California Environmental Protection Agency
Department of Toxic Substances Control

DRAFT

Standardized Hazardous Waste Facility Permit
Series A

Facility Name and Location:
Lighting Resources, LLC
805 East Francis Street
Ontario, CA 91761

Facility Owners:
Lighting Resources, LLC
805 East Francis Street
Ontario, CA 91761

Thumos, LLC
4054 Mission Boulevard
Montclair, CA 91763

Facility Operator:
Lighting Resources, LLC
805 East Francis Street
Ontario, CA 91761

Facility EPA ID No.:
CAR 000 156 125

Effective Date of Permit:

_____

Expiration Date of Permit:

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Pursuant to Section 25201.6 of the California Health and Safety Code, this Series A Standardized Hazardous Waste Facility Permit, (Permit), is hereby issued to Lighting Resources, LLC. The issuance of this Permit is subject to the terms and conditions set forth in Attachment "A" and the Standardized Permit Application dated October 23, 2006. The Permit consists of 37 pages, including the cover page and Attachment "A".

Mohinder S. Sandhu, P.E., Chief
Standardized Permitting and
Corrective Action Branch

Date:

STANDARDIZED HAZARDOUS WASTE FACILITY PERMIT
ATTACHMENT "A"

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STANDARDIZED HAZARDOUS WASTE FACILITY PERMIT
ATTACHMENT "A"

Lighting Resources, LLC
805 East Francis Street
Ontario, California 91761

PART I. DEFINITIONS

All terms used in this Permit shall have the same meaning as those terms have in the California Health and Safety Code, division 20, chapter 6.5 and the California Code of Regulations, title 22, division 4.5, unless expressly provided otherwise by this Permit.

1. "DTSC" as used in this Permit means the California Department of Toxic Substances Control.

2. "Permittee" as used in this Permit means the Owner and Operator.

3. "Facility" or "Hazardous Waste Facility" as used in this Permit means all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage, resource recovery, disposal or recycling of hazardous waste. A hazardous waste facility may consist of one or more treatment, transfer, storage, resource recovery, disposal or recycling operational units or combinations of these units.

   For the purpose of implementing corrective action under the California Code of Regulations, title 22, division 4.5, hazardous waste facility includes all contiguous property under the control of the owner or operator required to implement corrective action.

PART II. - DESCRIPTION OF THE FACILITY AND OWNERSHIP

1. FACILITY OWNERS:

The owners of the facility are Lighting Resources, LLC at 805 East Francis Street, Ontario, California 91761; and Thumos, LLC, 4054 Mission Boulevard, Montclair, California 91763 (hereafter “Owners”).

2. OPERATOR:

The facility operator is Lighting Resources, LLC (hereafter “LRL”).

3. LOCATION:

The Lighting Resources facility (hereafter the Facility) is located at 805 East Francis Street, Ontario, California 91761, in San Bernardino County at latitude 34 degrees 02' 30" and longitude 117 degrees 30' 15". The Facility is located in an area zoned for light industrial use on Book 1050, Page 22, Parcel No. 4 of the San Bernardino County Assessor’s Map. The legal description of the property is as follows: Parcel Map 81, Parcel No. 1.

4. DESCRIPTION:

(a) General Description

LRL has been operating under a Standardized Hazardous Waste Facility Permit, Series A, issued June 24, 1996, which authorized LRL to operate as an off-site hazardous waste treatment and storage facility (Figure 1 and Figure 2).

LRL, which is also a registered hazardous waste transporter, collects and transports spent fluorescent lamps, High Intensity Discharge (HID) lamps, other spent mercury-containing lamps, mercury-containing instruments (e.g. manometers) and intact, non-leaking, PCB-containing lighting ballasts to its Facility. The collection of mercury-containing instruments is incidental to the primary lamp recycling operations. LRL also accepts the above described wastes from other transporters. The hazardous waste management activities occur mainly inside a warehouse building, storage trailers, and paved area outside of the warehouse building. The warehouse building is comprised of sealed and latex-painted concrete slab floor and block walls. The lighting waste is unloaded manually or by forklift and stored in the Lamp Storage Area, the HID Storage Area or the Trailer Storage Area, which consists of six fully enclosed trailers located outside the Facility warehouse. Incoming PCB-containing ballasts are stored in closed 55-gallon drums within plastic secondary containment pallets in the Hazardous Waste Storage Area, prior to shipment off-site.

LRL’s fluorescent lamp recycling process utilizes a Lamp Machine into which

lamps are manually fed. The machine processes straight fluorescent lamps of variable length by crushing the lamps between a set of breaker bars and a slotted anvil inside the machine body. The entire system is under a slight vacuum which keeps the lamp disassembly process under a negative pressure and prevents phosphor dust and mercury vapor from escaping and contaminating the surrounding atmosphere. As the lamps are crushed, the phosphor powder is deposited in a 55-gallon drum located in the Filter Room. The aluminum end caps, glass and residual mercury-containing phosphor powder are deposited in collection containers located outside the Facility warehouse.

LRL also operates two HID glove boxes (which comprise the HID Glove Box processing unit) to manually disassemble and recover mercury-containing powders from HID lamps, “compact fluorescent lamps” (lamps with ballasts physically attached), U-tube lamps, waste water treatment lamps, copy machine lamps and mercury-containing instruments. The entire HID Glove Box processing unit is under vacuum from the Facility’s regular vapor recovery unit.

Most hazardous waste recycling activities are conducted inside the Facility's building. However, the collection of lamp components (crushed glass, aluminum end caps and mercury-containing phosphor powder) from the Lamp Machine and distribution into separate storage containers takes place on the paved area outside the building. Any hazardous waste that cannot be processed through the Facility’s recycling processes is placed in DOT-approved transport containers and manifested to an authorized treatment or disposal facility or returned to the generator.

(b) Listing of units regulated by this permit

Note: The units listed below are as designated in the Property Layout and Exterior Storage Areas and the Facility Plot Plan, which are attached hereto and incorporated by this reference as Figures 1 and 2.

(1) Lamp Machine

(2) HID Glove Box

(3) Lamp Storage Area

(4) HID Storage Area

(5) Hazardous Waste Storage Area

(6) Trailer Storage Area

5. FACILITY SIZE AND TYPE FOR FEE PURPOSES

This Facility is categorized as a “Series A Standardized Permit” Facility pursuant to Health and Safety Code, section 25201.6(a)(1)(B & E), for the purposes of calculating permit activity fees and yearly facility fees (Health & Saf. Code §25205.19).

PART III. GENERAL CONDITIONS

1. PERMIT APPLICATION DOCUMENTS

The Standardized Permit Application, dated October 23, 2006, is hereby approved and referred to as the "Approved Application." A list of all sections of the Standardized Permit Application is included as Appendix 1. The Approved Application is, by this reference, made part of this Permit.

2. EFFECT OF PERMIT

(a) The Permittee shall comply with the provisions of chapter 6.5 of division 20 of the Health and Safety Code and division 4.5 of title 22 of the California Code of Regulations, as well as all the terms and conditions of this Permit, and shall conduct all hazardous waste management activities and all Facility operations as they are described in the Approved Application. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. In particular, the Permittee shall obtain the permits required by other governmental agencies at the federal, State, and local levels under the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the Facility. If there is overlap in the requirements imposed by any of the above permits, the most protective or stringent requirement, as determined by DTSC, shall apply.

