VOLUME 2 OF 3

CONSTRUCTION & OPERATION PERMIT APPLICATION

2002 North Orient Road
Tampa, FL 33619

Permit No. 34875-HO-010

Prepared for

EQ Florida, Inc.
7202 East 8th Avenue
Tampa, FL 33619

Prepared by

KCI Technologies, Inc.
10401 Highland Manor Drive, Suite 120
Tampa, FL 33610

July 2013

KCI

VOLUME 2 OF 3

Permit Application

FOR

Construction of a Hazardous Waste Treatment Unit and Renewal Application for Operation of a Hazardous Waste Treatment and Storage Facility

AT

2002 North Orient Road
Tampa, FL 33619

Permit No.: 34875-HO-010

Prepared For:

EQ Florida, Inc.
7202 East 8th Avenue
Tampa, FL 33619

Prepared By:

KCI Technologies, Inc.
10401 Highland Manor Drive, Suite 120
Tampa, FL 33610
Project No. 12123014

July 2013

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APPENDIX A

Articles of Incorporation

EQ FLORIDA, INC.
CERTIFICATE OF SECRETARY AND CERTIFICATE OF INCUMBENCY

In connection with the execution by EQ FLORIDA, INC., a Michigan corporation ("Corporation"), of certain documents and agreements described in the Consent in Lieu of Special Meeting of the Board of Directors and the delivery of said documents as provided therein with the understanding that this Certificate will be relied upon by third parties, the undersigned hereby certifies and affirms all of the following:

1. The undersigned is the duly elected and incumbent Secretary of the Corporation, a corporation organized and existing under the laws of the State of Michigan.

2. Attached hereto as Exhibit A is a true, correct and complete copy of the Consent in Lieu of Special Meeting of the Board of Directors of the Corporation adopted on January 29, 2004, and said Consent is in full force and effect, unmodified and unrevoked as of the date hereof.

3. Attached hereto as Exhibit B is a true, correct and complete copy of the Articles of Incorporation of the Corporation as in effect on and as of the date hereof, which Articles of Incorporation are in full force and effect without modification or amendment in any respect.

4. Attached hereto as Exhibit C is a true, correct and complete copy of the Bylaws of the Corporation as in effect on and as of the date hereof, which Bylaws are in full force and effect without modification or amendment in any respect.

5. Each of the persons whose name is set forth below is the duly qualified incumbent of the office of the Corporation set forth opposite his name:

Name	Title	Signature
David M. Lusk	President	
Kenneth Wunderlich	Secretary/Treasurer	

The signature set forth opposite the name of each of the above officers is a true and correct specimen of said officer's signature.

WITNESS, my hand as of the 29th day of January, 2004.

Kenneth Wunderlich

CONSENT IN LIEU OF SPECIAL MEETING
OF BOARD OF DIRECTORS OF
EQ FLORIDA, INC.

The undersigned, being all of the members of the Board of Directors EQ FLORIDA, INC., a Michigan corporation (the "Corporation"), hereby approve and adopt the following actions:

RESOLVED, that the form, terms and provisions of that certain Asset Purchase Agreement, dated as of as of January 29, 2004, by and among US Liquids Inc., a Delaware corporation, USL Management Limited Partnership, a Texas limited partnership, US Liquids of Detroit, Inc., a Michigan corporation, USL First Source, Inc., a Maryland corporation, US Liquids of Florida, a Florida corporation, Waste, Research and Recovery, Inc., a Georgia corporation, the Corporation and the other parties thereto (the "Asset Purchase Agreement"), substantially in the form as reviewed by the undersigned, and the Corporation's performance of its obligations thereunder, are hereby in all respects approved.

FURTHER RESOLVED, that the Corporation, through any of its officers, is hereby authorized and directed to execute, deliver and perform the Asset Purchase Agreement.

FURTHER RESOLVED, that the Corporation shall borrow money and have other financial accommodations extended to it from Comerica Bank ("Bank"), in an aggregate principal amount of up to $5,751,000, or such additional amounts in excess of $5,751,000 as the officers of the Corporation on behalf of the Corporation shall deem appropriate from time to time pursuant to the Loan Documents referred to below (with such changes in such terms and conditions as the Authorized Officers shall deem to be appropriate).

FURTHER RESOLVED, that the Corporation, through any of its officers, is hereby authorized and directed to execute, deliver and perform the following documents (collectively, the "Loan Documents"): (i) that certain Letter Agreement, dated as of January 29, 2004 (the "Closing Date"), by and among the Corporation, the Bank, and the other parties thereto, (ii) a note up to an aggregate principal amount of $5,751,000 executed by the Corporation in favor of the Bank (the "Note"); (iii) that certain Guaranty, dated as of the Closing Date, executed by the Corporation for the benefit of the Bank; (iv) that certain Security Agreement, dated as of the Closing Date, by and between the Corporation and the Bank, in each of clauses (i), (ii), (iii) and (iv) in the form previously submitted to the undersigned (with such modifications as the executing officer shall deem appropriate) and (v) any and all documents, instruments or agreements necessary or required in order to effectuate the foregoing.

FURTHER RESOLVED, that the Corporation, through any of its officers, is hereby authorized and directed to execute, deliver and perform such other documents and to take such other actions as such officers, in their sole discretion, may deem appropriate in order to consummate the transactions contemplated

herein, and all documents heretofore or hereafter executed and all actions heretofore or hereafter taken by such officers are hereby ratified and confirmed and shall be fully binding and enforceable upon the Corporation.

FURTHER RESOLVED, that the Corporation, through its officers, is hereby authorized and directed, now and from time to time hereafter: (i) to amend, modify, alter, extend, renew, or otherwise change any of the provisions, terms, conditions, covenants, guarantees, or representations contained in the above agreements; and (ii) to execute and deliver such agreements, instruments, and documents as are required under the above agreements, as amended or otherwise modified from time to time.

FURTHER RESOLVED, that the Corporation, through its officers, is hereby authorized and directed, now and from time to time hereafter, to make telephonic or written requests for continuation of borrowings under the Note, and the Bank is hereby authorized to honor such telephonic or written request of the officers of the Corporation, or of any person so designated by an officer of the Corporation, until such time as the Bank is notified in writing by the Corporation of the revocation of the authorization of an officer to make such telephonic or written requests for continuation of borrowings under the Note.

FURTHER RESOLVED, that these resolutions may be executed in counterparts, each of which constitutes an original, and all of which, taken together, constitute one and the same original and facsimile signatures on these resolutions shall be deemed to constitute original signatures.

Dated: January 29, 2004

Michael J. Ferrantino, Jr.

Dated: January 29, 2004

David M. Lusk

Dated: January 29, 2004

Michael J. Miller

BCS/CD-500 (Rev. 09/01)

MICHIGAN DEPARTMENT OF CONSUMER & INDUSTRY SERVICES
BUREAU OF COMMERCIAL SERVICES

(FOR BUREAU USE ONLY)

Date Received: NOV 25 2003

This document is effective on the date filed, unless a subsequent effective date within 90 days after received date is stated in the document.

FILED

NOV 25 2003

Administrator
BUREAU OF COMMERCIAL SERVICES

Name: JANIS K. KUJAN, LEGAL ASSISTANT

Address: 32270 Telegraph Road, Suite 225

City: Bingham Farms State: Michigan ZIP Code: 48025-2457

Effective Date:

Document will be returned to the name and address you enter above. If left blank document will be mailed to the registered office.

046-790

ARTICLES OF INCORPORATION

For use by Domestic Profit Corporations
(Please read information and instructions on the last page)

Pursuant to the provisions of Act 284, Public Acts of 1972, the undersigned corporation executes the following Articles:

ARTICLE I

The name of the corporation is:
EQ FLORIDA, INC.

ARTICLE II

The purpose or purposes for which the corporation is formed is to engage in any activity within the purposes for which corporations may be formed under the Business Corporation Act of Michigan.

ARTICLE III

The total authorized shares:

1. Common Shares 60,000

   Preferred Shares 0

2. A statement of all or any of the relative rights, preferences and limitations of the shares of each class is as follows:
NONE

ARTICLE IV

1. The address of the registered office is:

   36255 MICHIGAN AVENUE, WAYNE (Street Address) (City), Michigan 48184 (ZIP Code)

2. The mailing address of the registered office, if different than above:

   _____ (Street Address or P.O. Box) _____ (City), Michigan _____ (ZIP Code)

The name of the resident agent at the registered office is: DAVID LUSK

Lord 1556 9th Circle

GOLD SEAL APPEARS ONLY ON ORIGINAL

BCS/CD-600 (Rev. 09/01)

ARTICLE V

The name(s) and address(es) of the incorporator(s) is(are) as follows:

Name	Residence or Business Address
JANIS K. KUJAN	32270 TELEGRAPH ROAD, SUITE 225, BINGHAM FARMS, MI 48025

~~ARTICLE VI (Optional, Delete if not applicable)~~

~~When a compromise or arrangement or a plan of reorganization of this corporation is proposed between this corporation~~ and its creditors or any class of them or between this corporation and its shareholders or any class of them, ~~a court~~ of equity jurisdiction within the state, on application of this corporation or of a creditor or shareholder thereof, or an application of a receiver appointed for the corporation, may order a meeting of the creditors or class of creditors or of the shareholders or class of shareholders to be affected by the proposed compromise or arrangement or reorganization, to be summoned in ich manner as the court directs. If a majority in number representing 3/4 in value of the creditors or class of creditors, or of the shareholders or class of shareholders to be affected by the proposed compromise or arrangement or a reorganization, agree to a compromise or arrangement or a reorganization of this corporation as a consequence of the compromise or arrangement, the compromise or arrangement and the reorganization, if sanctioned by the court to which the application has been made, shall be binding on all the creditors or class of creditors, or on all the shareholders or class ~~of shareholders and also on this corporation.~~

ARTICLE VI (Optional, Delete if not applicable)

Any action required or permitted by the Act to be taken at an annual or special meeting of shareholders may be taken without a meeting, without prior notice, and without a vote, if consents in writing, setting forth the action so taken, are signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take the action at a meeting at which all shares entitled to vote on the action were present and voted. A written consent shall bear the date of signature of the shareholder who signs the consent. Written consents are not effective to take corporate action unless within 60 days after the record date for determining shareholders entitled to express consent to or to dissent from a proposal without a meeting, written consents dated not more than 10 days before the record date and signed by a sufficient number of shareholders to take the action are delivered to the corporation. Delivery shall be to the corporation's registered office, its principal place of business, or an officer or agent of the corporation having custody of the minutes of the proceedings of its shareholders. Delivery made to a corporation's registered office shall be by hand or by certified or registered mail, return receipt requested.

Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to shareholders who would have been entitled to notice of the shareholder meeting if the action had been taken at a meeting and who have not consented to the action in writing. An electronic transmission consenting to an action must comply with Section 407(3).

BCS/CD-590 (Rev. 09/01)

The space below for additional Articles or for continuation of previous Articles. Please identify any Article being continued or ided. Attach additional pages if needed.

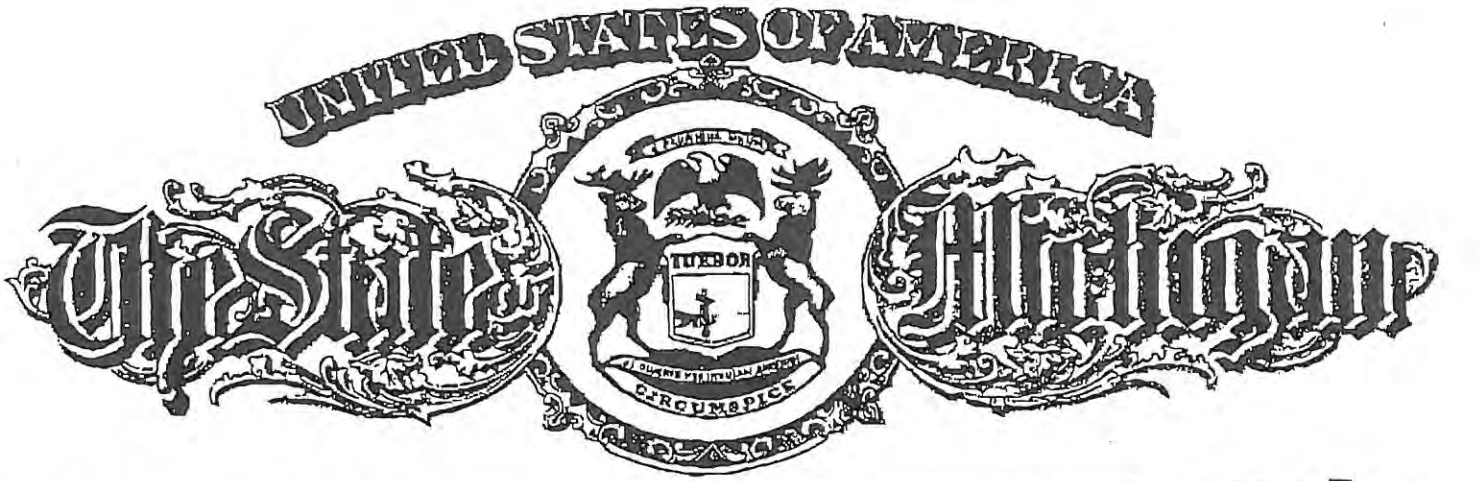
Article VII

To the full extent permitted by the Michigan Business Corporation Act or any other applicable laws presently or hereafter in effect, no director of this Corporation shall be personally liable to this Corporation or its shareholders for or with respect to any acts or omissions in the performance of his or her duties as a director of this Corporation. Any repeal or modification of this Article VII shall not adversely affect any right or protection of a director of this Corporation existing immediately prior to such repeal or modification.

I, (We), the incorporator(s) sign my (our) name(s) this 24th day of November, 2003.

JANIS K. KUJAN

GOLD SEAL APPEARS ONLY ON ORIGINAL



Michigan Department of Consumer and Industry Services

Lansing, Michigan

This is to Certify that the annexed copy has been compared by me with the record on file in this Department and that the same is a true copy thereof.

This certificate is in due form, made by me as the proper officer, and is entitled to have full faith and credit given it in every court and office within the United States.

In testimony whereof, I have hereunto set my hand, in the City of Lansing, this 26th day of January, 2004

[signature], Director

Bureau of Commercial Services

GOLD SEAL APPEARS ONLY ON ORIGINAL

OFFICE FACILITY
FLORIDA

Parcel 2:

Lots 1 through 10, inclusive, of Block 5 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the public records of Hillsborough County, Florida, TOGETHER WITH the West 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lots 1 and 10 on the East, bounded on the North by Ninth Avenue and on the South by Eighth Avenue.

Parcel 3:

Lots 5 and 6 in Block 5 of DRURY'S ADDITION TO ORIENT PARK, according to the map or plat thereof recorded in Plat Book 12, Page 63 of the public records of Hillsborough County, Florida.

Parcel 4:

Lots 7 and 8 of Block 6 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the public records of Hillsborough County, Florida, TOGETHER WITH the East 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lots 7 and 8 on the West, bounded on the North by Ninth Street and on the South by Eighth Avenue.

Parcel 5:

TOGETHER WITH a perpetual, non-exclusive easement for utilities, being more particularly described as follows:

Lots 1 through 6, inclusive, and Lots 9 through 14, inclusive, of Block 6 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the public records of Hillsborough County, Florida.

Tax parcel ID No. 1345625

TRANSFER Facility

LEGAL DESCRIPTION
PROPERTY IN HILLSBOROUGH COUNTY
FLORIDA

Land situated in Hillsborough County, Florida more particularly described as follows:

Parcel 1:

Lots 8 through 14, inclusive, of Block 1 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the public records of Hillsborough County, Florida. TOGETHER WITH the East 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lot 8 on the West, bounded on the South by Ninth Avenue and on the North by the South boundary of Lot 7

Tax parcel ID No. 1345614

This instrument prepared by:

Name: Phyllis G. Rozof, Esq.
Address: Honigman Miller Schwartz & Cohn LLP
660 Woodward Avenue
2290 First National Building
Detroit, Michigan 48226

Return to: Phyllis G. Rozof, Esq.
Honigman Miller Schwartz & Cohn LLP
660 Woodward Avenue
2290 First National Building
Detroit, Michigan 48226

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED is made as of the 30 day of January, 2004, between **US LIQUIDS OF FLORIDA, INC.**, a Florida corporation which was formerly known as USL City Environmental Services of Florida, Inc. ("Grantor"), whose address is 411 N. Sam Houston Parkway East, Suite 400, Houston, Texas 77060, and **EQ FLORIDA, INC.**, a Michigan corporation ("Grantee"), whose address is 36255 Michigan Avenue, Wayne, Michigan 48184.

WITNESSETH:

GRANTOR, in consideration of Ten and No/100 Dollars ($10.00) and other good and valuable consideration paid by Grantee, the receipt and sufficiency of which are hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto Grantee, and Grantee's successors and assigns forever, the following property located in Hillsborough County, Florida ("Property"), to wit:

See Exhibit A attached hereto and by this reference made a part hereof.

TOGETHER, with all the tenements, hereditaments, easements and appurtenances thereto belonging or in any way appertaining.

SUBJECT TO, easements and building and use restrictions of record and further subject to those matters set forth in Schedule B of that certain Pro Forma Policy of Title Insurance issued by First American Title Insurance Company under Commitment No. NCS-64112-CHI1 with respect to the Property on or about the date of delivery of this deed.

TO HAVE AND TO HOLD the same unto Grantee and Grantee's successors and assigns in fee simple forever.

Grantor hereby covenants with Grantee that Grantor is lawfully seized of said Property in fee simple; that Grantor has good right and lawful authority to sell and convey the Property; and Grantor hereby warrants the title to the Property and will defend the same against the lawful claims of all persons claiming by, through or under Grantor, but against no others.

IN WITNESS WHEREOF, Grantor has executed and delivered this Special Warranty Deed as of the day and year first above written.

Signed, sealed and delivered
in the presence of:

Name: Gregory Fleck

Name: Kevin C Fletcher

US LIQUIDS OF FLORIDA, INC.,
a Florida corporation, formerly know as
USL City Environmental Services of Florida, Inc.

By:
Print Name: WILLIAM M. DeARMAN

Title: PRESIDENT

STATE OF TEXAS)
) SS.
COUNTY OF HARRIS)

The foregoing instrument was acknowledged before me this 30TH day of JANUARY, 2004, by WILLIAM M DEARMAN, the PRESIDENT of US Liquids of Florida, Inc., a Florida corporation, formerly known as USL City Environmental Services of Florida, Inc., on behalf of said corporation.

ANITA C. KEELAN
MY COMMISSION EXPIRES
January 11, 2007

Notary:
Print Name: ANITA C. KEELAN
Notary Public, State of TEXAS
My Commission Expires: 1-11-2007

EXHIBIT A

Legal Description

Land situated in Hillsborough County, Florida more particularly described as follows:

Parcel I:

Lots 8 through 14, inclusive, of Block 1 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the Public Records of Hillsborough County, Florida, TOGETHER WITH the East 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lot 8 on the West, bounded on the South by Ninth Avenue and on the North by the South boundary of Lot 7 extended.

Parcel II:

Lots 1 through 10, inclusive, of Block 5 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the Public Records of Hillsborough County, Florida, TOGETHER WITH the West 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lots 1 and 10 on the East, bounded on the North by Ninth Avenue and on the South by Eighth Avenue.

Parcel III:

Lots 5 and 6 in Block 5 of DRURY'S ADDITION TO ORIENT PARK, according to the map or plat thereof recorded in Plat Book 12, Page 63 of the Public Records of Hillsborough County, Florida.

