Acid (98%)	Area B
Methylene Chloride	Area B
1,1,1-Trichloroethane	Area B
Spent 1,1,1-Trichloroethane	Area B
Sodium Persulfate	Area B
Waste Copper (CC-4)	Area B
Caustic Soda (50%)	Area C
Formaldehyde (37%)	Area C
Copper Sulfate	Area C
EDTA	Area C
Copper Recovery	Area C
Wastewater Equalization Tanks	Area D
Storage Drums	Area E

SLUDGE PRODUCTION AND DISPOSAL

Current wastewater pretreatment, prior to its discharge to the City of Glen Cove sewer system, is located in Area D (see Drawing 4 of 5). It is proposed to expand these facilities with a sludge storage tank and filter press. It is projected that about 500 pounds of dry solids per day will be generated. Based upon an estimated final sludge at 25% solids, approximately 1.0 tons per day will require disposal.

Sludge will be collected in 55 gallon drums from a hopper below the filter and stored in Area E (see Drawing 5 of 5). Approximately 2,000 drums per year will be generated, requiring off-site disposal through licensed waste haulers. Area E has been sized to accommodate a maximum of 500 drums at any one given time. The design for containment of any spillage from these drums is another item which is addressed in a later section of this report. These drums will contain the following: (1) wastewater sludge which contains sulfides and hydroxides and (2) still bottoms containing 1,1,1-trichloroethane and methylene chloride.

FACILITY LOCATION

Photocircuits' plant and headquarters is located in the City of Glen Cove - west of Glen Cove - Massapequa Highway, immediately south of Sea Cliff Avenue and north of Glen Head Country Club. This facility is on approximately 11 acres of

land; the northern portion being in the City of Glen Cove, while the southern portion is in the Town of Oyster Bay. See the Location Map, Drawing No. 1 of 5.

SPECIFIC OWNERSHIP

Photocircuits is a division of Kollmorgen Corporation, 60 Washington Street, Hartford, Connecticut 06106. The Photocircuits Division, Glen Cove headquarters, is directed by Mr. Francis L. Fuggini, Vice President, Facilities. Mr. Joseph Shaulys has direct operational responsibility for this program under Mr. Fuggini.

STORAGE FACILITY LAYOUT

The Photocircuits plant layout can be seen on the Site Plan - Drawing No. 1 of 5. This site plan delineates the property limits, building locations, water and wastewater piping, and location of wastewater treatment facilities. Note sections A, B, C, D and E labeled on the site plan. These sections are the locations of chemical storage and drum storage facilities. These areas are detailed on the following drawings:

- Area B - Bulk Chemical Storage Outside - Sheet 2 of 5
- Area C - Bulk Chemical Storage Inside - Sheet 3 of 5
- Area D - Waste Treatment Facilities - Sheet 4 of 5
- Area E - Drum Storage - Sheet 5 of 5
- Area A - Berm Containment - Sheet 5 of 5

STORAGE TANKS

Wastewater sludge that is to be disposed of off-site will be stored in 55 gallon drums, stacked on pallets in the storage area (Area E). All chemical storage tanks are noted on the drawings, but for convenience, Table III-1 lists all chemical storage tanks and their composition.

CONTAINMENT AREAS

The purpose of this section of the report is to outline each chemical storage area, its design requirements and our recommendations to meet Part 360 regulations.

1. Bulk Chemical Storage Area B

Area B is an outdoor bulk chemical storage area located on an existing concrete pad. The chemicals are stored in large tanks and to meet Part 360 guidelines, this storage area must be contained in the event of any spillage or tank failure. As noted on the drawing (Sheet 2 of 5), this area can be contained by the construction of a 12-inch concrete curb, which would provide storage for greater than 110 percent of the largest chemical storage tank.

The curbing will separate the bulk chemical storage area into two sections. One section contains the Cellosolve Acetate tanks with the largest tank having a capacity of 2,000 gallons. The required storage capacity equals $110\% \times 2,000$, or 2,200 gallons. The existing 14-inch curbing provides a storage

TABLE III-1

CHEMICAL STORAGE TANKS

<u>CHEMICAL</u>	<u>TANK COMPOSITION</u>	<u>TANK LOCATION</u>
Cellosolve Acetate	Carbon Steel - Grade 1030	Area B
Spent 1,1,1-Trichloroethane	Carbon Steel - Grade 1030	Area B
Sodium Persulfate	Stainless Steel - Grade 304	Area B
Methylene Chloride	Carbon Steel - Grade 1030	Area B
1,1,1-Trichloroethane	Stainless Steel - Grade 304	Area B
Virgin Etchant	Reinforced Fiberglass	Area B
Waste Etchant	Insulated, Reinforced Fiberglass	Area B
Hydrochloric Acid (37%)	Reinforced Fiberglass	Area B
Sulfuric Acid (98%)	Stainless Steel - Grade 304	Area B
Waste Copper (CC-4)	Reinforced Fiberglass	Area B
Caustic Soda (50%)	Stainless Steel - Grade 304	Area C
Formaldehyde (37%)	Stainless Steel - Grade 304	Area C
Copper Sulfate	Stainless Steel - Grade 316	Area C
Caustic Soda	Reinforced Fiberglass	Area C
EDTA	Stainless Steel - Grade 316	Area C
Copper Recovery	Stainless Steel - Grade 316	Area C
Waste Water Equalization	Fiberglass	Area D

capacity of 3,010 gallons. The other section will contain various chemicals, the largest tank having a capacity of 8,000 gallons. The required storage capacity equals 110% x 8,000, or 8,800 gallons. The curbing will provide a storage capacity of 12,100 gallons.

As noted on the drawing, both the curb that is to be constructed, the existing curb and the existing exposed concrete pad, are to be coated with a 10 mil surface of Preco-Tile. This material is a two component, 100% solids, high build thermosetting epoxy coating which can be applied by brush or roller. Preco-Tile has excellent chemical and abrasion resistance and can fill any cracked, pitted, spalled or uneven surfaces. Although no surface coating can fully protect a concrete pad that would be immersed in the various acidic chemicals, or combination of such chemicals stored in Area B, Preco-Tile can provide excellent protection for any occasional spills or tank failures that should occur. Manufacturer's literature provides the following chemical resistance data:

24 Hour Immersion @ 75 Degrees F

Nitric Acid - 10%	Unaffected
Sulfuric Acid - 10%	Unaffected
Hydrochloric Acid - 30%	Unaffected
Citric Acid - 15%	Unaffected
Phosphoric Acid - 85%	Unaffected

60 Day Immersion @ 75 Degrees F

Lye	Unaffected
Mineral Spirits	Unaffected
Gasoline	Unaffected
Fuel Oil	Unaffected
Hydraulic Fluid	Unaffected
Alcohol	Unaffected
Chlorox	Unaffected

Since any occasional chemical contact to the exposed surfaces would be properly cleaned up, Preco-Tile is a viable method of protecting the concrete. A typical concrete curb detail can be seen on Drawing No. 5 of 5.

To bond the new curbing to the existing concrete pad, Rockweld C, as manufactured by Preco, should be applied to the existing pad immediately before the curb is poured. This product is a structural adhesive which is unaffected by corrosive or chemical conditions. This will provide a watertight containment area.

Since Area B is an outdoor containment area, provisions must be made for storm water drainage. Since the purpose of the concrete curbing is to provide containment in the event of any chemical spills or tank failure, it would also contain any storm water. This situation can be solved by the addition of a section of flanged steel pipe (properly grouted into the curb) with a manually operated plug valve. Rain water can be allowed to drain out through the valve when necessary, but the valve will always be closed to prevent the leakage of any chemical

spillage. Plant personnel can make sure that these valves are closed at all times, except to allow storm water to drain. The containment area is already pitched towards the proposed valves, so any rain water will flow towards the valves. For a detail of this valve arrangement, see Drawing No. 2 of 5.

Once any rain water is allowed to pass through the valves, it will be contained by the berm (Area A) and flow towards the existing catch basins located near the main building (see Drawing No. 5 of 5).

Also, existing pumps for the chemical storage tanks are to be moved to the interior maintenance building, preventing them from being immersed in the event of any chemical spillage.