(b) The Permittee is permitted to transfer, store, and treat hazardous waste in accordance with the conditions of this Permit as specified in Part IV and Part V of this Permit. Any transfer, treatment, or storage of hazardous wastes not specifically authorized in Part IV or not listed in Part V of this Permit is strictly prohibited.

(c) Compliance with the terms of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial endangerment to human health or the environment. The Permittee shall comply with the conditions of the Permit, the requirements of chapter 6.5 of division 20 of the Health and Safety Code, and with the regulations adopted by DTSC pursuant to chapter 6.5 of division 20 of the Health and Safety Code, including regulations that become effective after the issuance of this Permit.

(d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent

requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee.

(e) Failure to comply with any term or condition set forth in the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action, including but not limited to penalties pursuant to Health and Safety Code section 25187.

(f) In addition, failure to submit any information required in connection with this Permit, or falsification and/or misrepresentation of any submitted information, is grounds for revocation of this Permit (Cal. Code Regs., tit. 22, §66270.43).

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL OUALITY ACT (CEQA)

DTSC has prepared a Negative Declaration and De Minimis Impact Finding in accordance with the requirements of Public Resources Code section 21000, et seq. and the CEQA guidelines, section 15061 (b)(3) of title 14, California Code of Regulations. DTSC has determined that this particular project will not have a significant deleterious effect on the environment. The Negative Declaration and De Minimis Impact Finding were approved on **month xx**, 2007.

4. PERMIT MODIFICATION

(a) The Permittee must request and obtain a permit modification to revise any portion of this Permit. To request such a revision, the Permittee must comply with the procedures for permit modifications set forth in California Code of Regulations, title 22, sections 66270.42 and 66270.42.5.

(b) If at any time, DTSC determines that modification of this Part of the Permit is necessary, DTSC may initiate a modification to this Part of the Permit according to procedures in California Code of Regulations, title 22, section 66270.41.

PART IV. PERMITTED UNITS AND ACTIVITIES

This Permit authorizes operation only of the Facility units and activities listed below. The Permittee shall not treat or store hazardous waste in any unit other than those specified in this Part IV. Any modifications to a unit or activity authorized by this Permit require the written approval of DTSC in accordance with the permit modification procedures set forth in, California Code of Regulations, title 22, section 66270.42 or 66270.42.5.

UNIT #1:

LAMP MACHINE

TYPE OF UNIT:

TREATMENT

WASTE CODES AND TYPES:

U.S. EPA Hazardous Waste No.: D009
California Waste Code: 181

COMMON NAMES OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream A: Spent fluorescent lamps from offsite facilities

Waste Stream D: Mercury-containing phosphor powder

HAZARDOUS CONSTITUENT OR CHARACTERISTIC OF WASTE:

Mercury

LOCATION OF UNIT:

The Lamp Machine is located in the southern end of the warehouse, adjacent to the main overhead door and is shown in Figure 2, Facility Plot Plan.

PHYSICAL DESCRIPTION OF UNIT:

The Lamp Machine is a demanufacturing machine into which lamps are manually fed. The machine processes fluorescent lamps by crushing the lamps between a set of breaker bars and a slotted anvil inside the machine body. As the lamps are crushed, a vacuum pulls air over the entire body of the machine, which captures the airborne mercury-containing phosphor powder and sends the

powder through a three-part filter system located in the filter room. This vacuum system, which utilizes 750 cubic feet per minute (cfm) blower/vacuum, collects the majority of the mercury-containing phosphor powder at the point of initial lamp breakage. This phosphor powder is deposited in a 55-gallon drum located in the Filter Room. The remaining phosphor powder, the crushed glass, and the aluminum end caps fall through the anvil into a 10-inch augur where they are transported to a drop station. As the material continues to tumble in the augur, the phosphor powder adhering to the gears is liberated and collected in the vacuum system. At the material drop station, the materials fall into an inclined augur and travel upwards at a 45-degree angle. While traveling up the incline, the materials continue to agitate. The lamp processor is powered by a 2.5 horsepower Sterling motor. The incline augur conveyor is powered by a 7.5 horsepower Sterling motor.

At the top of the incline augur the material falls into a SWECO separator. Inside the separator are a series of screens, which separate in sequence aluminum end caps, glass, and finally any remaining phosphor powder. The aluminum end caps, glass and mercury-containing phosphor powder are deposited in collection containers located outside the Facility warehouse. Refer to Figures 3 (Mercury Lamp and Device Handling and Processing Flow Chart) and Figure 4 (Air Flow and Filtration Diagram).

ACTIVITY TYPE:

TREATMENT: demanufacturing (crushing) of fluorescent lamps

ACTIVITY DESCRIPTION:

The Lamp Machine uses a demanufacturing process that crushes the outer glass of the fluorescent lamps and separates the glass, metal end caps and mercury-containing phosphor powder. The demanufacturing process utilizes an enclosed demanufacturing machine with a vacuum system. The vacuum system is connected to a High-Efficiency Particulate Air (HEPA) filtration system and an activated carbon canister, which absorbs any mercury vapor prior to the air being vented to the atmosphere. The vacuum system keeps the entire process under a negative pressure, which prevents phosphor dust and mercury vapor from escaping and contaminating the surrounding atmosphere.

The phosphor powder shall be sent to an authorized off-site treatment facility for retorting and further processing. The non-hazardous glass is also shipped off-site for recycling or disposal. The metal components are shipped off-site for recycling.

MAXIMUM PERMITTED CAPACITY:

Fluorescent lamps are allowed to enter the system at a rate of up to one per

second, up to a maximum of 32,000 lamps per day unless another regulatory agency has set a lower capacity limit. In that case, the Permittee shall comply with the lower limit.

COMMENTS/SPECIAL CONDITIONS:

1. Work station mercury vapor monitoring shall be conducted every two (2) hours during Facility operations in the manner specified in Part V of this Permit.

2. The Permittee shall take, at a minimum, one (1) grab sample per week from the fluorescent lamp crushed glass. At the end of the month, one (1) composite sample shall be made from all the weekly grab samples and sent to a California State Certified Analytical Laboratory to verify that the crushed glass does not exceed hazardous waste criteria for mercury.

3. The Permittee shall take, at a minimum, one (1) grab sample per month from the end-caps metal bin and shall have it tested at a California State Certified Analytical Laboratory to verify that the end-caps do not exceed hazardous waste criteria for mercury.

4. When test analysis shows that the glass or end cap samples exceed hazardous waste criteria for mercury, the Permittee shall cease operation of the Lamp Machine and implement engineering and/or administrative controls until the problem is corrected. The Permittee shall notify DTSC within twenty-four (24) hours whenever samples tested exceed hazardous waste criteria for mercury and provide a copy of this test analysis data to DTSC within seven (7) days. The Permittee shall also notify DTSC in writing within seven (7) days after the Lamp Machine resumes operation.