Parcel IV:

Lots 7 and 8 of Block 6 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the Public Records of Hillsborough County, Florida, TOGETHER WITH the East 1/2 of vacated 72nd Street (62nd Street per plat), abutting said Lots 7 and 8 on the West, bounded on the North by Ninth Street and on the South by Eighth Avenue.

Parcel V:

TOGETHER WITH a perpetual, non-exclusive easement as set forth in Easement Agreement by and between Armando O. Roche and Linda J. Roche, husband and wife, and Universal Transit Property Company, a Florida corporation, dated October 3, 1994, recorded October 4, 1994 in O.R. Book 7542, Page 868, Public Records of Hillsborough County, Florida, over property more particularly described as follows:

Lots 1 through 6, inclusive, and Lots 9 through 14, inclusive, of Block 6 of ORIENT PARK, according to the map or plat thereof recorded in Plat Book 11, Page 7 of the Public Records of Hillsborough County, Florida

APPENDIX B

Summary of Permitted EPA Hazardous Waste Codes

EQ FLORIDA INC. (EQFL)
Summary of Characteristic and Listed Hazardous Wastes

Process Code	EPA Hazardous Waste Number	Waste Type	Estimated Annual Quantity (Gallons)
S01	D001	Ignitable	175,000
S01	D002	Corrosive	50,000
S01	D003	Reactive	5,000
S01	"D" Characteristic Waste (Excluding D001-D003)	Characteristic Hazardous Waste	90,000
S01	F001 & F002	Halogenated Solvents	10,000
S01	F003 & F005	Non-Halogenated	Included in D001
S01	F006-F012 & F019	Plating Wastes	24,000
S01	"F" Listed Wastes (Excluding F001,F002 F001, F005-F012, & F019)	Listed Wastes from Non-Specific Sources	1,000
S01	"K" Listed Wastes	Listed wastes from Specific Sources	1,000
S01	"U" Listed Waste	Toxic Wastes	20,000
			377,000
T40	"D" Characteristic Waste (Excluding D001 & D003)	Characteristic Hazardous Waste	0*
T40	"F" Listed Wastes (Excluding F020-F023, F026, and F027)	Listed Waste from Non-Specific Sources	0*
			0*

* EQFL currently does not plan to treat any wastes by using the filter press. EQFL may (in the future) treat wastes prior to the expiration of the permit should business, environmental regulations, or economics justify the treatment. Annual quantities will not exceed those permitted in Section 15.

BAY CAPACITIES:

Bay 1 - 20,000 gallons
Bay 2 - 10,000 gallons
Bay 3 - 20,000 gallons

Each bay may contain hazardous wastes with any of the EQFL permitted waste codes. The hazardous waste is segregated into separate bays (and containment) by hazard class and compatibility, not by waste code. Storage location by waste (hazard class) is indicated on Figure 14.

PERMITTED HAZARDOUS WASTE CODES

EQ Florida

CHARACTERISTIC WASTES

D001 D002 D003 D004 D005 D006 D007 D008 D009 D010 D011 D012 D013 D014 D015 D016 D017 D018
D019 D020 D021 D022 D023 D024 D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036
D037 D038 D039 D040 D041 D042 D043

HAZARDOUS WASTE FROM NON-SPECIFIC SOURCES

F001 F002 F003 F004 F005 F006 F007 F008 F009 F010 F011 F012 F019 F020 F021 F022 F023 F024
F025 F026 F027 F028 F032 F034 F035 F037 F038 F039

HAZARDOUS WASTE FROM SPECIFIC SOURCES

K001 K002 K003 K004 K005 K006 K007 K008 K009 K010 K011 K013 K014 K015 K016 K017 K018 K019
K020 K021 K022 K023 K024 K025 K026 K027 K028 K029 K030 K031 K032 K033 K034 K035 K036 K037
K038 K039 K040 K041 K042 K043 K044 K045 K046 K047 K048 K049 K050 K051 K052 K060 K061 K062
K064 K065 K066 K069 K071 K073 K083 K084 K085 K086 K087 K088 K090 K091 K093 K094 K095 K096
K097 K098 K099 K100 K101 K102 K103 K104 K105 K106 K107 K108 K109 K110 K111 K112 K113 K114
K115 K116 K117 K118 K123 K124 K125 K126 K131 K132 K136 K140 K141 K142 K143 K144 K145 K147
K148 K149 K150 K151 K156 K157 K158 K159 K160 K161 K162 K163 K164 K165 K166

ACUTE TOXIC HAZARDOUS WASTES

P001 P002 P003 P004 P005 P006 P007 P008 P009 P010 P011 P012 P013 P014 P015 P016 P017 P018
P020 P021 P022 P023 P024 P026 P027 P028 P029 P030 P031 P033 P034 P036 P037 P038 P039 P040
P041 P042 P043 P044 P045 P046 P047 P048 P049 P050 P051 P054 P056 P057 P058 P059 P060 P062
P063 P064 P065 P066 P067 P068 P069 P070 P071 P072 P073 P074 P075 P076 P077 P078 P081 P082
P084 P085 P087 P088 P089 P092 P093 P094 P095 P096 P097 P098 P099 P101 P102 P103 P104 P105
P106 P108 P109 P110 P111 P112 P113 P114 P115 P116 P118 P119 P120 P121 P122 P123 P127 P128
P185 P187 P188 P189 P190 P191 P192 P193 P194 P195 P196 P197 P198 P199 P200 P201 P202 P203
P204 P205

TOXIC HAZARDOUS WASTES

U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012 U014 U015 U016 U017 U018 U019
U020 U021 U022 U023 U024 U025 U026 U027 U028 U029 U030 U031 U032 U033 U034 U035 U036 U037
U038 U039 U041 U042 U043 U044 U045 U046 U047 U048 U049 U050 U051 U052 U053 U055 U056 U057
U058 U059 U060 U061 U062 U063 U064 U066 U067 U068 U069 U070 U071 U072 U073 U074 U075 U076
U077 U078 U079 U080 U081 U082 U083 U084 U085 U086 U087 U088 U089 U090 U091 U092 U093 U094
U095 U096 U097 U098 U099 U101 U102 U103 U105 U106 U107 U108 U109 U110 U111 U112 U113 U114
U115 U116 U117 U118 U119 U120 U121 U122 U123 U124 U125 U126 U127 U128 U129 U130 U131 U132
U133 U134 U135 U136 U137 U138 U139 U140 U141 U142 U143 U144 U145 U146 U147 U148 U149 U150
U151 U152 U153 U154 U155 U156 U157 U158 U159 U160 U161 U162 U163 U164 U165 U166 U167 U168
U169 U170 U171 U172 U173 U174 U176 U177 U178 U179 U180 U181 U182 U183 U184 U185 U186 U187
U188 U189 U190 U191 U192 U193 U194 U196 U197 U200 U201 U202 U203 U204 U205 U206 U207 U208
U209 U210 U211 U213 U214 U215 U216 U217 U218 U219 U220 U221 U222 U223 U225 U226 U227 U228
U234 U235 U236 U237 U238 U239 U240 U243 U244 U246 U247 U248 U249 U271 U277 U278 U279 U280
U328 U353 U359 U360 U361 U362 U363 U364 U365 U366 U367 U368 U369 U370 U371 U372 U373 U374
U375 U376 U377 U378 U379 U380 U381 U382 U383 U384 U385 U386 U387 U388 U389 U390 U391 U392
U393 U394 U395 U396 U397 U398 U399 U400 U401 U402 U403 U404 U405 U406 U407 U408 U409 U410
U411

APPENDIX C

EQFL Permit List Summary

EQ Florida Permit List

CATEGORY	Permit & Reference	AGENCY
TAMPA - SPECIAL USE PETITION	#V99-68	COT
EPA ID #	FLD981932494	EPA, FDEP
SWFWMD STORMWATER EXEMPTION	E07840	EPA
CERCLA APPROVAL LETTER	FLD981932494	FDEP
EPA STORMWATER NOI MULTI-SECTOR	FLR05E179	FDEP
DOT HAZ MAT REGISTRATION	050709 550 055RT	DOT
SOLID WASTE PERMIT	34757-006-SO/30	FDEP
UNIVERSAL WASTE STORAGE & TRANSPORTER	FLD981932494	FDEP
HAZARDOUS WASTE TRANSPORTER (FL)	FLD981932494	FDEP
HAZARDOUS WASTE 10-DAY TRANSFER (FL)	FLD981932494	FDEP
INSURANCE WITH COMP/ AUTO/ LIABILITY	see ACCORD	see ACCORD
TAMPA PORT AUTHORITY WASTE OIL	N/A	TPA
WASTE TIRE COLLECTOR	96665	FDEP
EPCRA REPORTING	N/A	FILE
HAZARDOUS WASTE EXPORT REPORT	N/A	EPA
MIAMI-DADE LIQUID WASTE TRANSPORTER	LW-000277-2011/2012	DERM
USED OIL COLLECTION & TRANSPORTER	FLD981932494	FDEP
BROWARD CO. WASTE TRANSPORTER	WT-10-0032	Broward County
HAZARDOUS WASTE PERMIT (TSDF)	FLD981932494	FDEP
RX DRUG DESTRUCTION PERMIT	5316	FDOH
APHIS Permit to Receive Soil	P330-08-00259	FDA