2. Bulk Chemical Storage Area C

Area C is an indoor bulk chemical storage area, as depicted on the drawings. The principal requirement to meet Part 360 regulations is to provide for the containment of any spills or tank failures that may occur. This area can be handled by the construction of an 18-inch concrete curb which will then provide storage for greater than 110 percent of the largest tank volume. The largest tank has a capacity of 5,500 gallons. The required storage capacity equals $110\% \times 5,500$, or 6,050 gallons. The curbing will provide a storage capacity of 6,400 gallons. A detail of a typical concrete curb is shown on Drawing No. 5 of 5. As is noted on Drawing No. 3 of 5, the concrete curb, existing concrete floor and existing concrete wall are to be

coated with two coats of Kopper's Bitumastic No. 300-M. This coating can be applied with a brush, roller or conventional air spray and is designed for the economical protection of chemical plant environments. Although Area C will be cleaned in the event of any spillage, manufacturer's literature explains that No. 300-M exhibits excellent resistance when submersed in chemical solutions, aliphatic hydrocarbons, acid solutions and alcohols. The cured coating also exhibits abrasion resistance.

As in Area B, the new curbing should be bonded to the existing concrete floor with Rockweld C, providing a watertight containment area.

3. Waste Treatment Facility, Area D

Area D is located within Butler No. II, as shown on the Site Plan. This is the location of the wastewater equalization tanks and the site for a future pretreatment system. The principal requirement for meeting Part 360 regulations is the containment in the event of tank spillage or failure. In Area D, this can be accomplished by the construction of a 6-inch concrete curb, as noted on Drawing No. 4 of 5. Also, 6-inch concrete ramps should be provided at the entrances to this area, which will provide storage for greater than 110 percent of the largest tank volume. The capacity of the largest storage tank is 15,000 gallons. The required storage capacity equals $110\% \times 15,000$, or 16,500 gallons. The ramps and curbing will provide a storage capacity of 21,200 gallons. Both the curbs and ramps

should be bonded to the existing floor with Rockweld C and coated with Bitumastic No. 300-M to provide a watertight containment area.

4. Drum Storage Area E

Area E, as noted on the Site Plan and detailed on Drawing No. 5 of 5, is the location for the storage of drums containing the wastewater sludge. Several conditions must be met to satisfy Part 360 regulations:

- a. Adequate spill control
- b. Waste drums should not be stacked more than two high and aisles should be provided so that all drums are accessible and clearly visible for inspection
- c. Wastes should be stored in a secure area
- d. Removal of wastes should be only by a registered industrial scavenger

Waste drum removal and other requirements are addressed in subsequent sections of this report.

For drum stacking, a maximum storage capacity of 500 drums has been provided by spacing pallets, as shown on Drawing No. 5 of 5, and accounting for the stacking of two pallets each. Each pallet will contain 4 drums. This spacing provides for easy access and visual inspection.

This drum storage area will be secured by the fact that a chain link fence surrounds the entire facility. Plant security is covered in a later section of this report.

Concerning spill control, a number of steps will be taken, as shown on the drawings. Area A, which is the truck loading area, is presently graded towards the catch basins which transport any drainage to the main sump and then to waste treatment. This will remain intact and includes a 6-inch asphalt berm, which will contain any spillage and direct it towards the catch basins. This can be seen on Drawing No. 5 of 5.

The remainder of the outdoor storage area (Area E) will be paved with a 5-inch reinforced concrete pad and graded toward the same catch basins. Since this pavement covers a large area and will meet existing buildings, expansion and contraction joints have been provided for in the design. All joints should be sealed with a waterstop, which will prevent any leakage in the case of a spill or drum rupture. To withstand any chemical attack and to provide surface abrasion resistance, the surface of this pad should be coated with Masterplate 200, as manufactured by Master Builders. This is a metallic surface hardener that is applied to the wet concrete surface, and when cured provides excellent surface characteristics. Continuous immersion in the wastewater sludges that will be present would present problems for any surface treatment, but since any spills will be cleaned up or drained off the surface to the catch basins, the Masterplate 200 is a viable alternative to an epoxy coating.

To provide for the containment of any spills, a 6-inch concrete curb will be constructed, as noted on the drawing. This

curb and the existing or proposed concrete block walls will provide storage capacity for greater than 30 percent of the total drum storage. The curbing and walls should be coated with Bitumastic No. 300-M, as shown on the drawing, and this will provide a watertight, corrosive resistant containment area.

The drums will contain a maximum of 27,500 gallons at any one given time. Required storage capacity equals $30\% \times 27,500$, or 8,250 gallons. Storage has been provided for 26,000 gallons.

OPERATION PROCEDURE

Basically, any storage drums will be filled in the wastewater treatment building (Area D). From there they will be placed on pallets, 4 drums per pallet, and brought to the drum storage area, where they will be stacked (two pallets maximum height) in an orderly manner, as shown on Drawing No. 5.

The drums will remain in this area until they are ready to be picked up for eventual disposal. The only authorized pick-ups will be made by a registered scavenger waste hauler. Records will be kept by Photocircuits concerning these pick-ups, in accordance with the RCRA manifest system.

Photocircuits' operational procedures for the loading and unloading of bulk chemicals can be found in the Appendix.

EMERGENCY CONTINGENCY PROGRAM

Photocircuits has developed a strategy to combat tank rupture or spillage. Each chemical containment area will have a contingency plan posted, and employees made aware of the location of the plan. The emergency procedure for each chemical containment area can be found in the Appendix and describes the required procedure as follows:

1. In case of any emergency - persons to be contacted and their telephone numbers.
2. For non-sudden releases (leaks, pump failure) - persons to be contacted and their telephone numbers.
3. Description of safety and control equipment.
4. Description of chemicals and their hazards.
5. What to do in case of sudden release or bodily contact.

In this manner, all leakage or spills will be contained and treated properly. All employees will be aware of the hazards involved and methods of dealing with them. Of course, the New York State Department of Environmental Conservation and/or the Nassau County Department of Health will be notified in the event of any emergency.

FIRE INSPECTION

The Fire Department will be kept aware of any potential hazards that might occur at Photocircuits. Therefore, a meeting will be arranged with officials of the Fire Department.

These officials will be given a set of the drawings, so that they will be aware of the plant layout and containment features. Photocircuits will make them aware of the various chemical hazards, noting any flammable items. The Fire Department officials will be given the opportunity to inspect the facility and offer any suggestions that they might have concerning emergency procedures.

In this way, any emergencies that should require assistance from the Fire Department will be dealt with in a swift and effective manner.

FACILITY SECURITY

Presently, Photocircuits is secured in such a way as to preclude the entry of any unauthorized personnel. The facility is enclosed by a chain link fence with a security gate at the main entrance. This security gate is of the sliding type, into which employees enter. Employees must have their identification card to insert into the card reader, which will then open the gate automatically. All visitors to the plant are checked at the main building lobby, and can only gain access to any of the plant facilities when accompanied by a member of the security staff. The plant buildings are secured by dead bolts and padlocks.

Therefore, only authorized scavenger waste haulers and chemical delivery trucks can be admitted to the storage area.

SITE CLOSURE

Pursuant to Federal regulations, Photocircuits will submit their site closure plan on May 19, 1981. It is important to note that since the drum storage will be on a concrete pad in a contained area, site closure will be a simple matter of having drums hauled away by a registered scavenger waste hauler. This differs from the case of a landfill, or other such area, that would have to be capped to prevent infiltration of contaminated rain water.

IMPLEMENTATION

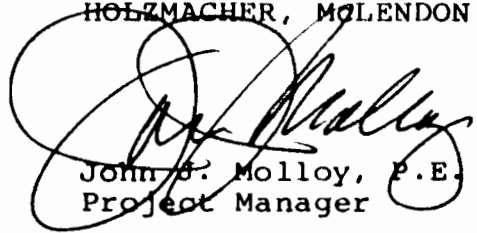
Photocircuits is currently in the process of having a wastewater pretreatment system installed within Area D. Major construction is anticipated to begin in late Spring - early Summer 1981, with a targeted completion date of September 1, 1981. In conjunction with this construction, Photocircuits will also construct the proposed improvements to meet Part 360 regulations. Therefore, the plant additions and modifications that have been recommended should commence in the Summer of 1981 and be completed by September 1, 1981. It should be noted that the sludge generation rate is currently rather minimal. The higher sludge generation rate will occur upon

startup of the pretreatment facilities. Therefore, the above implementation schedule will allow for completion of the sludge storage facilities when they will be required. .