5. The Permittee shall retain these test results at the Facility for three (3) years.

6. The Permittee shall limit the treatment capacity to the lowest rate set by any applicable regulatory agency, provided however that in no instance shall the Permittee treat more than 32,000 lamps per day. If in the future, the South Coast Air Quality Management District (AQMD) or other applicable regulatory agency increases the number of lamps that the Lamp Machine may treat per day, then the Permittee may increase the number of lamps treated per day to comply with the new limit, provided that the capacity does not exceed the 32,000 lamps per day allowed by this Permit. An increase in capacity beyond 32,000 lamps per day would require a Permit modification.

UNIT #2:

HID GLOVE BOX

TYPE OF UNIT:

TREATMENT

WASTE CODES AND TYPES.

U.S. EPA Hazardous Waste No.: D008, D009
California Waste Code: 181

COMMON NAMES OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream B: Spent HID lighting devices from off-site facilities

Waste Stream E: Leaded glass from HID or similar lamps

Waste Stream F: Untested glass from HID or similar lamps

Waste Stream K: Other mercury-containing lamp types such as compact fluorescent lamps, “U’-tube lamps, waste water treatment lamps and mercury-containing instruments

Waste Stream I: Internal arc tubes/ampules from HID lamps generated during lamp dismantling process.

Waste Stream J: Liquid mercury from the internal arc tubes of HID lamps generated during lamp dismantling process

Waste Stream L: Medical and measuring instruments containing mercury

HAZARDOUS CONSTITUENTS OR CHARACTERISTIC OF WASTES:

Mercury and lead

LOCATION OF UNIT:

The HID Glove Box is located adjacent to and north of the Filter Room and is shown in Figure 2.

PHYSICAL DESCRIPTION OF UNIT:

The HID Glove Box unit is comprised of two individual glove boxes, each of

which consists of a welded steel box 59" in height x 30" wide x 24" deep with rubber gloves attached with an air-tight seal. The entire HID Glove Box unit is under vacuum from the Facility's regular mercury vapor collection unit. Refer to Figure 4 for the Air Flow and Filtration Diagram.

ACTIVITY TYPE:

TREATMENT: manual demanufacturing of HID lamps

ACTIVITY DESCRIPTION:

The HID Glove Box is manually fed. It is used to manually disassemble and recover mercury-containing powders from HID lamps, “compact fluorescent lamps” (lamps with ballasts physically attached), U-tube lamps, waste water treatment lamps, copy machine lamps and mercury-containing instruments. Incoming HID lamps fall into two categories: lamps that are known to have leaded outer glass and lamps that are believed to have unleaded outer glass. Each of the two glove boxes can process one HID lamp (or mercury-containing device) at a time. The feed rate depends upon the size and type of HID lamp.

The HID lamp is held upside down and the outer glass envelope is manually broken from the lamp base. The base is manually separated from the unit by wire cutters and segregated for recycling. The arc tube is manually cut away from the stem. The arc tube is usually removed intact and then placed into a DOT 17C or 17H 25-gallon drum, which will be sent to the LRL facility in Greenwood, Indiana or another authorized facility. In the event that the arc tube is broken (less than 1% of the time), the mercury will be collected and put into the leaded mercury flask and the broken arc tube will be placed in the pail with the intact arc tubes. Elemental mercury from disassembled arc tubes will be collected in leaded mercury flasks before shipping offsite for further retort. The mount stem is segregated for recycling. The entire HID processing unit is under vacuum from the Facility's regular mercury vapor collection unit. The vacuum assures no mercury exposure to the operators.

The mercury-containing devices processed by the Facility include thermometers, thermostats, blood pressure units and mercury switches. Each of these devices is dismantled by an LRL employee who has been trained to separate the mercury-containing module from other material. The module is carefully broken and the mercury is poured into a lead flask that is specially designed for mercury.

MAXIMUM PERMITTED CAPACITY:

The feed rate is variable (1 to 20 lamps and/or mercury-containing devices per minute) and is dependent upon the configuration and size of the HID lamp and/or mercury-containing device. The maximum permitted treatment capacity is 4,800 lamps and/or mercury-containing devices per day.

COMMENTS/SPECIAL CONDITIONS:

1. Work station mercury vapor monitoring shall be conducted every two (2) hours during Facility operations in the manner specified in Part V of this Permit.

2. Intact arc tubes shall be stored in DOT 17C or 17H drums. The drums shall remain closed except when waste is being added or removed.

3. Elemental mercury from disassembled arc tubes shall be stored in a leaded mercury flask (Flask). The Flask shall be kept within the HID Glove Box until full. The Flask may then be transported and stored in the Hazardous Waste Storage Area for up to ninety (90) days.

4. Outer glass from HID lamps that are known to have leaded outer glass will be placed in a 55-gallon drum designated for leaded glass stored in the Hazardous Waste Storage Area prior to shipping offsite to an authorized glass smelter.

5. For HID lamps that are believed to have unleaded outer glass, the Permittee shall collect crushed HID glass in drums and label the drums “Untested HID Glass”. The Permittee shall take one grab sample from each “Untested HID” drum when it is full. The Permittee shall place the grab sample into a container that is labeled “HID Glass Sample”. Two times a month (14-15 days apart), the Permittee shall take a grab sample from the “HID Glass Sample” container and test for lead content.

   If the sample exceeds hazardous waste criteria per toxicity concentration leaching procedures (TCLP) for lead, e.g. 5 mg/kg, then all “Untested HID Glass” drums and the “HID Glass Sample” container from that corresponding time period (14-15 days) shall be shipped as hazardous waste to an authorized facility for further treatment. If the sample lead concentration is below 5 mg/kg, then the glass from the “Untested HID Glass” drums and the “HID Glass Sample” container from that corresponding time period (14-15 days) may be sent out for recycling or disposal.

   The “HID Glass Sample” container is not subject to hazardous waste management requirements, pursuant to California Code of Regulations, title 22, section 66261.4(d) until such time as it is shipped offsite.

6. The Permittee shall develop and use a tracking system to demonstrate which Untested HID Glass drums correspond to a given HID Glass Sample container.

UNIT #3:

LAMP STORAGE AREA

TYPE OF UNIT:

STORAGE

WASTE CODES AND TYPES:

U.S. EPA Hazardous Waste No.: D008, D009
California Waste Code: 181

COMMON NAME OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream A: Spent fluorescent lamps from offsite facilities.

Waste Stream B: Spent HID lighting devices from offsite facilities.

HAZARDOUS CONSTITUENTS OR CHARACTERISTIC OF WASTES:

Mercury and lead (from HID glass only)

LOCATION OF UNIT:

The Lamp Storage Area is located in the northern 1/3 of the warehouse building, along the eastern wall. It is shown in the Facility Plot Plan, Figure 2.

PHYSICAL DESCRIPTION OF UNIT:

The Lamp Storage Area consists of a dedicated area within the main warehouse building (approximately 40' x 22') where intact fluorescent lamps are staged and stored prior to introduction into the recycling process. While the Lamp Storage Area is primarily intended for the storage of spent fluorescent lamps, spent HID lamps may also occasionally be stored in this area.

All lamps shall be stored in cardboard shipping cartons, drums or shrink wrapped.

ACTIVITY TYPE:

CONTAINER STORAGE: Fluorescent and HID lamp storage.

ACTIVITY DESCRIPTION:

Intact lamps are stored inside of the warehouse building prior to introduction into the recycling processes. Lamps are kept in cardboard boxes or drums, atop wooden pallets or shrink wrapped.