APPENDIX D

Facility & Hazardous Waste Management Building As-Built Drawings

8.1

SECTION 14 TOWNSHIP 29 RANGE 19

HILLSBOROUGH COUNTY, FLORIDA

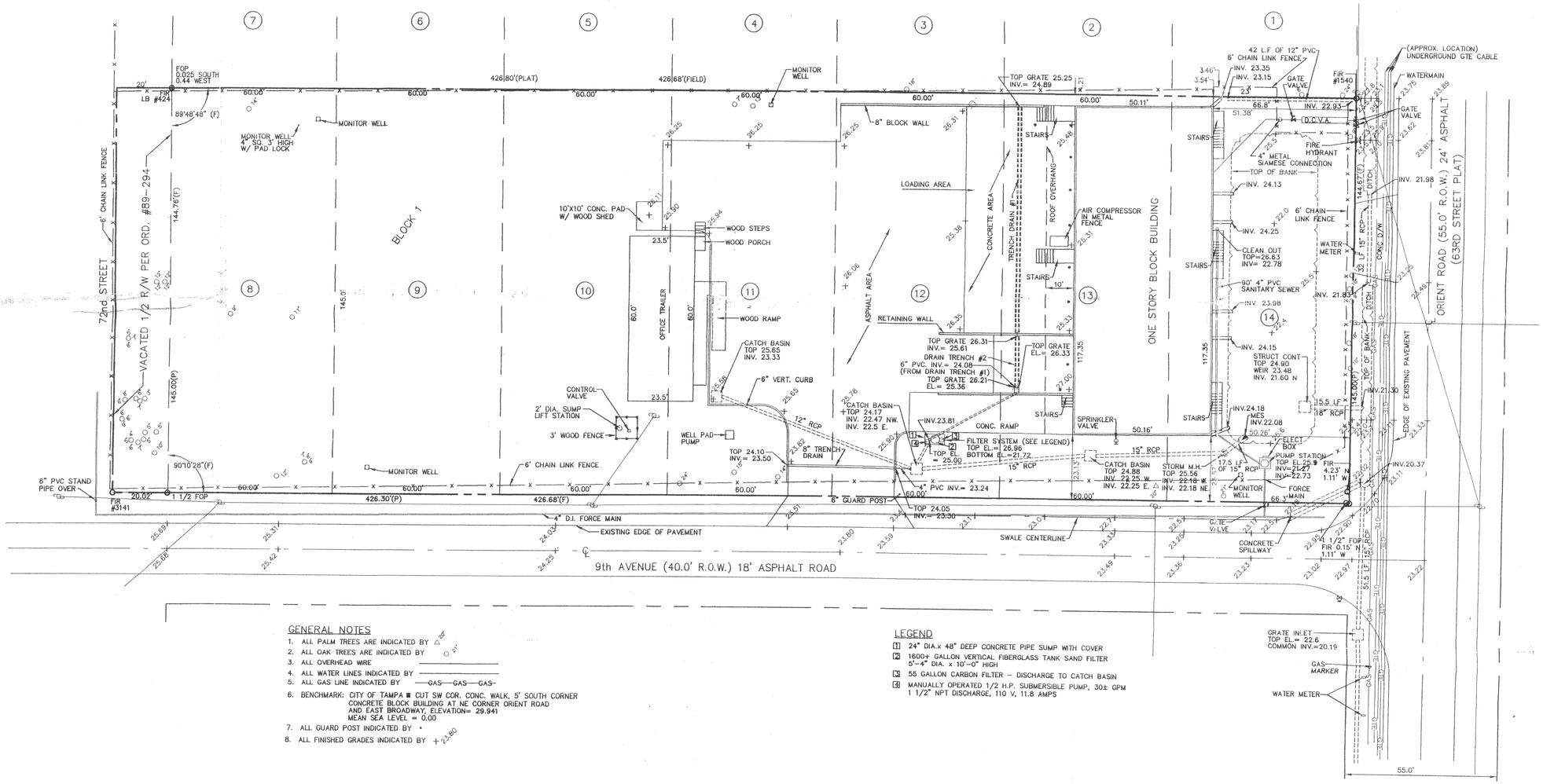
LEGAL DESCRIPTION

A SURVEY OF LOTS 8 THRU 14, INCLUSIVE, BLOCK1, ORIENT PARK, AS RECORDED IN PLAT BOOK 11, PAGE 7, PUBLIC RECORDS OF HILLSBOROUGH COUNTY, FLORIDA; TOGETHER WITH THE EAST 1/2 OF THAT PORTION OF 72ND STREET (62ND STREET PER PLAT) ABUTTING LOT8, BLOCK 1, AND LOT 2, BLOCK2, OF STATED ORIENT PARK.

DESCRIPTION; (WATER LINE EASEMENT)
THE SOUTH 5.0 FEET OF LOTS 8 THRU 14, INCLUSIVE, BLOCK 1, ORIENT PARK, AS RECORDED IN PLAT BOOK 11, PAGE 7, PUBLIC RECORDS OF HILLSBOROUGH COUNTY, FLORIDA; TOGETHER WITH THE SOUTH 5.0 FEET OF THE EAST 1/2 OF THAT PORTION OF 72ND STREET (62ND STREET PER PLAT) ABUTTING LOT 8, BLOCK1, AND LOT 2, BLOCK 2, OF STATED ORIENT PARK.

NORTH

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.
12-27-94
8143-A



GENERAL NOTES

1. ALL PALM TREES ARE INDICATED BY
2. ALL OAK TREES ARE INDICATED BY
3. ALL OVERHEAD WIRE
4. ALL WATER LINES INDICATED BY
5. ALL GAS LINE INDICATED BY —GAS—GAS—GAS—
6. BENCHMARK: CITY OF TAMPA ■ CUT SW COR. CONC. WALK, 5' SOUTH CORNER CONCRETE BLOCK BUILDING AT NE CORNER ORIENT ROAD AND EAST BROADWAY, ELEVATION= 29.941 MEAN SEA LEVEL = 0.00
7. ALL GUARD POST INDICATED BY *
8. ALL FINISHED GRADES INDICATED BY +23.80

LEGEND

[1] 24" DIA.x 48" DEEP CONCRETE PIPE SUMP WITH COVER
[2] 1600± GALLON VERTICAL FIBERGLASS TANK SAND FILTER 5'-4" DIA. x 10'-0" HIGH
[3] 55 GALLON CARBON FILTER – DISCHARGE TO CATCH BASIN
[4] MANUALLY OPERATED 1/2 H.P. SUBMERSIBLE PUMP, 30± GPM 1 1/2" NPT DISCHARGE, 110 V, 11.8 AMPS

DATE	No.	REVISIONS	BY
12/21/94		KBN ENGINEERING AND APPLIED SCIENCES, INC.; BY WLR	SR
12/12/94		JOB NO. 8143; DRAWN BY JES	JHM
4/12/89		JOB NO. 8143; SEMINOLE ENGINEERING; BY CN	EWR

☐ PRELIMINARY
☐ CONSTRUCTION
☒ RECORD DRAWING

CLIENT: UNIVERSAL WASTE & TRANSIT, INC.
SCALE: 1" = 20'
DATE: 12-12-94
DRAWN BY: JES
CHECKED BY: JMH

EXISTING LOT PLAN

CITY ENVIRONMENTAL SERVICES OF FLORIDA, INC.
7202 EAST EIGHTH AVENUE
TAMPA, FLORIDA 33619

KBN ENGINEERING AND APPLIED SCIENCES, INC.
5405 W. Cypress St., Suite 215 Telephone: (813) 287-1717
Tampa, Florida 33607 FAX: (813) 287-1716

SEMINOLE ENGINEERING, INC.
CONSULTING ENGINEERS & PLANNERS
14483 62nd STREET NORTH
CLEARWATER, FL. 34620
TELEPHONE (813) 539-0051

RECORD DRAWING – 11/22/94

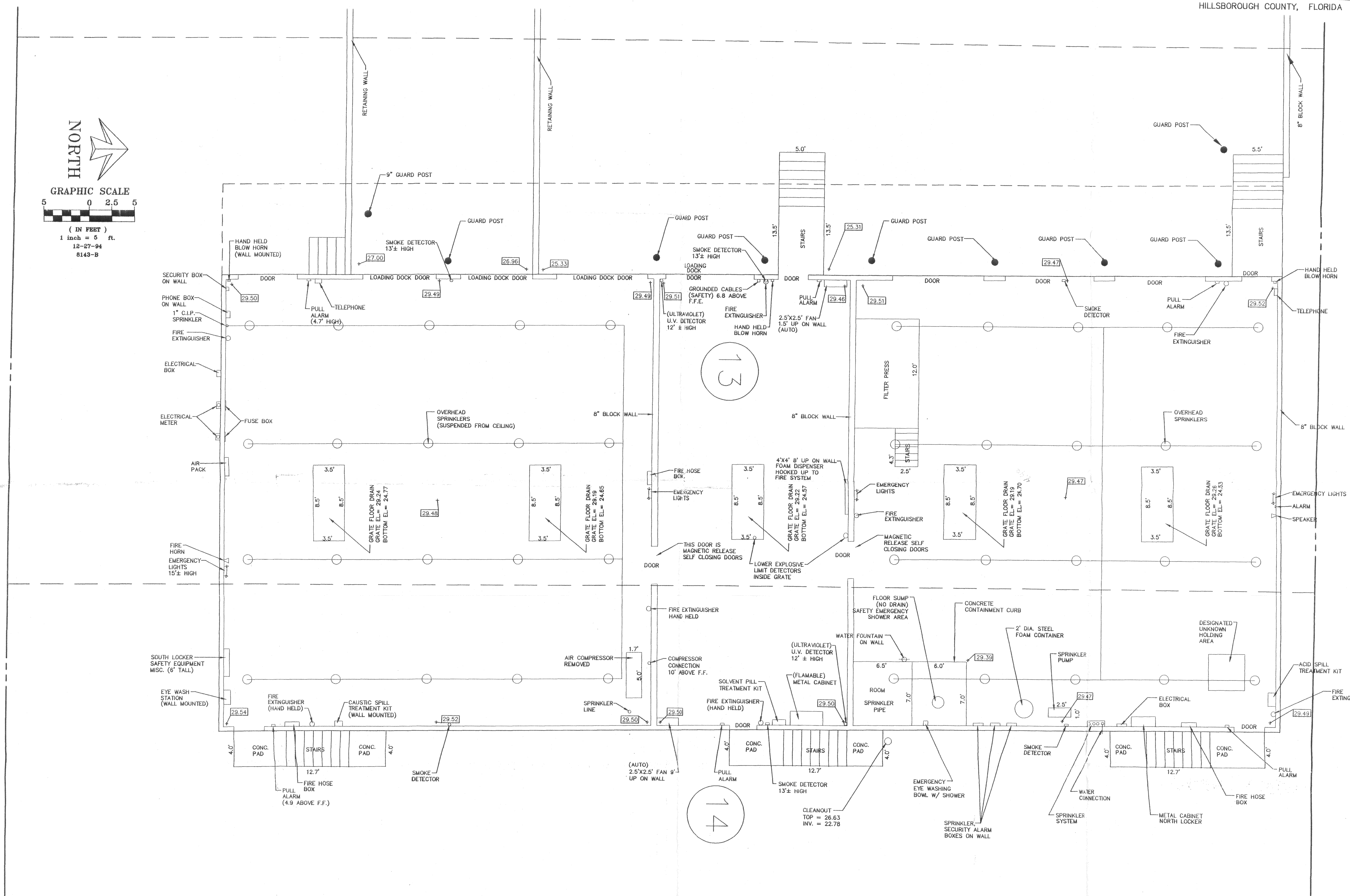
James Winter
JAMES M. WINTER, P.E. # 18313
DATE: 12/27/94