Respectfully submitted,

HOLZMACHER, McLENDON & MURRELL, P.C.




John J. Molloy, P.E.
Project Manager

APPENDICES

1. Loading or Unloading of Bulk Chemicals
2. Contingency Plan - Drum Storage Area "B"
3. Contingency Plan - Bulk Chemical Storage Area "C"
4. Contingency Plan - Drum Storage Area "E"



PRINTED WIRING GROUP STANDARD

TITLE: Loading or Unloading of Bulk Chemicals

1.0 PURPOSE

The purpose of this standard is to define the steps to be taken when loading or unloading bulk chemical deliveries according to department of transportation regulations.

2.0 INITIAL ARRIVAL

2.1 Upon arrival all shipping papers are to be checked for the following:

- 2.1.1 Insure that the material listed on paperwork is the commodity that was ordered and that the destination is correct.
- 2.1.2 "Total quantity by weight, volume, or as otherwise appropriate must be shown".
- 2.1.3 Quantity of material in truck is to be checked against available space in storage tank to verify that it will all be contained.

2.2 A 500 ml sample is to be taken by the driver using a suitable stainless steel container. Under no circumstances is a sample to be accepted if sampling has not been witnessed.

2.3 The sample is to be tested to verify that the material is the same as described on shipping papers and that it meets all specifications.

2.4 The sample is now to be labeled and retained for further laboratory analysis. This sample should be kept for a minimum of three months.

3.0 HOOK UP

3.1 At this time the driver can be given permission to hook up.

3.2 Hook up point and appropriate valving is to be double checked to insure that the material is being discharged to its proper storage vessel.

		ADDITIVE PROCESS	
RELEASE DATE	COGNIZANT ENGINEER	SECTION	NUMBER
8/17/77	Joe Wilkeyson	M	101

- 3.3 "Metallic bonds or ground conductors shall be provided for the neutralization of possible static charges prior to and during the transfer of any flammable liquid".
- 3.4 Placards or signs are to be displayed around vehicle indicating to pedestrians and motorists to exercise caution when entering area.
- 3.5 "No hazardous material shall be loaded or unloaded from any motor vehicle unless the handbrake is securely set and all other reasonable precautions have been taken to prevent motion of the motor vehicle".
- 3.6 Record the start level of the tank receiving the material.
- 3.7 The driver may now be given permission to discharge.

4.0 DISCHARGE OF MATERIAL

- 4.1 "Unless the engine of the motor vehicle is to be used for operation of a pump, no flammable liquid shall be loaded or unloaded from any motor vehicle while the engine is running".
- 4.2 The driver is to be furnished with running water and a hose. In addition the nearest safety shower should be pointed out.
- 4.3 "Under no circumstances shall a tank motor vehicle be left unattended during the loading or unloading process".
- 4.4 No two tank motor vehicles are to be loaded or unloaded at the same time if their contents would create a serious hazard when mixed. This does not apply if the distance between the two motor vehicles is such that contact of spillages from both tank motor vehicles is impossible.
- 4.5 "Smoking on or about any motor vehicle while loading or unloading any flammable liquid, oxidizing material or compressed gas is forbidden". In addition "extreme care shall be taken... to prevent persons in the vicinity from smoking, lighting matches or carrying any flame or lighted cigar, pipe or cigarette".

5.0 DEPARTURE

- 5.1 Upon completion of delivery any spillages or leakage should be thoroughly washed away and approximate volume of loss noted on shipping papers. In the event of a major spillage appropriate personnel should be notified and area of spillage closed off.
- 5.2 Storage tank volume at the conclusion of the delivery is now to be taken and total quantity received calculated.
- 5.3 All valving is to be closed, caps replaced and hoses returned to their appropriate areas.
- 5.4 Driver may now be signed out.



PHOTOCIRCUITS
 DIVISION PRINTED WIRING GROUP STANDARD

ADDITIVE PROCESS		
SECTION	NUMBER	PAGE
M	101	2 of 3

REVISION HISTORY

CHANGE PARAGRAPH	CHANGE DATE	CHANGE DESCRIPTION	COGNIZANT ENGINEER	APPROVAL
	8/17/77	Original release.	J. Wilkeyson	<i>J. Wilkeyson</i> 8/18/77



PHOTOCIRCUITS

DIVISION PRINTED WIRING GROUP STANDARD

ADDITIVE PROCESS

SECTION	NUMBER	PAGE
M	101	3 of 3

CONTINGENCY PLAN

1. UNIT: Drum Storage Area - (Area "B")
2. In case of emergency - sudden rupture of storage tanks, fire or explosion, contact:
 1. Joe Shaulys - X 1235 or 443-1318 (home)
 2. Joe Wilkeyson - X 1396 or 744-6166 (home)
 3. Wally Dubicki - X 1057 or 448-1331 (home)
 4. PCK Emergency Team - X 79

*If necessary, the above will call:

 5. Fire Department* - 676-0366
 6. Police Department* - 676-1000
3. For non-sudden release - leaks, or pump failure, contact:
 - 3.1 Joe Wilkeyson - X 1396 or 744-6166 (home)
 - 3.2 Ziggy Dubicki - X 1055 or 212-347-9311 (home)
 - 3.3 Al Barberich - 1050 or 775-0258 (home)
4. Layout - See print.
5. Description of Safety and Control Equipment.
 - 5.1 Cellosolve acetate has built-in water spray fire extinguisher system.
 - 5.2 Tanks are labeled with NFPA - Hazardous Materials Classification Code indicating health hazard, flammability and reactivity.
 - 5.3 Spill containment mound around all tanks.
 - 5.4 Safety shower to decantaminate personnel.
 - 5.5 Emergency team phone dial 79.

6. Hazards Involved -

ACID

- 6.1 SULFURIC ACID - Causes serious burns, non-flammable, generates heat on contact with water. Dilutes with water.
- 6.2 HYDROCHLORIC ACID - Causes serious burns, vapors are hazardous, non-flammable, dilutes with water.
- 6.3 SODIUM PERSULFATE SOLUTIONS - Causes skin irritation, strong oxidizing agent, non-flammable, dilutes with water.

SOLVENT

- 6.4 METHYLENE CHORIDE - Toxic upon ingestion, can be absorbed by skin, vapors can produce dizziness, non-flammable, does not mix with water.
- 6.5 CELLOSOLVE ACETATE - Vapors harmful, Class III flammable, dilutes with water.
- 6.6 1,1,1,-TRICHLOROETHANE - Toxic upon ingestion, skin absorption may occur, vapors can produce dizziness, non-flammable, does not mix with water.

ALKALI

- 6.7 AMMONIA ETCHANT - Vapors harmful, causes serious alkali burns, non-flammable, mixes and dilutes with water. Dilution tends to spread vapors.

7. In Case of Sudden Release -

- 7.1 Sprayed individuals must shower immediately.
- 7.2 Acids - Collected in dike should be diluted with water and neutralized with alkali.
Alkali - Collected in dike should be diluted with water and neutralized with acid.
- 7.3 Solvents are to be pumped into a secondary storage tank or drums. Material should be redistilled and used in production.
For non-sudden release -
- 7.4 Small spills or leaks should be dried up with sawdust and disposed of with hazardous waste.