MAXIMUM PERMITTED CAPACITY:

The maximum permitted storage capacity of the Lamp Storage Area is twenty-seven (27) pallets. Each pallet shall store no more than 1,300 fluorescent and/or HID lamps.

COMMENTS/SPECIAL CONDITIONS:

1. Sufficient aisle space (at least 30”) shall be maintained at all times between double rows of pallets to allow for movement of emergency equipment and personnel.

2. Lamps shall not be stacked higher than six (6) feet (not including the height of the pallet) in the Lamp Storage Area.

3. Lamps shall not be stored longer than ninety (90) days in the Lamp Storage Area.

UNIT #4:

HID STORAGE AREA

TYPE OF UNIT:

STORAGE

WASTE CODES AND TYPES:

U.S. EPA Hazardous Waste No.: D008, D009
California Waste Code: 181

COMMON NAMES OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream A: Spent fluorescent lamps from offsite facilities.

Waste Stream B: Spent HID lighting devices from offsite facilities.

Waste Stream K: Other mercury-containing lamp types such as compact fluorescent lamps, “U’-tube lamps, waste water treatment lamps and mercury-containing instruments.

HAZARDOUS CONSTITUENTS OR CHARACTERISTIC OF WASTES:

Mercury and lead

LOCATION OF UNIT:

The HID storage area is located in the center of the warehouse, along the western wall, and is shown in Figure 2.

PHYSICAL DESCRIPTION OF UNIT:

The HID storage area consists of a dedicated area within the main warehouse building (approximately 13' x 18') where intact HID lamps are stored prior to introduction into the recycling process. While the HID Storage Area is primarily intended for the storage of spent HID lamps, spent fluorescent lamps may also occasionally be stored in this area.

ACTIVITY TYPE:

CONTAINER STORAGE: Storage of HID and similar mercury-containing (biax/compact/shattershield) lamps, and fluorescent lamps.

ACTIVITY DESCRIPTION:

HID lamps are stored prior to introduction into the recycling processes. Lamps shall be stored in cardboard boxes, fiber drums or shrink wrapped.

MAXIMUM PERMITTED CAPACITY:

The maximum permitted storage capacity of the HID Storage Area is seven (7) pallets. Each pallet shall store no more than 1,300 fluorescent and/or HID lamps.

COMMENTS/SPECIAL CONDITIONS:

1. Sufficient aisle space (at least 30”) shall be maintained at all times between double rows of pallets within the HID Storage Area to allow for movement of emergency equipment and personnel.

2. Lamps shall not be stacked higher than six (6) feet (not including the height of the pallet) in the HID Storage Area.

3. HID lamps shall not be stored longer than ninety (90) days in the HID Storage Area.

UNIT #5:

HAZARDOUS WASTE STORAGE AREA

TYPE OF UNIT:

STORAGE

WASTE CODES AND TYPES:

U.S. EPA Hazardous Waste No.: N/A
California Waste Code: 261

U.S. EPA Hazardous Waste No.: D008, D009
California Waste Code: 181

COMMON NAMES OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream C: Intact, non-leaking, waste PCB-containing lighting ballasts.

Waste Stream D: Mercury-containing phosphor powder

Waste Stream E: Leaded glass from HID or similar lamps

Waste Stream F: Untested glass from HID or similar lamps

Waste Stream G: Incidentally broken fluorescent lamps

Waste Stream H: Neon lamps/glass

Waste Stream I: Internal arc tubes/ampules from HID lamps generated during lamp dismantling process.

Waste Stream J: Liquid mercury from the internal arc tubes of HID lamps generated during lamp dismantling process.

Waste Stream L: Medical and measuring instruments containing mercury

HAZARDOUS CONSTITUENTS OR CHARACTERISTIC OF WASTES:

Polychlorinated biphenyls (PCBs)
Mercury
Lead

LOCATION OF UNIT:

The Hazardous Waste Storage Area is located in the northwest corner of the warehouse building and is shown in Figure 2.

PHYSICAL DESCRIPTION OF UNIT:

The Hazardous Waste Storage Area consists of a dedicated 39' x 13' area. This unit is authorized for storing drums of the materials described in the following table for periods not to exceed ninety (90) days. Each waste stream shall be stored in separately labeled drums. The floor is sealed concrete and the walls are concrete masonry block. DOT-approved 17C and 17H drums shall be used to store the PCB-containing lighting ballasts and mercury-containing phosphor powder.

Maximum Quantity	Container	Material	Total Weight Capacity
40	55-gallon drum	PCB ballasts, transformers and capacitors	24,000 lbs.
16	55-gallon drum	Mercury-containing phosphor powder	8,000 lbs.
4	55-gallon drum	Mercury Debris (Floor Sweep)	1,200 lbs.
4	55-gallon drum	Leaded HID glass	2,000 lbs.
2	55-gallon drum	Untested HID glass	1,000 lbs.
4	55-gallon drum	Neon glass/lamps	2,000 lbs.
4	55-gallon drum	Incidentally broken fluorescent lamps	2,000 lbs.
4	55-gallon drum	HID Ampules/arc tubes	1,200 lbs.
4	55-gallon drum	Mercury-containing devices	1,200 lbs.
4	Leaded flask (Each holds approximately one (1) gallon)	Liquid Mercury	300 lbs.

ACTIVITY TYPE:

CONTAINER STORAGE: Storage of mercury-containing phosphor powder, waste PCB lighting ballasts, mercury-containing devices, liquid mercury.

ACTIVITY DESCRIPTION:

1. Closed, steel DOT 17C or 17H drums containing recovered mercury-containing phosphor powder are stored prior to shipment off-site for retort.

2. Intact PCB-containing lighting ballasts shall be stored in closed DOT 17C or 17H steel drums on plastic secondary containment pallets in the Hazardous Waste Storage Area prior to shipment off-site.

3. Liquid mercury shall be stored in lead flasks specially designed for storing mercury and the lead flasks shall have secondary containment or be stored on a plastic secondary containment pallet.

4. Mercury-containing devices, HID ampules, leaded HID glass, and mercury debris (floor sweep) shall be stored in closed, steel DOT 17C or 17H drums.

MAXIMUM PERMITTED CAPACITY:

The maximum number of flasks stored inside or outside of drums shall not exceed four (4). The maximum drum limit shall not exceed eighty-two (82) drums plus up to four (4) drums that contain one (1) flask in each drum, for a maximum limit of eighty-six (86) drums.

COMMENTS/SPECIAL CONDITIONS:

1. Drums storing mercury-containing phosphor powder shall not be stacked.

2. Drums shall be kept closed except when waste is being added or removed.

3. Sufficient aisle space (at least 30”) shall be maintained at all times between rows of drums to allow access for inspections of all drums.

4. The PCB-containing lighting ballasts shall be stored in plastic secondary containment pallets that hold a maximum of four (4) drums per layer or a maximum of eight drums per pallet when stacked in two layers. The drums are permitted to be stacked a maximum of two (2) drums high.

5. The liquid mercury flasks shall have secondary containment drums or be stored on a plastic secondary containment pallet.