DWG. FILE No. 8143-A
FIELD BOOK No.
PROJECT No. 8143
ENG. SHEET No. 1 OF 2

C:\ACAD\DWG\8143-A.DWG Dec. 27, 1994 01:10 p.m. JST

8.2

SECTION 14 TOWNSHIP 29 RANGE 19
HILLSBOROUGH COUNTY, FLORIDA



CITY ENVIRONMENTAL SERVICES OF FLORIDA, INC.
7202 EAST EIGHTH AVENUE
TAMPA, FLORIDA 33619

KBN ENGINEERING AND APPLIED SCIENCES, INC.
5405 W. Cypress St., Suite 215
Tampa, Florida 33607
Telephone: (813) 287-1717
FAX: (813) 287-1716

DATE	No.	REVISIONS	BY

☐ PRELIMINARY
☐ CONSTRUCTION
☒ RECORD DRAWING

CLIENT	DATE
UNIVERSAL WASTE & TRANSIT, INC.	12-12-94
	DRAWN BY JES
SCALE 1" = 5'	CHECKED BY JMH

EXISTING BUILDING PLAN

SEMINOLE ENGINEERING, INC.
CONSULTING SURVEYORS PLANNERS
14483 62nd STREET NORTH
CLEARWATER, FL. 34620
TELEPHONE (813) 539-0051

RECORD DRAWING - 11/22/94

James Winter
JAMES M. WINTER, P.E. # 18313
DATE: 12/27/94

DWG. FILE No.	PROJECT No.
8143-B	8143
FIELD BOOK No.	ENG. SHEET No.
	2 OF 2

C:\ACAD\DWG\8143-B.DWG Dec. 27, 1994 01:11 p.m. JST

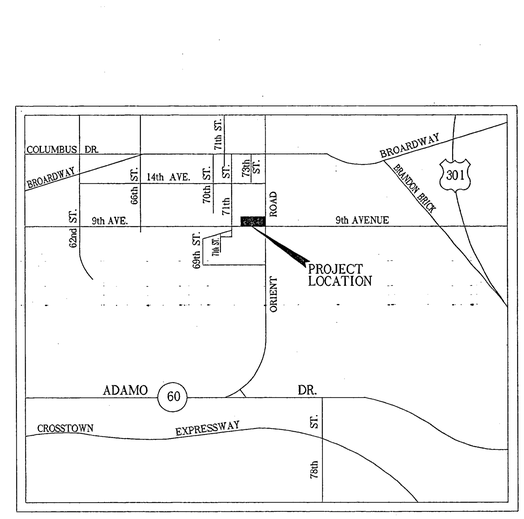
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA

7202 EAST EIGHT AVENUE

TAMPA, FLORIDA, 33619

DRAWING INDEX

SHEET	DESCRIPTION	PAGE
SP-1	EXISTING SITE PLAN	1 OF 11
SP-1.1	EXISTING ADJACENT SITE PLAN	1.1 OF 11
SP-2	PROPOSED SITE PLAN	2 OF 11
A-1	EXISTING LOADING DOCK FLOOR PLAN	3 OF 11
A-2	DEMOLITION PLAN	4 OF 11
A-3	PROPOSED CONTAMINANT AREA & LOADING DOCK FLOOR PLAN	5 OF 11
A-4	EAST & WEST ELEVATION PLAN	6 OF 11
A-5	NORTH & SOUTH ELEVATION PLAN	7 OF 11
A-6	ROOF & CROSS SECTION PLAN	8 OF 11
S-1	CONTAMINANT AREA FOUNDATION PLAN	9 OF 11
S-2	FOUNDATION DETAILS	10 OF 11



KEY MAP
N.T.S.

CHANGES FOR AS-BUILD

1. SP-2 CHANGE TOP OF WALL ELEVATION TO 26.08
2. A-1 CHANGE TOP OF GRATE ELEVATION TO 26.33
   CHANGE INV. TO 25.36
3. A-3 CHANGE TOP OF WALL ELEVATION TO 26.08
   MOVE VALVE & NOTE LOCATION AS SHOWN
4. A-6 ADD DETAIL 7/S-2
5. S-2 CHANGE TOP OF WALL ELEVATION TO 26.08
   CHANGE WALL HEIGHTS AS SHOWN
   CHANGE COATING NOTE AS SHOWN

DATE		REVISION	BY
1/24/03	1	AS-BUILD NOTE	RD
	2		
	3		
	4		
	5		

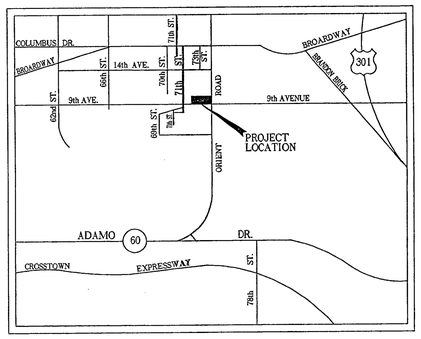
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

STATE BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
10525 49th ST. NO.
CLEARWATER FL 34622
PH 573-2505, FAX 572-8077

DATE	12/5/01
DRAWN BY	RD
FILE #	1727
PAGE NO	
SHEET NO.	COVER

SECTION 14 , TOWNSHIP 29 SOUTH, RANGE 19 EAST



KEY MAP NOT TO SCALE

LEGAL DESCRIPTION:

A SURVEY OF LOTS 8,9,10,11,12,13, AND 14, BLOCK 1, OF ORIENT PARK SUBDIVISION ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 11, PAGE 7, OF THE PUBLIC RECORDS OF HILLSBOROUGH COUNTY, FLORIDA.

EXISTING SITE PLAN
SCALE 1" = 20.0'

EXISTING SITE DATA		
EXISTING BUILDING	6,798.0 SQ. FT. =	11 %
EXISTING ASPHALT	11,498.0 SQ. FT. =	19 %
EXISTING CONCRETE	4,829.0 SQ. FT. =	8 %
GREEN AREA	35,131.0 SQ. FT. =	56 %
DIRT & SHELL AREA	3,882.0 SQ. FT. =	6 %
TOTAL SITE	62,138.0 SQ. FT. =	100 %

GRAPHIC SCALE
30 10 0 10 30 70
(IN FEET)
1 inch = 20.0 ft.

GENERAL NOTE:

1)- ALL PALM TREE INDICATED BY: Δ 12"
2)- ALL OAK TREE INDICATED BY: O 14"
3)- ALL OVERHEAD WIRE INDICATED BY: ——//——
4)- ALL WATER LINE INDICATED BY: ——W——
5)- ALL GAS LINE INDICATED BY: ——GAS——
6)- BENCH MARK: CITY OF TAMPA @ CUT SW. COR. CONC. WALK, 5' SOUTH CORNER CONCRETE BLOCK BUILDING AT NE. CORNER ORIENT ROAD AND EAST BROADWAY, ELEVATION =28.94: MEAN SEA LEVEL = 0.00
7)- ALL GUARD POST INDICATED BY: ●
8)- ALL FINISH GRADES INDICTED BY: 25.00

INFORMATION WAS UTILIZED IN THE PREPARATION OF THIS SITE PLAN WAS TAKEN FROM A SURVEY PREPARED BY EARL W. RAMER FLORIDA REG. LAND SURVEYOR NO.3618. AND I HEREBY GIVE CREDIT.