CONTINGENCY PLAN

1. UNIT: Bulk Chemical Storage - Inside (Area "C")
2. In case of emergency - sudden rupture of storage tanks, fire or explosion, contact:
 1. Joe Shaulys - X 1325 or 443-1318 (home)
 2. Joe Wilkeyson - X 1396 or 744-6166 (home)
 3. Wally Dubicki - X 1057 or 448-1331
 4. PCK Emergency Team - X 79

*If necessary, the above will call

 5. Fire Department* - 676 0366
 6. Police Department* - 676-1000
3. For non-sudden release - leaks, or pump failure, contact:
 - 3.1 Joe Wilkeyson - X 1396 or 744-6166 (home)
 - 3.2 Ziggy Dubicki - X 1055 or 212 347-9311(home)
 - 3.3 Al Barberich - X 1050 or 755-0258 (home)
4. Layout - see print.
5. Description of Safety and Control Equipment -
 - 5.1 Tanks are labeled with NFPA - Hazardous Materials Classification Code indicating health hazard, flammability and reactivity.
 - 5.2 Spill containment mound around all tanks.
 - 5.3 Safety shower to decontaminate personnel.
 - 5.4 Emergency team phone dial 79.
 - 5.5 Fire extinguishers.

6. Hazards Involved -

- 6.1 Sodium Hydroxide - Caused serious burns, non-flammable, generates heat on contact with water.
- 6.2 Formaldehyde - Toxic if ingested, inhalation harmful (Use self contained breathing apparatus), absorption thru the skin may occur, flammable, mixes and dilutes with water.
- 6.3 Copper sulfate - Toxic if ingested, non-flammable, dilutes with water.

7. In case of sudden release -

- 7.1 Sprayed individuals must shower immediately
- 7.2 Alkali must be diluted with water then neutralized with acid. Material should then be pumped to waste treatment.
- 7.3 Formaldehyde - Dilute with large quantities of water. Material should then be transferred to waste treatment.
- 7.4 Copper sulfate should be transferred into a suitable tank and reclaimed.

For non-sudden release -

- 7.5 Small spills and leaks should be absorbed with sawdust and disposed of with hazardous waste.

CONTINGENCY PLAN

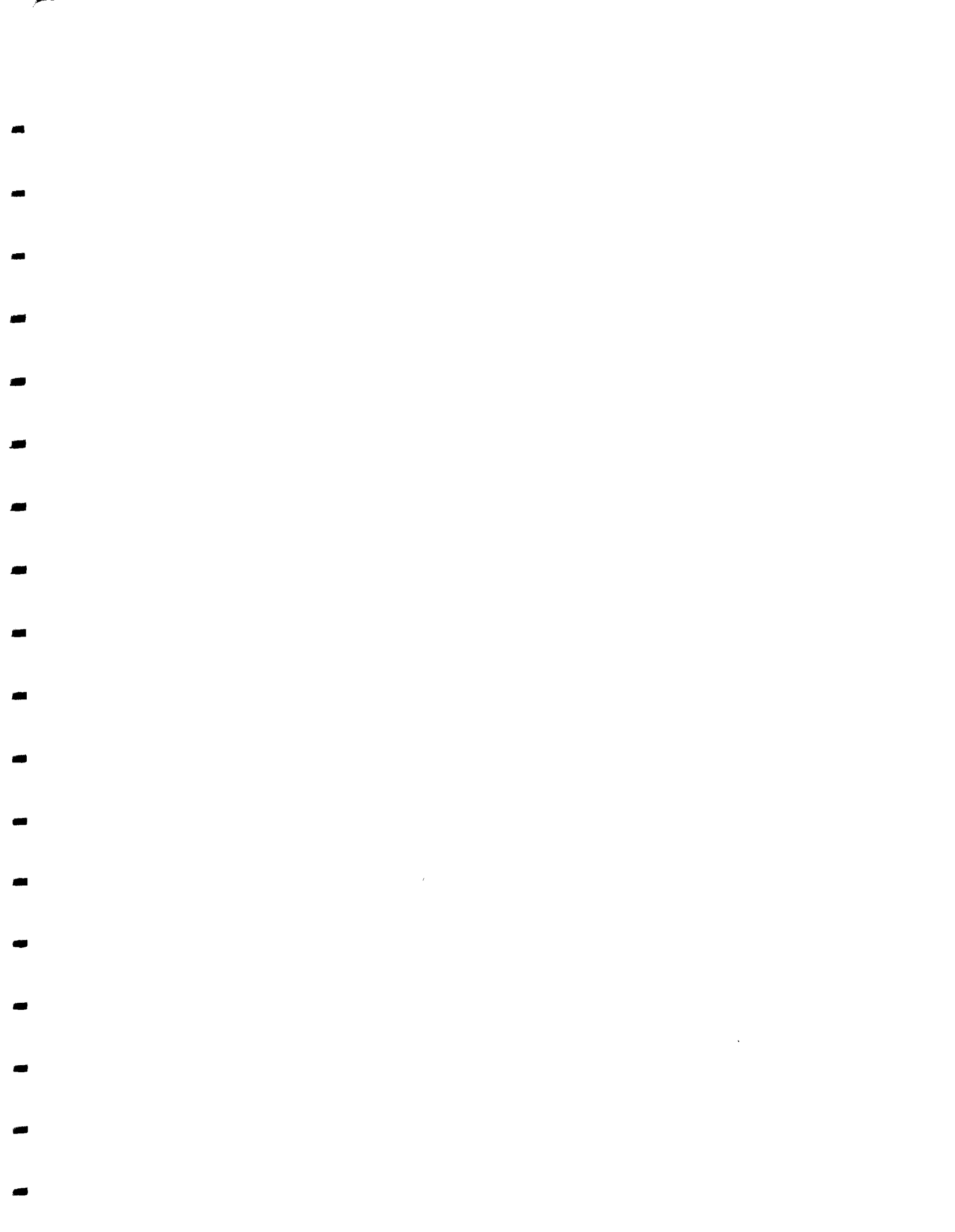
1. UNIT: Drum Storage Area - (Area "E")
2. In case of emergency - sudden rupture of storage tanks, fire or explosion, contact:
 1. Joe Shaulys - X 1325 or 443-1318 (home)
 2. Joe Wilkeyson - X 1396 or 744-6166 (home)
 3. Wally Dubicki - X 1057 or 448-1331 (home)
 4. PCK Emergency Team - X 79

*If necessary, the above will call

 5. Fire Department* - 676 0366
 6. Police Department* - 676-1000
3. For non-sudden release - leaks, or pump failure, contact:
 - 3.1 Joe Wilkeyson - X 1396 or 744- 6166 (home)
 - 3.2 Ziggy Dubicki - X 1055 or 212 347-9311 (home)
 - 3.3 Al Barberich - X 1050 or 755-0258 (home)
4. Layout - See print.
5. Description of Safety and Control Equipment -
 - 5.1 Drums are placed on skids to minimize corroding drums.
 - 5.2 Area is diked to prevent spread of spill.
 - 5.3 Safety shower to decontaminate personnel. (Valve inside old shower in "E" area).
 - 5.4 Daily inspection of drums.
6. Hazards involved -
 - 6.1 Metallic Hydroxide and Sulfide Sludges - May cause irritation, toxic if ingested, non-flammable, dilutes with water.
 - 6.2 Chlorinated Solvent Still Bottoms - Toxic if ingested, skin absorption may occur, vapors harmful, non-flammable, does not mix well with water.

7. In case of sudden release -

- 7.1 Sprayed individuals must shower immediately.
- 7.2 Hydroxide and Sulfide Sludges - Must be mixed with sawdust and shoveled back into new drums for disposal and sent to a secured landfill.
- 7.3 Still bottoms must be mixed with sawdust and shoveled back into new drums for disposal and sent to a secured landfill.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT PERMIT REQUIREMENT QUESTIONNAIRE

The purpose of this questionnaire is to assist the applicant in determining what if any Department Permits or approvals must be obtained before starting work on a proposed project. If you are not sure if the action proposed is a regulated activity or is within an area subject to Department regulations (tidal wetlands, freshwater wetlands, etc.) contact our regional office for clarification. A pre-application conference with our staff to obtain guidance in the Department's permit application review process can be arranged.

ANSWER ALL QUESTIONS

NAME OF APPLICANT: Photocircuits - Division of Kollmorgen Corp.

DETAILED PROJECT DESCRIPTION & LOCATION: Bulk Chemical Storage and

Solid Waste Storage Facilities located on Glen Cove -

Massapequa Highway in Glen Cove, Nassau County, New York.