6. All waste streams in the Hazardous Waste Storage Area shall be stored no longer than ninety (90) days.

UNIT #6:

TRAILER STORAGE AREA

TYPE OF UNIT:

STORAGE

WASTE CODES AND TYPES:

U.S. EPA Hazardous Waste No.: D008, D009
California Waste Code: 181

COMMON NAMES OF WASTES: (See Appendix 2 for more complete listing of authorized waste streams)

Waste Stream A: Spent fluorescent lamps from offsite facilities.

Waste Stream B: Spent HID lighting devices from offsite facilities.

HAZARDOUS CONSTITUENTS OR CHARACTERISTIC OF WASTES:

Mercury and lead

LOCATION OF UNIT:

The Trailer Storage Area is located in storage trailers that are parked on the paved area of the property and is shown in Figure 1.

PHYSICAL DESCRIPTION OF UNIT:

The Trailer Storage Area consists of six closed trailers. The trailer sides and roof are sheet metal over steel frame. The trailer flooring is wood over steel frame. The unit is parked on paved asphalt. Each trailer is a maximum of 48 (forty-eight) feet long. The Trailer Storage Area will occupy a paved area approximately 100’ x 31’ in size.

ACTIVITY TYPE:

CONTAINER STORAGE: Fluorescent and HID lamp storage.

ACTIVITY DESCRIPTION:

Intact fluorescent and/or HID lamps are stored inside of the trailers prior to introduction into the recycling processes.

MAXIMUM PERMITTED CAPACITY:

The maximum permitted storage capacity of each trailer is ten (10) pallets. Each pallet shall store no more than 1,300 fluorescent and/or HID lamps.

COMMENTS/SPECIAL CONDITIONS:

1. The storage trailers shall remain closed except when loading or unloading operations. After business hours, the trailers shall be kept closed and locked.

2. Sufficient aisle space (at least 30”) shall be maintained in each trailer to allow for movement of emergency equipment and personnel.

3. Only intact fluorescent and/or HID lamps shall be stored within the Trailer Storage Area.

4. Lamps shall not be stored longer than ninety (90) days in the Trailer Storage Area.

PART V. SPECIAL CONDITIONS WHICH APPLY TO ALL OF THE FACILITY'S STORAGE AND/OR TREATMENT UNITS

1. The Permittee is prohibited from any transfer, storage or treatment of hazardous waste or other management activity not specifically described in Part II, Part III, Part IV or Part V of this Permit.

2. Hazardous waste shall not be land disposed at the Facility, whether temporarily or permanently.

3. Containers holding hazardous wastes shall be stored only in the appropriate areas designated in Part IV of this Permit. Non-hazardous, unleaded glass may be stored in the Hazardous Waste Storage Area. Any non-hazardous waste that is stored in a designated hazardous waste storage area shall be included in all volume calculations set forth in this permit.

4. In the event any cracks, gaps, or tears are detected in the concrete base of the Facility's hazardous waste storage or treatment area floors or in the event any cracks, gaps, or tears are detected in the dedicated secondary containment pallets, repairs shall be initiated as soon as possible and completed within one (1) week of discovery of the problem. The Permittee shall notify DTSC within twenty-four (24) hours whenever containment problems are found and notify DTSC in writing within seven (7) days of discovery of the problem with a description of the corrective measures that have been taken.

5. The concentration of mercury vapor in the air to which workers may be exposed shall be measured at least every two (2) hours each work day using a portable mercury vapor analyzer. These measurements shall be taken around, but not limited to the following areas: (1) Lamp Machine lamp loading station, (2) HID Glove Box #1 and #2 (HID Station), (3) Lamp Machine lamp processing station, (4) Filter Room, (5) glass bin and (6) vent emission (air stack). All measurements taken shall be recorded in a log book specifying the date, time, and location of measurements.

    (a) The California Permissible Exposure Limits (PEL) for mercury vapor is an Eight-Hour Time-Weighted Average Concentration (TWA) of 0.025 mg/m^3 in accordance with California Code of Regulations, title 8, Section 5155.

    (b) All affected personnel will wear personal protective equipment (PPE) when the mercury vapor levels are above 0.025 mg/ m^3.

6. The following self-certifications required for this Permit and certified for use by the Permittee in accordance with Health and Safety Code Section 25201.6(c)(4) shall be maintained at the Facility at all times until Facility closure is completed, certified by an independent professional engineer registered in California and approved by DTSC, and shall be made available to local, State and federal agencies upon request:

(a) Manifest System, Record Keeping and Reporting
(b) Facility Location, Seismic and Precipitation Information
(c) Security Plan
(d) Preparedness and Prevention

The Permittee shall recertify any of the documents listed above if changes are made to the document and shall submit the new certifications to DTSC within thirty (30) days after such changes are made. Any changes to the certifications shall follow the permit modification procedures specified in Part III, Item 4 of this Permit.

7. This permit is hereby granted subject to the condition that all the requirements of Health and Safety Code, division 20, chapter 6.5, all applicable provisions of California Code of Regulations, title 22, division 4.5, and all terms and conditions of this Permit are complied with. If the aforesaid conditions are not met, this Permit may be revoked and other authorized enforcement action may be taken at the discretion of DTSC.

PART VI. CORRECTIVE ACTION

1. AUTHORITY

Section 25200.10 of the Health and Safety Code requires that any permit issued by DTSC must require corrective action for all releases of hazardous waste or constituents from any Solid Waste Management Unit (SWMU) or hazardous waste management unit at the Facility, regardless of when the release occurred.

Failure to comply with any term or condition set forth in Parts III, IV, and V of the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action and penalties pursuant to Health and Safety Code section 25187.

In addition, failure to submit the information required in Part III and V of the Permit, or falsification and/or misrepresentation of any submitted information, is grounds for termination of this Permit (Health and Saf. Code §25186; Cal. Code Regs., tit. 22, §66270.43).

2. STATEMENT OF PURPOSE

The corrective action objectives contained in Part VI of the Permit are provided to ensure that all threats to human health and/or the environment, resulting from the release or potential release of hazardous waste or hazardous constituents at the Permittee's Facility, are addressed in an expedient manner.

3. SUMMARY OF CORRECTIVE ACTIONS

(a) Active Solid Waste Management Units (SWMUs)

(1) Lamp Machine

(2) HID Glove Box

(3) Lamp Storage Area

(4) HID Storage Area

(5) Hazardous Waste Storage Area

(6) Trailer Storage Area

(b) Closed or Inactive Solid Waste Management Units (SWMUs)

None.

(c) List of SWMUs which require interim measures

None.

4. WORK TO BE PERFORMED

(a) The Phase I Environmental Assessment Checklist submitted to DTSC by the Permittee indicated that no further investigation was warranted at the Permittee's Facility. A summary of SWMUs and Corrective Actions required is listed above. After reviewing this Phase I Environmental Assessment Checklist and the findings from DTSC's inspection of the Facility, DTSC concurs with the Permittee's finding based upon the submitted information from the Facility and inspection results. DTSC does not require the Permittee to conduct further investigation at this time based on the information submitted by the Permittee.

(b) DTSC may require that the Permittee conduct further investigation of the Facility if any of the following occurs:

(1) DTSC determines that the information supplied in the Phase I Environmental Checklist is inaccurate, incomplete, falsified, or improperly completed.