D.E.P.
FEB 11 2003
Southwest District Tampa

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RCRA
FEB 13 2003
Hazardous Waste Regulation

DATE		REVISION	BY
	1		
	2		
	3		
	4		
	5		

SCALE 1" = 20.0' © 2001
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619
STAR BUILDINGS

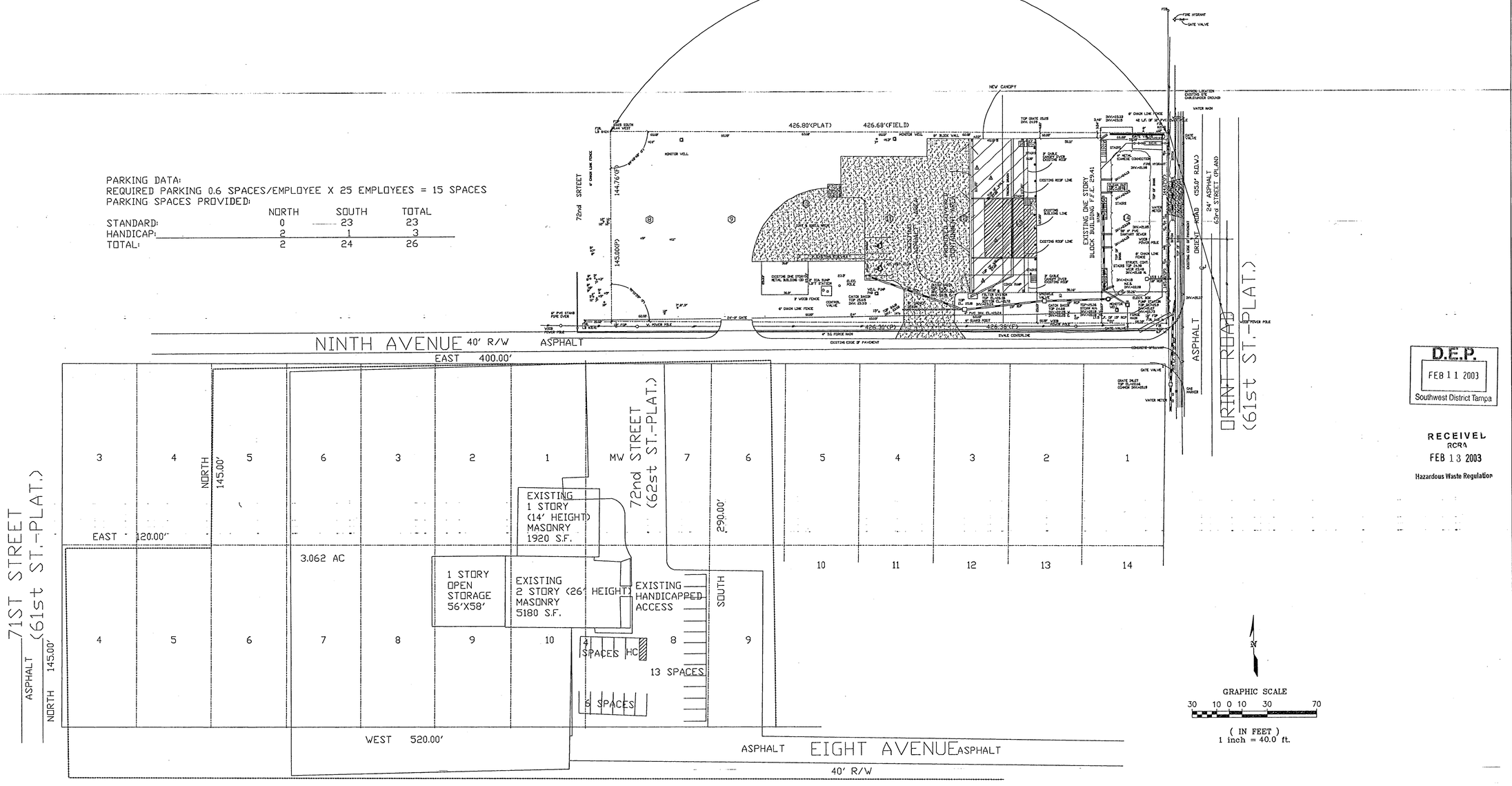
P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008712
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 12/5/01
DRAWN BY RD
FILE # 1727
PAGE NO 1 OF 11
SHEET NO SP-1

AREA IN QUESTION

PARKING DATA:
REQUIRED PARKING 0.6 SPACES/EMPLOYEE X 25 EMPLOYEES = 15 SPACES
PARKING SPACES PROVIDED:

	NORTH	SOUTH	TOTAL
STANDARD:	0	23	23
HANDICAP:	2	1	3
TOTAL:	2	24	26



EXISTING ADJACENT SITE PLAN
SCALE 1" = 40.0'

DATE		REVISION	BY
	1		
	2		
	3		
	4		
	5		

SCALE 1" = 40.0' © 2001

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7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

STAR BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 3/12/02
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FILE # 1727
PAGE NO 1.1 OF 11
SHEET NO SP-1.1

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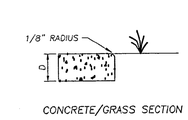
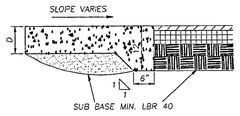
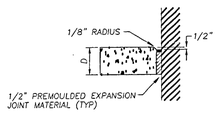


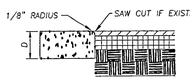
CONCRETE/GRASS SECTION



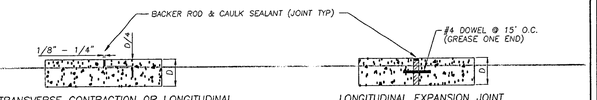
CONCRETE APRON EDGE SECTION



BUILDING/CONCRETE JOINT



CONCRETE/ASPHALT SECTION



TRANSVERSE CONTRACTION OR LONGITUDINAL JOINT (SAWED OR PRE-MOLDED).

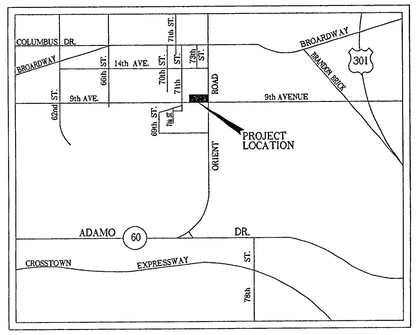
LONGITUDINAL EXPANSION JOINT (FOR CONC 7" THICK OR GREATER)

ALL CONCRETE PAVEMENT ON-SITE IS TO BE FIBERMESH REINFORCED. 8" THICK CONCRETE IN TRUCK TRAFFIC AREAS. MATERIAL AND CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH "RECOMMENDED SPECIFICATIONS FOR NON-REINFORCED PORTLAND CEMENT CONCRETE PAVING" BY THE PORTLAND CEMENT ASSOCIATION. JOINTS TO BE SPACED AT 18 FEET FOR 8 INCH THICK CONCRETE. JOINTS TO BE CONSTRUCTED AS SHOWN ABOVE.

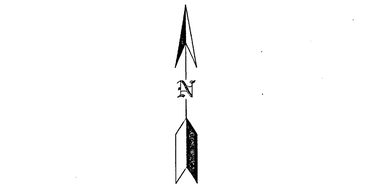
NO STEEL REINFORCEMENT IS REQUIRED FOR PAVEMENT AREAS
PROVIDE FIBER REINFORCEMENT AT 3.0 LBS PER CUBIC YARD

CONCRETE PAVEMENT DETAILS

N.T.S.



KEY MAP NOT TO SCALE



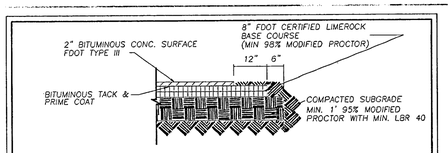
GRAPHIC SCALE

30 10 0 10 30 70

(IN FEET)
1 inch = 20.0 ft.

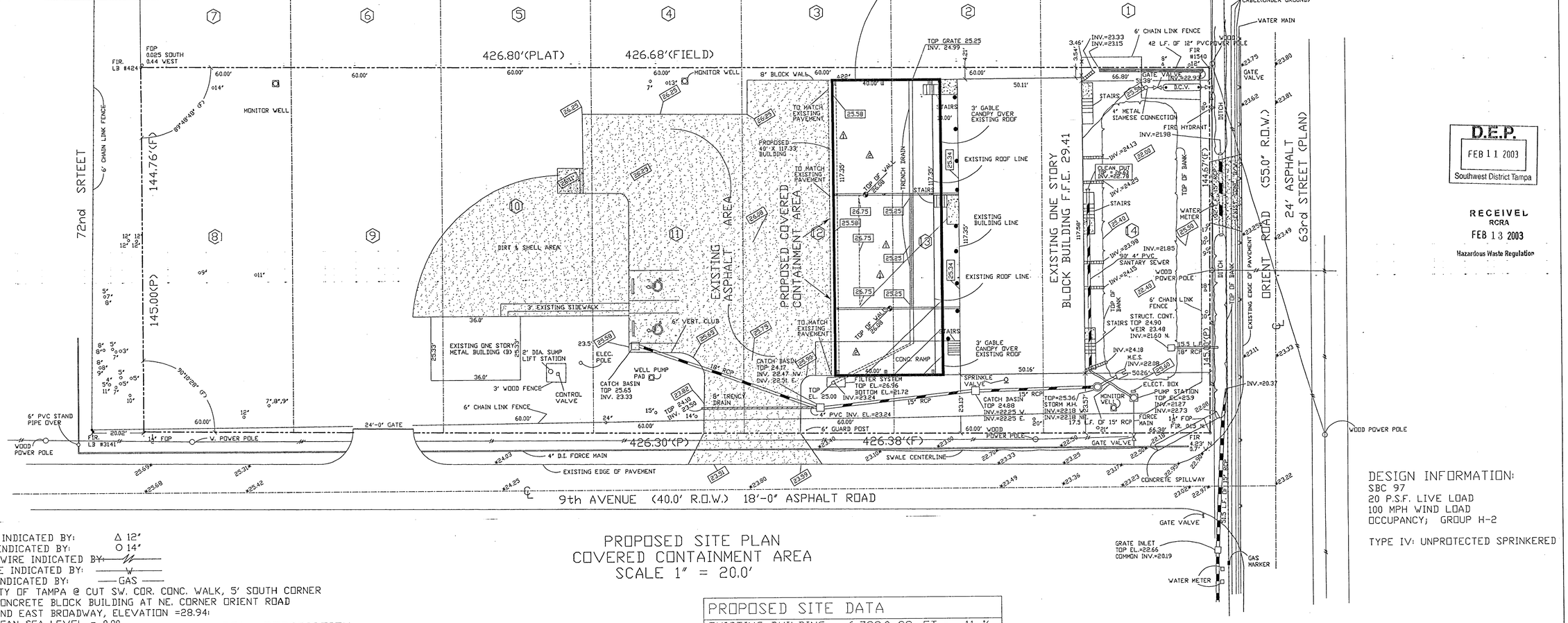
MATERIALS STORED IN EXISTING BUILDING
CLASS 1, EXPLOSIVES (NOT ALLOWED)
CLASS 2, FLAMMABLE/POISON/NON-FLAMMABLE GASSES
CLASS 3, FLAMMABLE/COMBUSTIBLE/FEUL OIL LIQUIDS
CLASS 4, FLAMMABLE/SPONTANEOUSLY COMBUSTIBLE DANGEROUS WHEN WET SOLIDS
CLASS 5, OXIDIZER/ORGANIC PEROXIDE LIQUIDS AND SOLIDS
CLASS 6, POISON/TOXIC LIQUIDS AND SOLIDS
CLASS 7, BIOLOGICAL (NOT ALLOWED)
CLASS 7, RADIOLOGICAL (NOT ALLOWED)
CLASS 8, CORROSIVE LIQUID AND SOLIDS
CLASS 9, MISCELLANEOUS MATERIALS

H2 TYPE 4 CONSTRUCTION SPRINKLED
TABLE 500 MAX. ALLOWABLE
SQUARE FOOTAGE 5,000 SQ. FT.
1 1/2 HOUR EXISTING FIRE SEPARATION
ADJACENT TO PROPOSED BUILDING
OF 4,694 SQ. FT.