	<u>YES</u>	<u>NO</u>	<u>NOT KNOWN</u>
1. <u>Realty Subdivision Approvals in Nassau County</u> Does project involve subdivision of land into 5 or more residential lots that will be served by a public or community sewage disposal system?	---	X	---
2. <u>Mining Permit</u> Does project involve the mining and commercial sale or off-site use of 1,000 tons of mineral within 12 calendar months (excepting excavation or grading in connection with on site construction or farming)?	---	X	---
3. <u>Air Contamination Permit</u> a) <u>New or Modified Sources:</u> Does project involve the construction, modification or operation of a boiler greater than 1 million BTU/hr rated heat input, an incinerator or an industrial process.	---	X	---
b) <u>Indirect Source:</u> Does project involve construction or modification of a highway, airport or a parking facility with 200 or more spaces?	---	X	---
4. <u>Solid Waste Management Permit</u> Does project involve the storage, transfer, processing or disposal of solid waste?	X	---	---
5. <u>Wild, Scenic & Recreational Rivers Permit</u> Only applies to certain lands within a 1/2 mile of the Carausus River. Consult D.E.C. Regional Office for exact determination.	---	X	---
6. <u>Water Supply Permit</u> Does project involve the acquisition of land or construction of facilities for water supply or distribution purposes?	---	X	---
7. <u>Long Island Well Permit</u> a) Does project involve the construction of a new well or deepening or increasing the capacity of an existing well to withdraw water at a rate greater than 45 gallons a minute?	---	X	---
b) Will project require the temporary lowering of groundwater levels for construction purposes?	---	X	---

APPENDIX B

SHORT ENVIRONMENTAL ASSESSMENT FORM

INSTRUCTIONS:

(a) In order to answer the questions in this short EAF it is assumed that the preparer will use currently available information concerning the project and the likely impacts of the action. It is not expected that additional studies, research or other investigations will be undertaken.

(b) If any question has been answered Yes the project may be significant and a completed Environmental Assessment Form is necessary.

(c) If all questions have been answered No it is likely that this project is not significant.

(d) Environmental Assessment

- 1. Will project result in a large physical change to the project site or physically alter more than 10 acres of land? Yes X No
2. Will there be a major change to any unique or unusual land form found on the site? Yes X No
3. Will project alter or have a large effect on an existing body of water? Yes X No
4. Will project have a potentially large impact on groundwater quality? Yes X No
5. Will project significantly effect drainage flow on adjacent sites? Yes X No
6. Will project affect any threatened or endangered plant or animal species? Yes X No
7. Will project result in a major adverse effect on air quality? Yes X No
8. Will project have a major effect on visual character of the community or scenic views or vistas known to be important to the community? Yes X No
9. Will project adversely impact any site or structure of historic, pre-historic, or paleontological importance or any site designated as a critical environmental area by a local agency? Yes X No
10. Will project have a major effect on existing or future recreational opportunities? Yes X No
11. Will project result in major traffic problems or cause a major effect to existing transportation systems? Yes X No
12. Will project regularly cause objectionable odors, noise, glare, vibration, or electrical disturbance as a result of the project's operation? Yes X No
13. Will project have any impact on public health or safety? Yes X No
14. Will project affect the existing community by directly causing a growth in permanent population of more than 5 percent over a one-year period or have a major negative effect on the character of the community or neighborhood? Yes X No
15. Is there public controversy concerning the project? Yes X No

PREPARER'S SIGNATURE:

[Handwritten signature]

TITLE: Project Manager

REPRESENTING:

Photocircuits

DATE: March 19, 1981

**APPLICATION FOR APPROVAL TO OPERATE
A SOLID WASTE MANAGEMENT FACILITY**

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY

PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	DATE

1. OWNER'S NAME Photocircuits- Div. of Kollmorgen Corp.	2. ADDRESS (Street, City, State, Zip Code) 31 Sea Cliff Ave., Glen Cove, NY 11542	3. Telephone No. (516)448-1000
4. OPERATOR'S NAME Joseph Shaulys	5. ADDRESS (Street, City, State, Zip Code) 31 Sea Cliff Ave., Glen Cove, NY 11542	6. Telephone No. (516)488-1000
7. ENGINEER'S NAME John J. Molloy, P.E.	8. ADDRESS (Street, City, State, Zip Code) 125 Baylis Rd., Melville, NY 11747	9. Telephone No. (516)752-9060
10. ON-SITE SUPERVISOR Joseph Shaulys	11. ADDRESS (Street, City, State, Zip Code) 31 Sea Cliff Ave., Glen Cove, NY 11542	12. Telephone No. (516)448-1000

13. HAS THE INDIVIDUAL NAMED IN ITEM 10 ATTENDED A DEPARTMENT SPONSORED OR APPROVED TRAINING COURSE?
 Yes Date Course Title Location No

14. PROJECT/FACILITY NAME Photocircuits	15. COUNTY IN WHICH FACILITY IS LOCATED Nassau	16. ENVIRONMENTAL CONSERVATION REGION Region I
--	---	---

17. TYPE OF PROJECT FACILITIES: Composting Transfer Shredding Baling Sanitary Landfill Incineration Pyrolysis
 Resource Recovery-Energy Resource Recovery-Materials Other Chemical Storage

18. HAS THIS DEPARTMENT EVER APPROVED PLANS AND SPECIFICATIONS AND/OR ENGINEERING REPORTS FOR THIS FACILITY? Yes Date No

19. LIST WASTES NOT ACCEPTED

N/A

20. BRIEFLY DESCRIBE OPERATION

Reference Engineering Report dated March 1981.

21. IF FACILITY IS A SANITARY LANDFILL, PROVIDE THE FOLLOWING INFORMATION:

a. Total useable area: (Acres) Initially <u> </u> Currently <u> </u>	b. Distance to nearest offsite, downgradient, water supply well <u> </u> Feet	c. No. of groundwater monitoring wells Upgradient <u> </u> Downgradient <u> </u>
---	--	---

22. INDICATE WHICH ATTACHMENTS, IF ANY, ARE INCLUDED WITH THIS APPLICATION:

Form 47-19-2 or SW-7 Operations Plan & Report USGS Topographic Map Record Forms
 Construction Certificate Boring Logs Water Sample Analysis None Other

23. CERTIFICATION:
 I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

March 19, 1981 John J. Molloy, P.E. Proj. Mgr.
 Date Signature and Title

APPLICATION FOR APPROVAL TO CONSTRUCT A SOLID WASTE MANAGEMENT FACILITY

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION	DATE
<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

1. OWNER'S NAME Photocircuits- Div. of Kollmorgen Corp.	2. ADDRESS (Street, City, State, Zip Code) 31 Sea Cliff Ave., Glen Cove 11542	3. Telephone No. (516) 448-1000
4. OPERATOR'S NAME Joseph Shaulys	5. ADDRESS (Street, City, State, Zip Code) 31 Sea Cliff Ave., Glen Cove 11542	6. Telephone No. (516) 448-1000
7. ENGINEER'S NAME John J. Molloy, P.E.	8. ADDRESS (Street, City, State, Zip Code) 125 Baylis Rd., Melville, NY 11747	9. Telephone No. (516) 752-9060

10. TYPE OF PROJECT FACILITIES:

Composting Transfer Shredding Baling Sanitary Landfill Incineration
 Pyrolysis Resource Recovery-Energy Resource Recovery-Materials Other Chemical Storage

11. Briefly describe the project including the basic process and major components:

Reference: Engineering Report dated March 1981.

12. Describe location of facility. (Attach a USGS Topographic Map showing the exact location of the facility)

Reference: Engineering Report dated March 1981.

13. County in which facility is located: <u>Nassau</u>	14. Environmental Conservation Region in which facility is located: <u>Region I</u>
15. Municipalities Served by Facility <u>None</u>	County <u>Nassau</u>
	No. of Municipalities <u>0</u>

16. Describe briefly how the proposed facility relates to the Comprehensive Solid Waste Management Plan for the Municipality. Explain any deviation from that Plan.