(2) DTSC has reason to believe that the Permittee's Facility may be adversely affecting human health and/or the environment.

(3) The Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers a new SWMU not previously identified.

(c) If DTSC determines at a later time that further investigation is warranted, DTSC will modify Part VI of the Permit. The modifications will specify requirements that the Permittee shall complete as part of the required further investigation.

(d) If, at any time, DTSC determines that modification of Part VI of the Permit is necessary, DTSC may initiate a modification of Part VI of the Permit according to the procedures in California Code of Regulations, title 22, Sections 66270.41, 66270.42 and 66270.42.5.

5. POTENTIAL OR IMMEDIATE THREATS/NEWLY IDENTIFIED RELEASES/NEWLY IDENTIFIED SWMUs

(a) In the event the Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of

hazardous waste and/or hazardous constituents, or discovers a new SWMU not previously identified, the Permittee shall notify DTSC orally within 48 hours of discovery and notify DTSC in writing within ten (10) days of such discovery, summarizing the findings including the immediacy and magnitude of any potential threat(s) to human health and/or the environment.

(b) DTSC may require the Permittee to investigate, mitigate and/or take other applicable action to address any immediate or potential threats to human health and/or the environment from newly identified releases of hazardous waste and/or hazardous constituents, or newly identified SWMUs. Upon written request by DTSC, the Permittee shall submit to DTSC any required documents within the time specified by DTSC. The required documents shall be developed in a manner consistent with guidance to be provided by DTSC.

(c) DTSC will review the required documents and notify the Permittee in writing of DTSC's approval or disapproval, including any comments and/or modifications. If DTSC determines that immediate action is required, DTSC may orally authorize the Permittee to act prior to DTSC's receipt or approval of any required workplans.

6. SAMPLING/ACCESS

(a) Sampling

(1) The Permittee shall provide confirmatory samples to DTSC within the time requested by DTSC to determine if there is a threat to human health and/or the environment. The sampling shall be done in accordance with guidance that DTSC supplies to the Permittee.

(2) The Permittee shall notify DTSC in writing at least fourteen (14) days prior to beginning any confirmatory sampling requested by DTSC. If the Permittee believes it must commence emergency confirmatory sampling without delay, the Permittee may seek emergency telephone authorization from DTSC's Standardized Permitting and Corrective Action Branch Chief or, if the Branch Chief is unavailable, his/her designee, to commence such activities immediately. At the request of DTSC, the Permittee shall provide or allow DTSC and/or its authorized representative to take split or duplicate samples of all samples collected by the Permittee pursuant to Part VI of the Permit.

(3) The Permittee shall submit to DTSC upon request the results of all sampling and/or tests or other data generated by its employees, divisions, agents, consultants or contractors pursuant to this Permit.

(4) Notwithstanding any other provisions of this Permit, DTSC retains all information gathering and inspection authority rights including enforcement actions related thereto, under Health and Safety Code and any other applicable State or federal statutes or regulations.

(b) Access

(1) DTSC, its contractors, employees, agents, and/or any U.S. EPA representatives are authorized to enter and freely move about the Facility pursuant to the entire Permit for the purposes of: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts relating to the Facility; reviewing progress of the Permittee in carrying out the terms of Part VI of the Permit; conducting such testing, sampling or monitoring as DTSC deems necessary; using a camera, sound recording, or other documentary-type equipment; verifying the reports and data submitted to DTSC by the Permittee; or confirming any other aspect of compliance with this permit and division 20, chapter 6.5 of the Health and Safety Code. The Permittee shall provide DTSC and its representatives access at all reasonable times to the Permittee's Facility and any other property to which access is required for implementation of any provision of this Permit and any provision of division 20, chapter 6.5 of the Health and Safety Code and shall allow such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to work undertaken pursuant to the entire Permit or undertake any other activity necessary to determine compliance with the applicable requirements.

(2) To the extent that work being performed pursuant to Part VI of the Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within thirty (30) days of approval of any workplan for which access is required. "Best efforts" as used in this paragraph shall include, at a minimum, a certified letter from the Permittee to the present owner(s) of such property requesting access agreement(s) to allow the Permittee and DTSC and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The Permittee shall provide DTSC with a copy of any access agreement(s). In the event that agreements for the access are not obtained within thirty (30) days of approval of any workplan for which access is required, or of the date that the need for access becomes known to the Permittee, the

Permittee shall notify DTSC in writing within fourteen (14) days thereafter regarding both efforts undertaken to obtain access and its failure to obtain such agreements. In the event DTSC obtains access, the Permittee shall undertake approved work on such property.

(3) Nothing in Part VI of the Permit shall be construed to limit or otherwise affect the Permittee's liability and obligation to perform corrective action including corrective action beyond the Facility boundary, notwithstanding the lack of access. DTSC may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

(4) Nothing in Part VI of the Permit shall limit or otherwise affect DTSC's right to access and entry pursuant to any applicable state or federal laws and regulations.