TYP. ASPHALT PAVING SECTION

TRUCK USE AREA
CONSTRUCTED AS PER FDOT SPECIFICATIONS
NTS



FDP
FIRE HYDRANT
GATE VALVE

DESIGN INFORMATION:
SBC 97
20 P.S.F. LIVE LOAD
100 MPH WIND LOAD
OCCUPANCY; GROUP H-2

TYPE IV: UNPROTECTED SPRINKERED

GENERAL NOTE:
1)- ALL PALM TREE INDICATED BY: △ 12"
2)- ALL OAK TREE INDICATED BY: ○ 14"
3)- ALL OVERHEAD WIRE INDICATED BY: ——//——
4)- ALL WATER LINE INDICATED BY: ——W——
5)- ALL GAS LINE INDICATED BY: ——GAS——
6)- BENCH MARK: CITY OF TAMPA @ CUT SW. COR. CONC. WALK, 5' SOUTH CORNER CONCRETE BLOCK BUILDING AT NE. CORNER ORIENT ROAD AND EAST BROADWAY, ELEVATION =28.94: MEAN SEA LEVEL = 0.00
7)- ALL GUARD POST INDICATED BY: ●
8)- EXISTING GRADES INDICTED BY: × 00.00
9)- PROPOSED GRADES INDICTED BY: ■ 00.00

▨ PROPOSED CONTAMINANT AREA

PROPOSED SITE PLAN
COVERED CONTAINMENT AREA
SCALE 1" = 20.0'

LEGAL DESCRIPTION:
A SURVEY OF LOTS 8,9,10,11,12,13, AND 14, BLOCK 1, OF ORIENT PARK SUBDIVISION ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 11, PAGE 7, OF THE PUBLIC RECORDS OF HILLSBOROUGH COUNTY, FLORIDA.

SECTION 14, TOWNSHIP 29 SOUTH, RANGE 19 EAST

INFORMATION WAS UTILIZED IN THE PREPARATION OF THIS SITE PLAN WAS TAKEN FROM A SURVEY PREPARED BY EARL W. RAMER FLORIDA REG. LAND SURVEYOR NO.3618. AND I HEREBY GIVE CREDIT.

PROPOSED SITE DATA		
EXISTING BUILDING	6,798.0 SQ. FT. =	11 %
EXISTING ASPHALT	9,950.0 SQ. FT. =	16 %
EXISTING CONCRETE	4,005.0 SQ. FT. =	7 %
PROPOSED CONCRETE	2,372.0 SQ. FT. =	4 %
GREEN AREA	35,131.0 SQ. FT. =	56 %
DIRT & SHELL AREA	3,882.0 SQ. FT. =	6 %
TOTAL SITE	62,138.0 SQ. FT. =	100 %

DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

SCALE 1" = 20.0' © 2001
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008172
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 12/5/01
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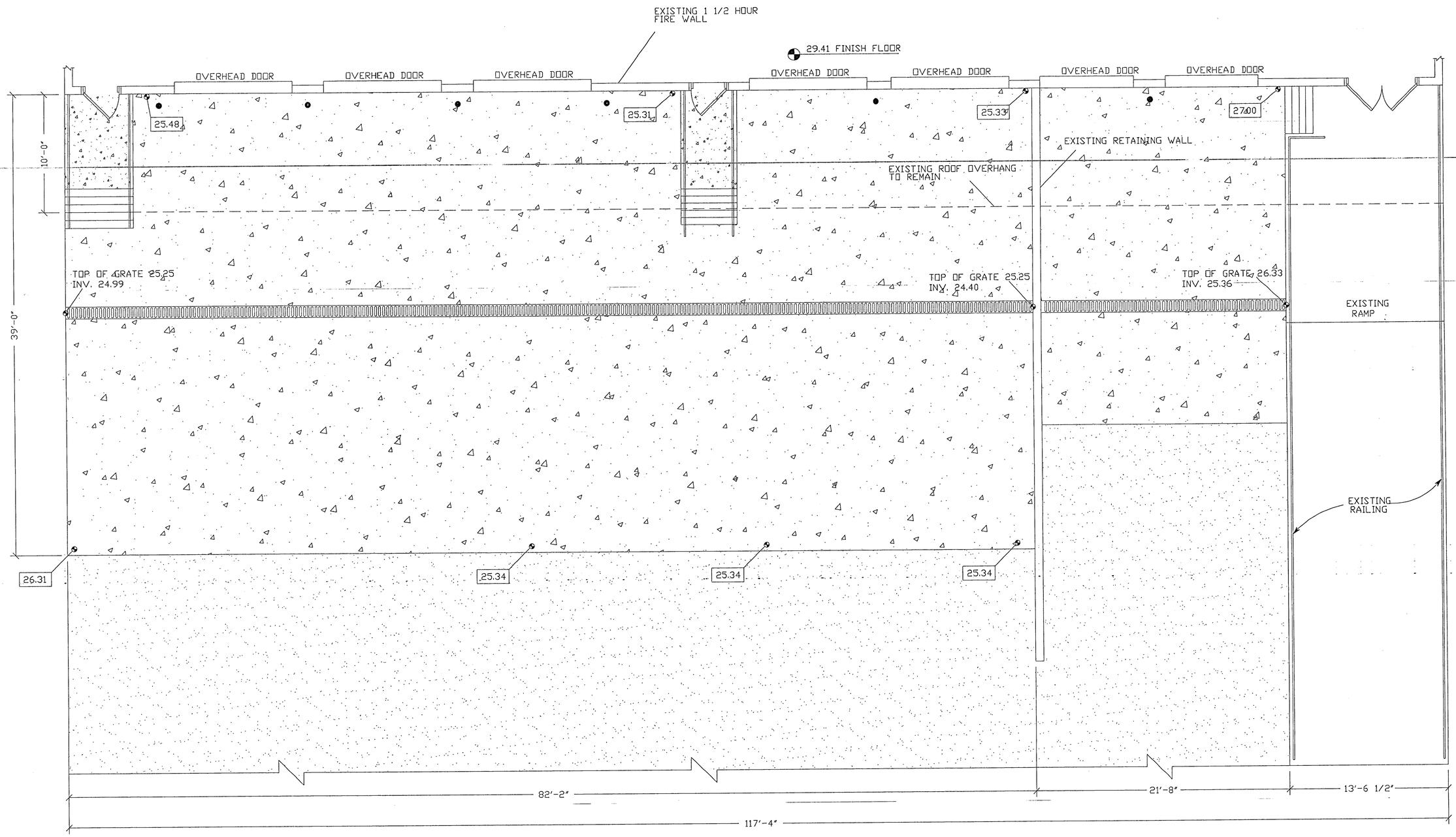
FILE # 1727
PAGE NO 2 OF 11
SHEET NO SP-2

EXISTING OVERHEAD DOORS ARE A MIN. OF 1 1/2 HOUR FIRE DOORS
EXISTING 6'X7' + 3'X7' DOORS ARE A MIN. 1 1/2 HOUR FIRE DOORS



EXISTING LOADING DOCK FLOOR PLAN
SCALE 1/4" = 1'-0"