N/A

17. If the facility is other than a sanitary landfill, describe the residues in terms of quantities and types. Also indicate the methods and locations of residue disposal or, if recyclable, indicate markets:

Refer to Engineering Report

18. If the facility is a sanitary landfill, provide the following information:

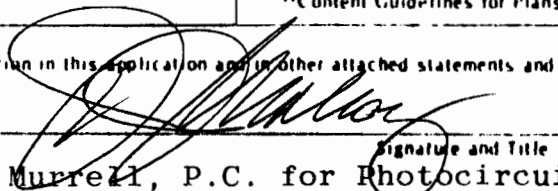
a. Total useable area - _____ Acres	e. Distance to nearest airport - _____ miles
b. Distance to nearest surface water - _____ Feet	f. Expected life of site - _____ years
c. Depth to nearest ground water - _____ Feet	g. Is site on a flood plain? <input type="checkbox"/> Yes _____ Year Flood <input type="checkbox"/> No
d. Depth to nearest rock - _____ Feet	h. Predominant type of soil on site: _____ (Use Unified Soil Classification System)

19. Anticipated construction starting and completion dates: From <u>6/1/81</u> To <u>9/1/81</u>	20. Estimated Population Served Current <u>N/A</u> Design _____
21. Estimated Cost Initial <u>\$30,000</u> Annual <u>\$40,000 per year</u>	22. Estimated Daily Tonnages of Solid Waste Current <u>0.1 tons per day</u> Design <u>1 ton per day</u>
23. Operating Hours per Day <u>24</u>	24. Are attached plans and specifications in substantial conformance with "Content Guidelines for Plans and Specifications"? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

5. CERTIFICATION:

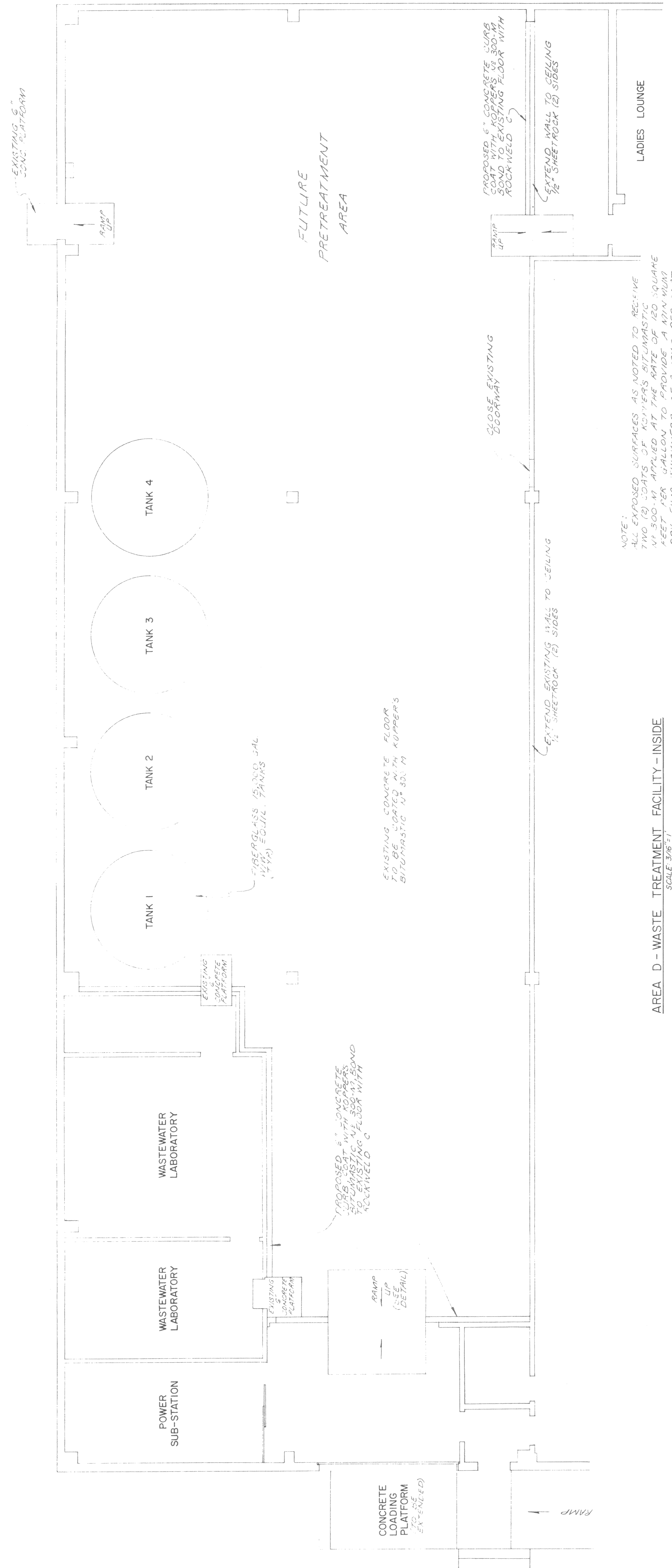
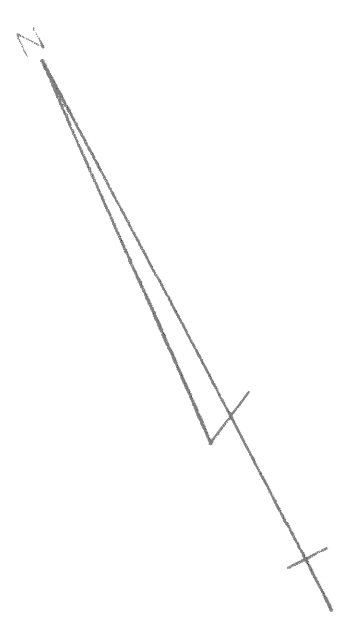
The undersigned does hereby certify that the information in this application and in other attached statements and exhibits is true, correct and complete to the best of his knowledge and belief.

March 19, 1981
Date


Signature and Title

Project Manager

Holzmacher, McLendon & Murrell, P.C. for Photocircuits-Div. of Kollmorgen Corp.



NOTE:
 ALL EXPOSED SURFACES AS NOTED TO RECEIVE TWO (2) COATS OF KOPPER'S BUTYRATIC N° 300-M APPLIED AT THE RATE OF 180 SQUARE FEET PER GALLON TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 8 MILS PER COAT. THIN FIRST COAT 15% WITH KOPPER'S THINNER 2,000. WALLS TO BE COATED TO A HEIGHT OF 6 INCHES.
 ALL CURB JOINTS (AS REQD) TO BE WATERSTOPPED.