FIGURE 1, PROPERTY LAYOUT AND EXTERIOR STORAGE AREAS

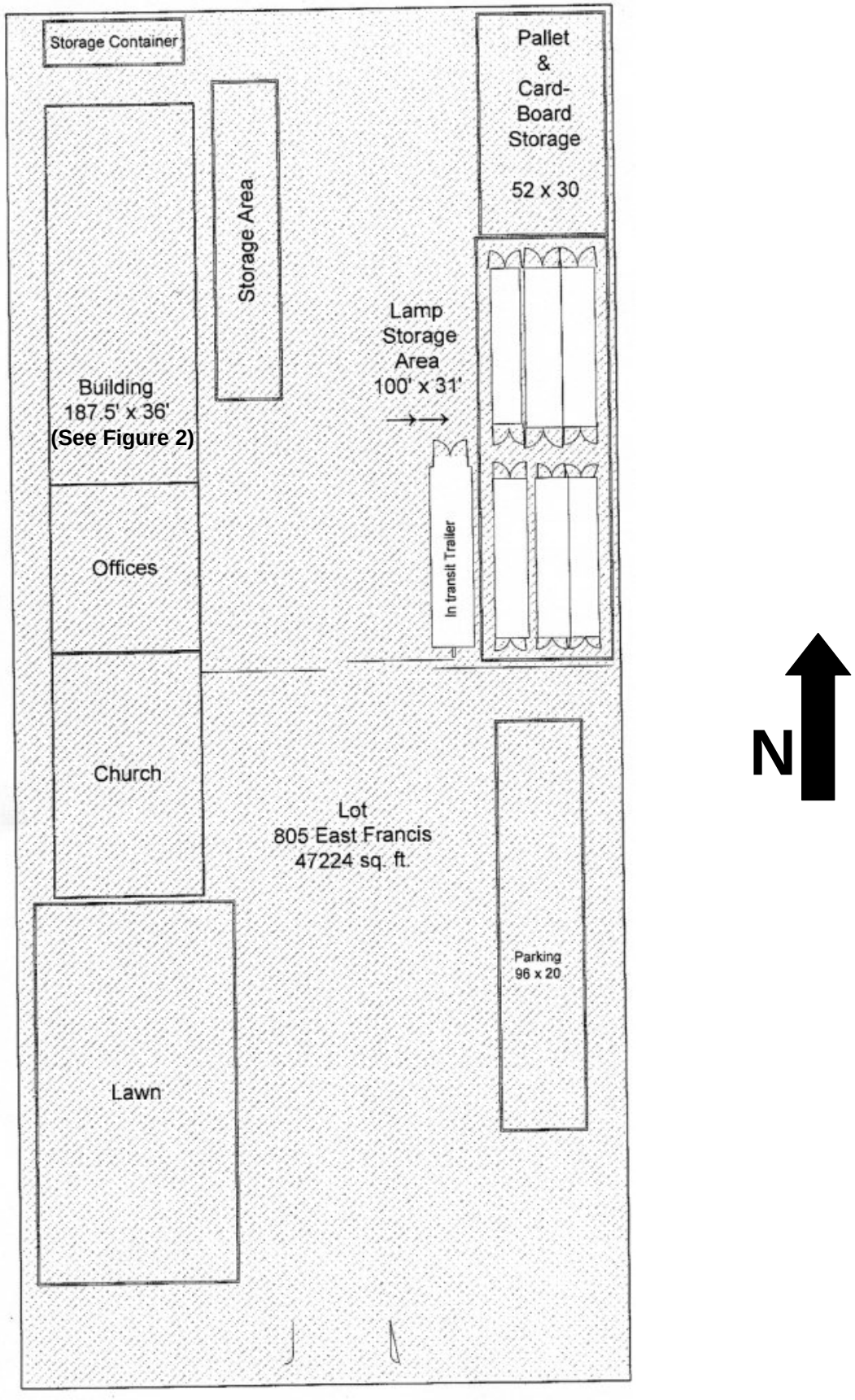


FIGURE 2, BUILDING LAYOUT

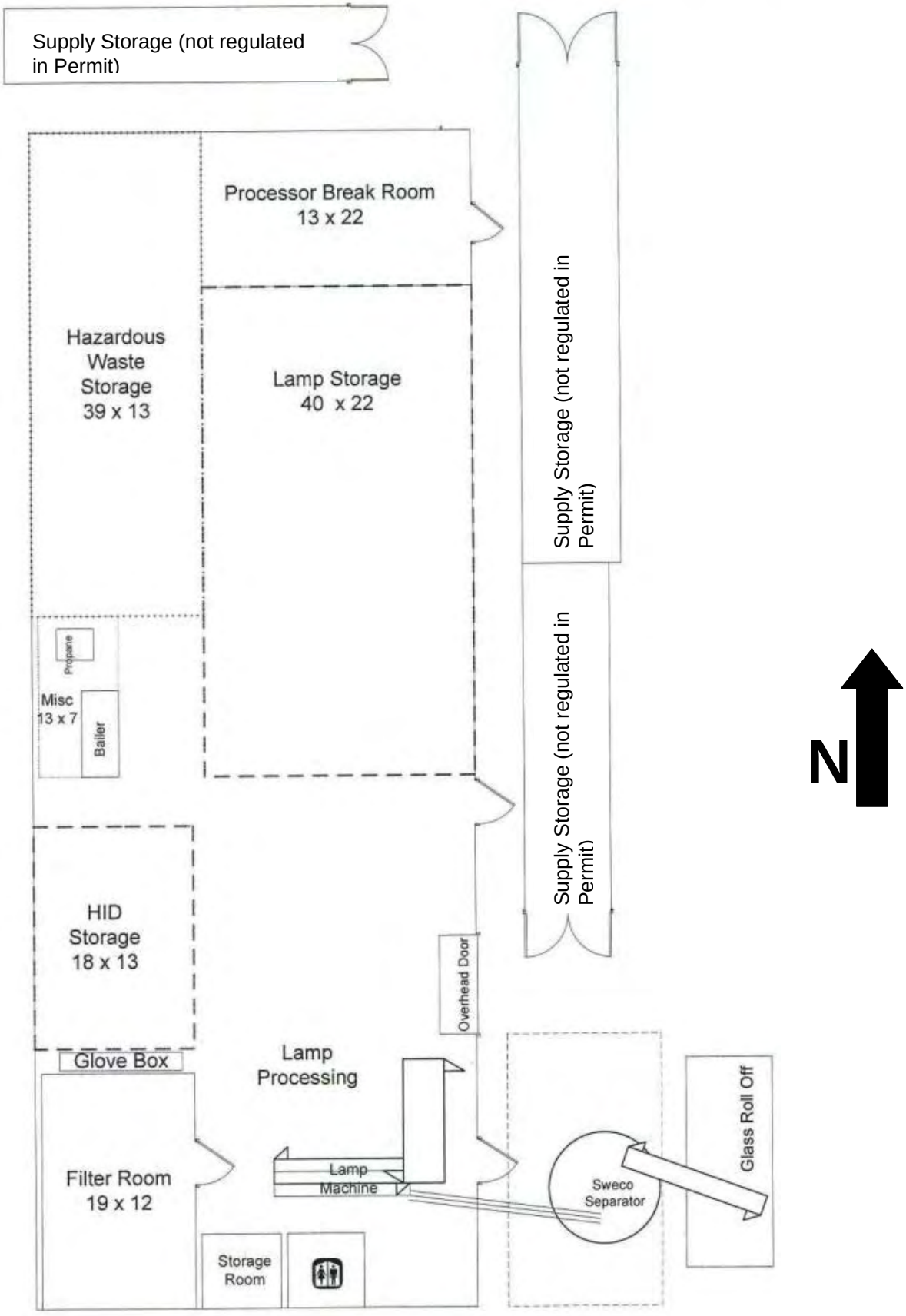


FIGURE 3
MERCURY LAMP AND DEVICE
HANDLING AND PROCESSING FLOW CHART

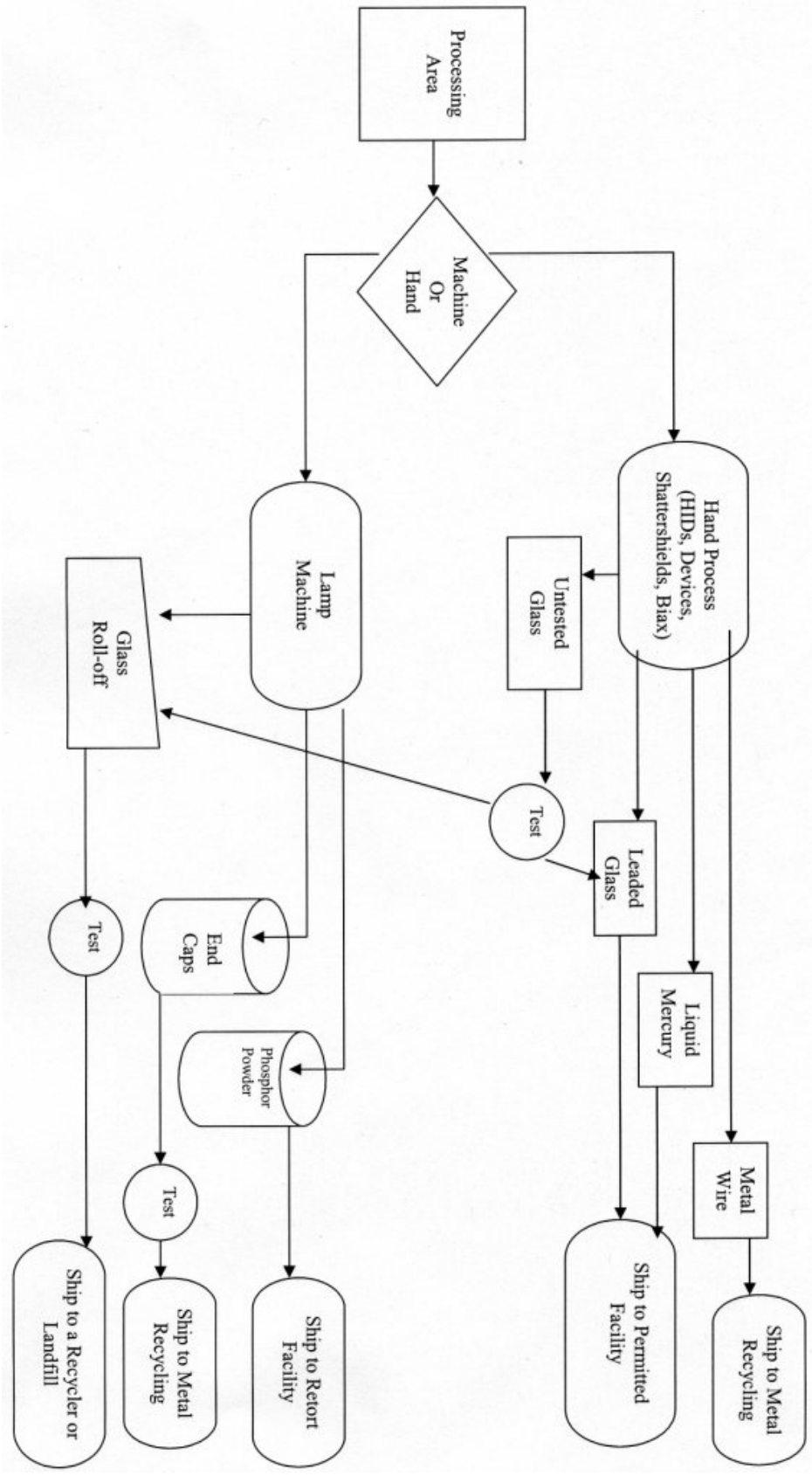
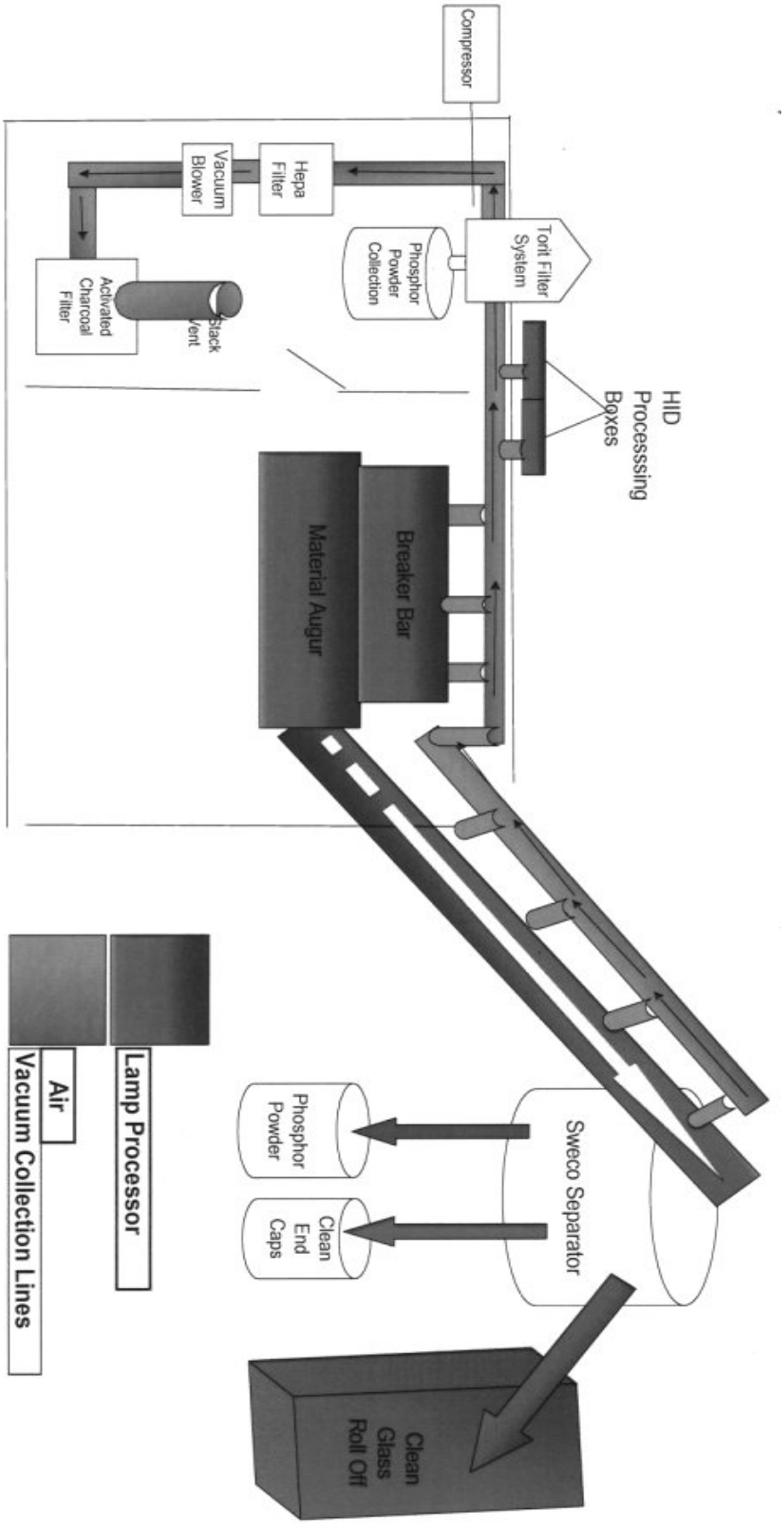


FIGURE 4, AIR FLOW AND FILTRATION DIAGRAM



Appendix 1
Table of Contents, Standardized Permit Application

Appendix 2
Table of Waste Streams

Waste Stream A	Spent fluorescent lamps from offsite facilities.
Waste Stream B	Spent HID lighting devices from off-site facilities.
Waste Stream C:	Intact, non-leaking, waste PCB-containing lighting ballasts.
Waste Stream D	Mercury-containing phosphor powder generated during lamp dismantling process.
Waste Stream E	Leaded glass from HID or similar lamps generated during lamp dismantling process.
Waste Stream F	Untested glass from HID or similar lamps generated during lamp dismantling process.
Waste Stream G	Incidentally broken fluorescent lamps
Waste Stream H	Neon lamps and/or glass
Waste Stream I	Internal arc tubes from HID lamps generated during lamp dismantling process.
Waste Stream J	Liquid mercury from the internal arc tubes of HID lamps generated during lamp dismantling process.
Waste Stream K	Other mercury-containing lamp types such as compact fluorescent lamps, ”U”-tube lamps, waste water treatment lamps and mercury-containing instruments.
Waste Stream L	Medical and measuring instruments containing mercury