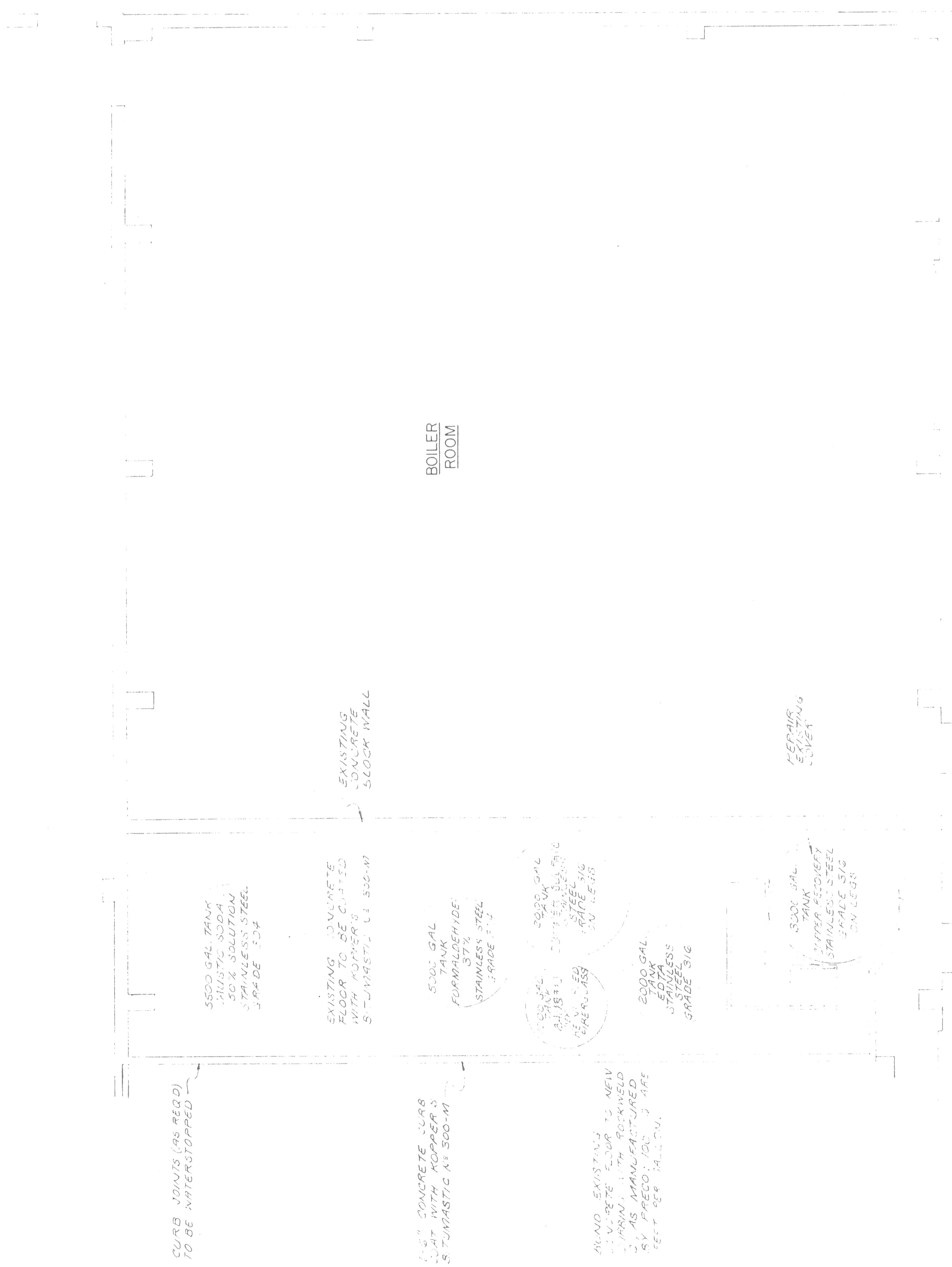
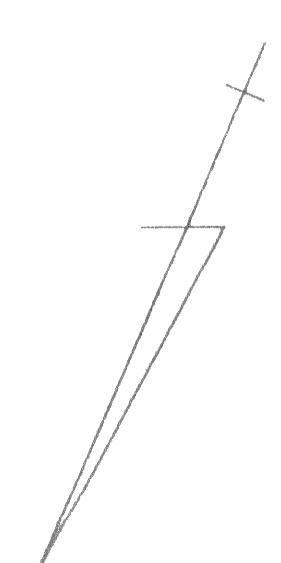
AREA D - WASTE TREATMENT FACILITY - INSIDE
 SCALE: 3/16" = 1'

COAT TO EXISTING FLOOR WITH POLYURETHANE MANUFACTURED BY ARCO

EXISTING FLOOR
 1/4" THICK POLYURETHANE MANUFACTURED BY ARCO

DETAIL OF CONTAINMENT RAMP
 1/2" = 1'-0"

Drawn By: J.T.M.	Drawing No: PHTC-80-0-4	PHOTOCIRCUITS, DIV. OF KOLLMORGEN CORP.
Checked By: J.T.M.	Scale: AS SHOWN	PART 360 SOLID WASTE FACILITY PERMIT
Designed By: J.T.M.	Date: MARCH, 1981	Consulting Engineers Environmental Scientists Planners
Revised By:	Revisions:	
Holzmachner, McLendon & Murrell, P.C./H2M Corp. Melville, N.Y. Riverhead, N.Y. Farmingdale, N.Y.		516 694-3040 516 727-3480 516 752-3060 516 694-3410 201 783-9547
Sheet Title: WASTE TREATMENT FACILITY - AREA D Sheet: 4 OF 5		ALTERNATION OF THIS DOCUMENT IS ILLEGAL LICENSED PROFESSIONAL ENGINEER, E.I.C. 11142



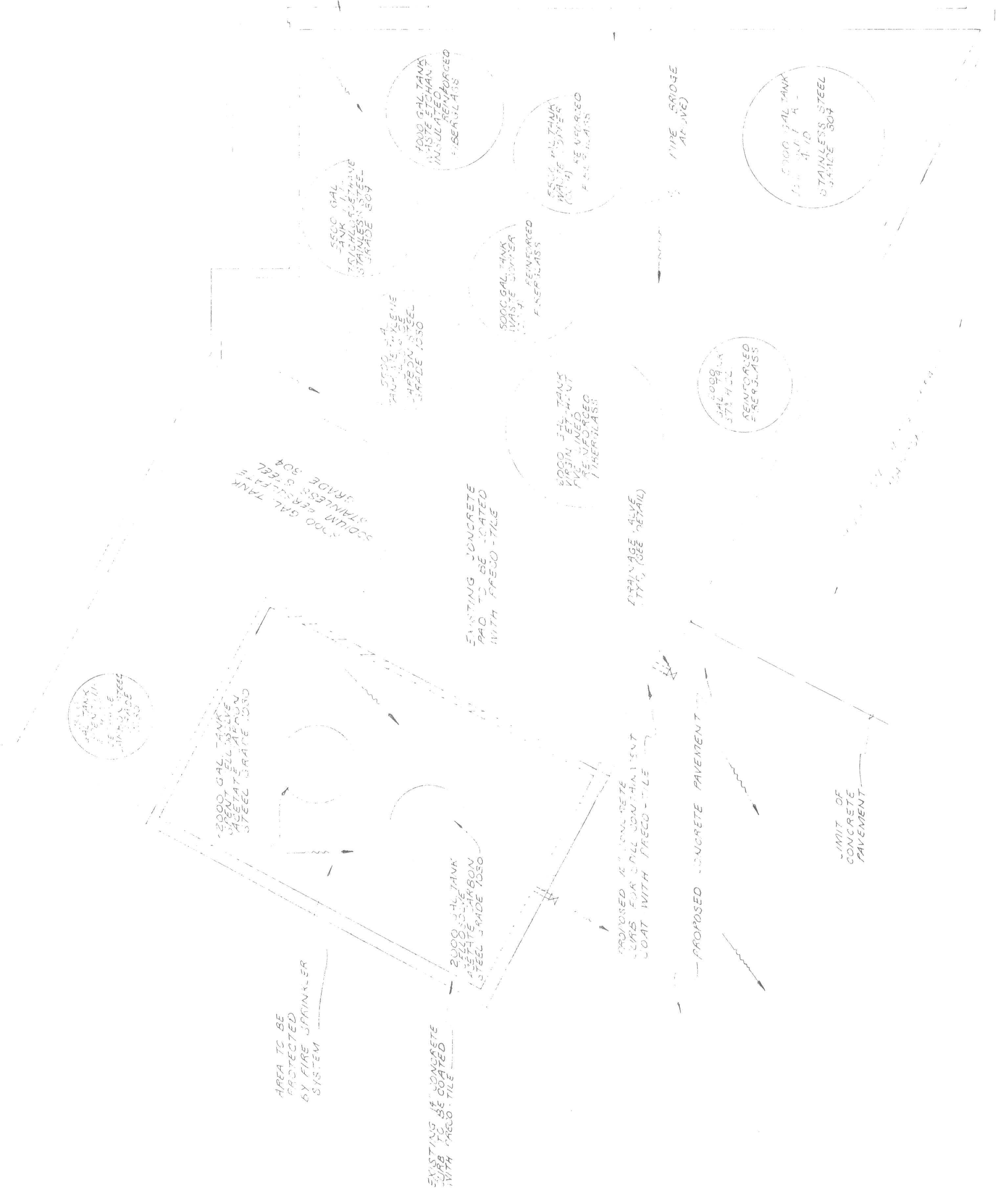
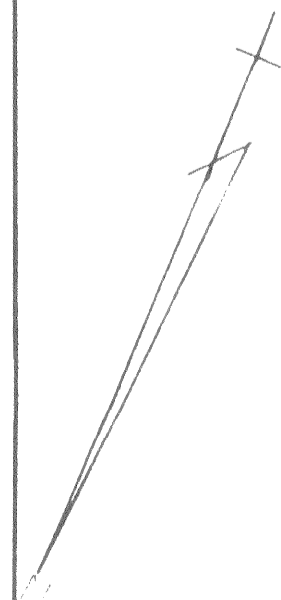
NOTE:
 UNPAINTED SURFACES TO RECEIVE TWO (2)
 COATS OF CORNERS STAINLESS STEEL 300-M
 FINISHED AT A RATE OF 10 SQUARE FEET
 PER GALLON TO PROVIDE A MINIMUM DRY FILM
 THICKNESS OF 8 MILS PER COAT. THIN FIRST
 COAT IS 1/2\"/>

BOILER ROOM

AREA C - BULK CHEMICAL STORAGE - INSIDE
 SCALE 1/4" = 1'

Drawn By: J.P.	Drawing No: PHTC-80-01-3
Checked By: J.P.	Scale: AS SHOWN
Reviewed By: J.P.	Date: MARCH, 1981
REVISIONS	

PHOTOCIRCUITS, DIV. OF KOLLMORGEN CORP.	
PART 360 SOLID WASTE FACILITY PERMIT	
	
Holzmacher, McLendon & Murrell, P.C./H2M Corp. Metairie, N.Y. Riverhead, N.Y. Farmingdale, N.Y. Newton, N.J.	
Sheet Title: BULK CHEMICAL STORAGE AREA C	Sheet: 3 OF 5



CURB COUNTS (AS REQ'D) TO BE WATERSTOPPED.

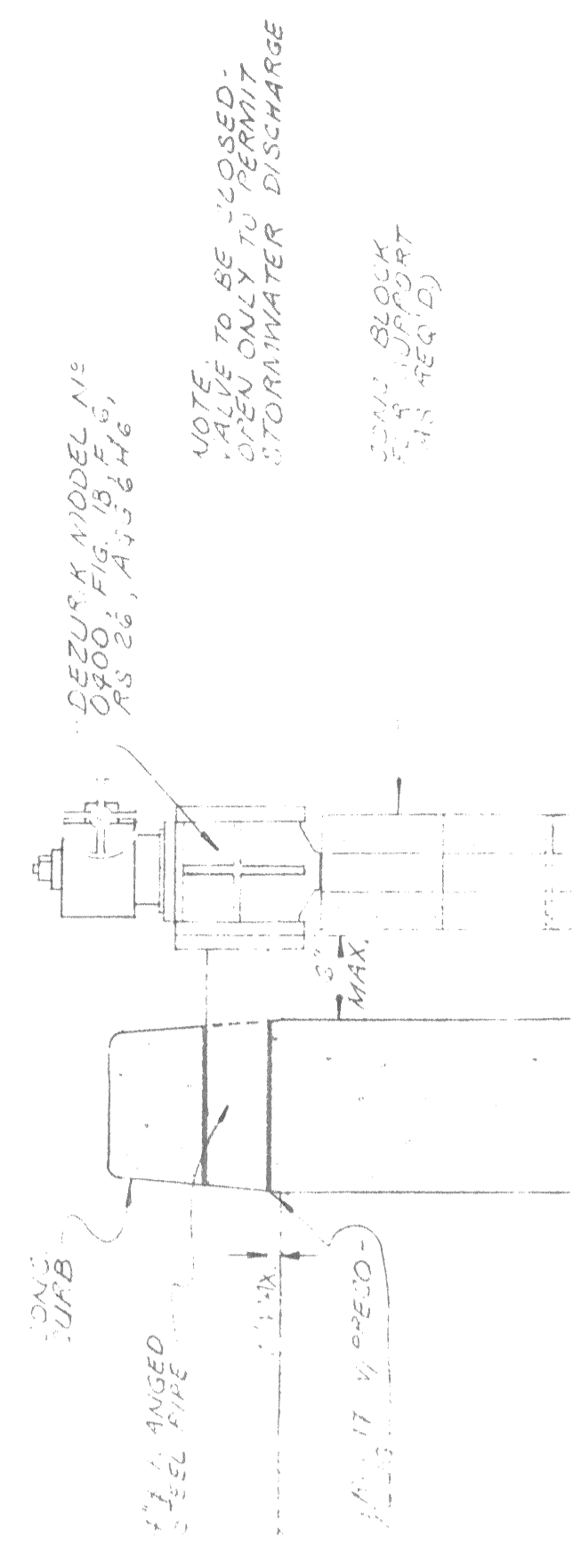
BUILD EXISTING CONCRETE TO NEW CURBS WITH 4\"/>

NOTE:
 1. ALL EXPOSED SURFACES TO RECEIVE ONE (1)\"/>

AREA B - BULK CHEMICAL STORAGE - OUTSIDE
 SCALE 1/4\"/>

LEGEND

--- STORMWATER RUNOFF



DRAINAGE VALVE DETAIL
 (NO SCALE)

Drawn By	PHTC-BO-01-2	Drawing No.
Checked By	SCALE SHOWN	Scale
Reviewed By	DATE	DATE
By	MARCH, 1981	Revisions

PHOTOCIRCUITS, DIV OF KOLLMORGEN CORP.

PART 360 SOLID WASTE
 FACILITY PERMIT



Consulting Engineers
 Environmental Scientists
 Planners

Holzmacher, McLendon & Murrell, P.C./H2M Corp.
 Newton, N.J.
 Rutherford, N.J.
 Farmingdale, N.Y.

SEA CLIFF AVENUE

GLEN COVE

MASSAPEQUA HIGHWAY

MAIN BUILDING
1 STORY BRICK & CONCRETE BLOCK

2 STORY MASONRY EXTENSION

DIFFUSION WELLS (4)

PROG. CONC. CURB

DRUM STORAGE PAD STORAGE AREA (SEE SHEET 5 OF 5)

LIFE LIFT ON WELLS

TO CITY GENERATOR

SANITARY & INDUSTRIAL WASTE

TO CITY GENERATOR

PIPE STAMPER W/50' HIGH FEED

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

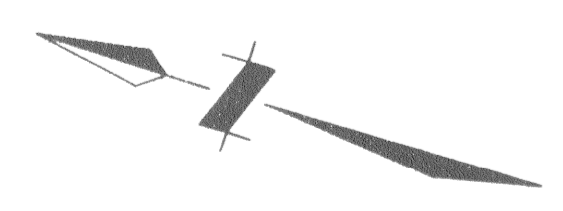
TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR

TO CITY GENERATOR



LOCATION MAP
SCALE 1" = 2000

CHEMICAL STORAGE AREAS

- A: CONTAINMENT BERM - OUTSIDE SEE SHEET NO 5
- B: BULK CHEMICAL STORAGE - OUTSIDE SEE SHEET NO 2
- C: BULK CHEMICAL STORAGE - INSIDE SEE SHEET NO 3
- D: WASTE TREATMENT FACILITY - INSIDE SEE SHEET NO 4
- E: DRUM STORAGE AREA - OUTSIDE SEE SHEET NO 5

LEGEND

- S- SANITARY DRAIN
- CS- COOLING WATER SUPPLY
- CR- COOLING WATER RETURN
- M- MUNICIPAL WATER SUPPLY
- FS- FIRE SERVICE

SITE PLAN
SCALE 1" = 50'

Drawn By: A.M.	Drawing No: PHIC-80-01-1
Checked By: A.M.	Revised As Shown
Reviewed By:	Date: MARCH, 1981
Revisions:	

PHOTOCIRCUITS, DIV. OF KOLLMORGEN CORP.

PART 360 SOLID WASTE FACILITY PERMIT

Holzmachner, McLendon & Murrell, P.C./H2M Corp.
Melville, N.Y. Riverhead, N.Y. Farmingdale, N.Y. Newton, N.J.

Consulting Engineers
Environmental Scientists
Planners

Sheet Title
SITE PLAN & LOCATION MAP

Sheet
1 OF 5