KEY

- CONCRETE
- ASPHALT
- EXISTING PIPE BOLLARD
- EXISTING TRENCH DRAIN

D.E.P.
FEB 11 2003
Southwest District Tampa

RECEIVED
2003
FEB 13 2003
Hazardous Waste Regulation

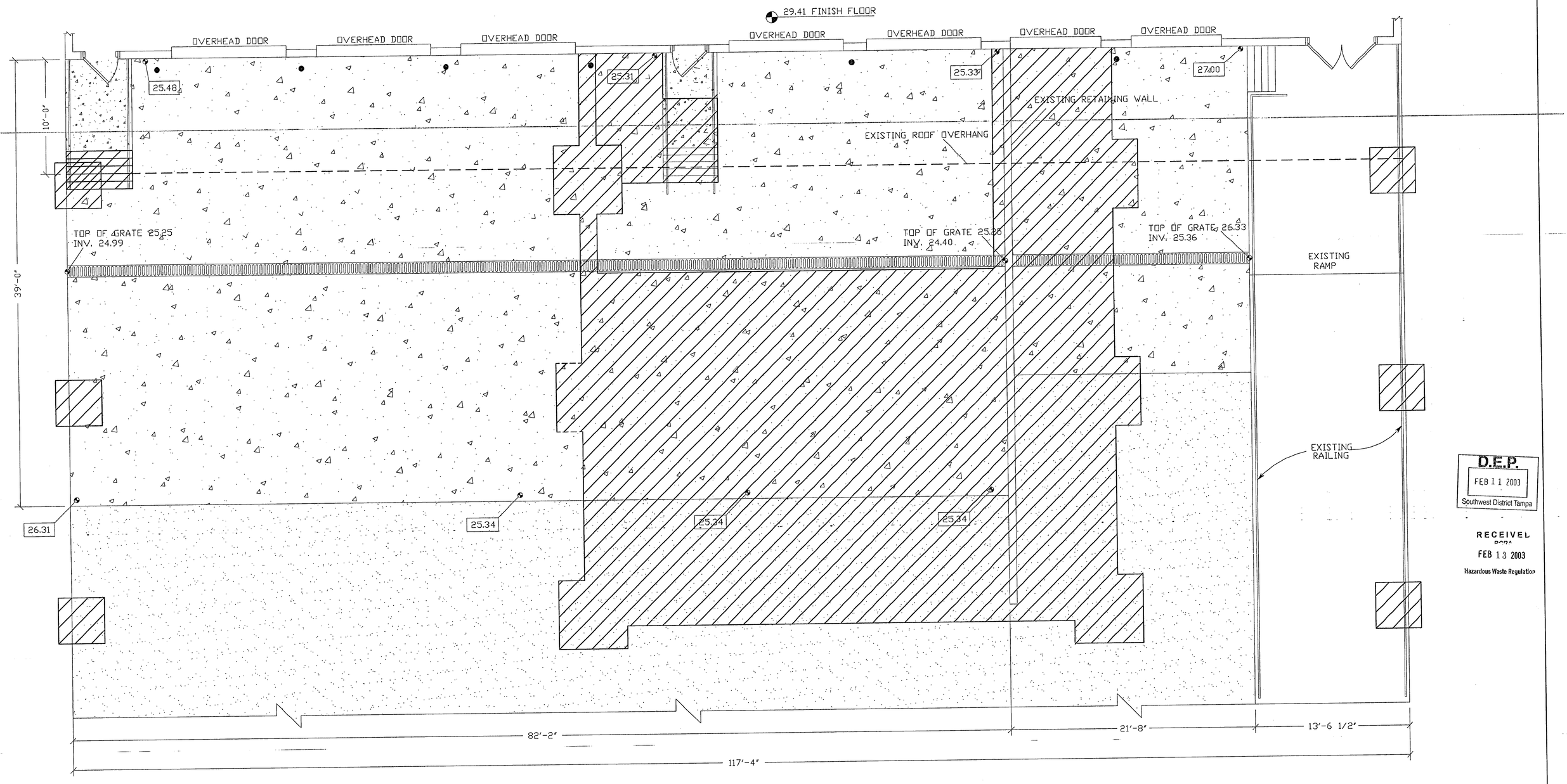
DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

SCALE 1/4" = 1'-0"
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

STAR BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE	12/3/01
DRAWN BY	RD
FILE #	1727
PAGE NO	3 OF 11
SHEET NO	A-1



KEY

- CONCRETE
- ASPHALT
- EXISTING PIPE BOLLARD
- EXISTING TRENCH DRAIN
- AREAS OF DEMOLITION

DEMOLITION PLAN
SCALE 1/4" = 1'-0"

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1/24/03	1	AS-BUILD	RD
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	3		
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SCALE 1/4" = 1'-0" © 2001
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STAR BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO CGC061112
10525 49th ST. NO.
CLEARWATER FL 33762
PH 573-2566, FAX 572-8077

DATE	12/3/01
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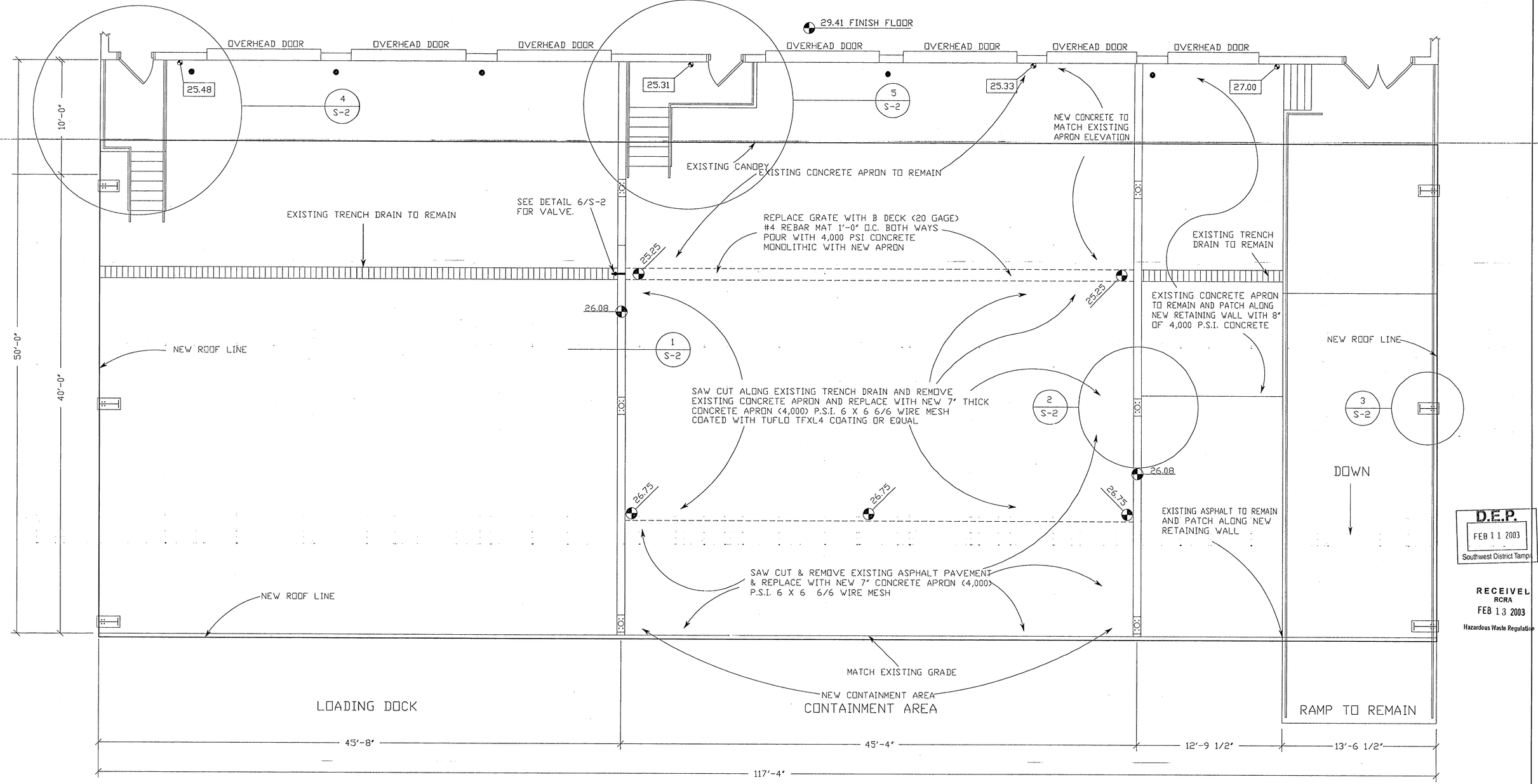
FILE #	1727
PAGE NO	4 OF 11
SHEET NO	A-2



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Hazardous Waste Regulation

NOTE:
NEW CANOPY TO BE FIRE SPRINKLED IN ACCORDANCE WITH NFPA & LOCAL CODES.

CONTAMINANT AREA FLOOR & WALLS TO BE COATED WITH TUFLO TFXL4 COATING

PROPOSED CONTAINMENT AREA & LOADING DOCK FLOOR PLAN
SCALE 1/4" = 1'-0"

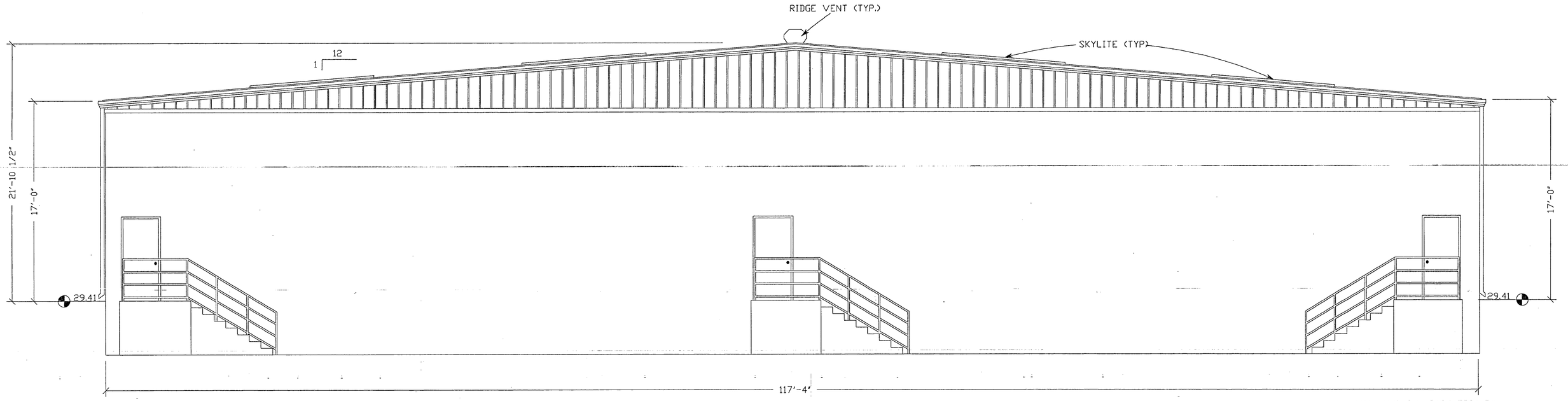
DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

SCALE 1/4" = 1'-0" © 2001
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

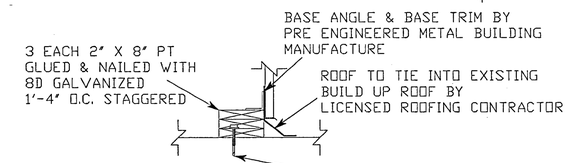
STAR BUILDINGS

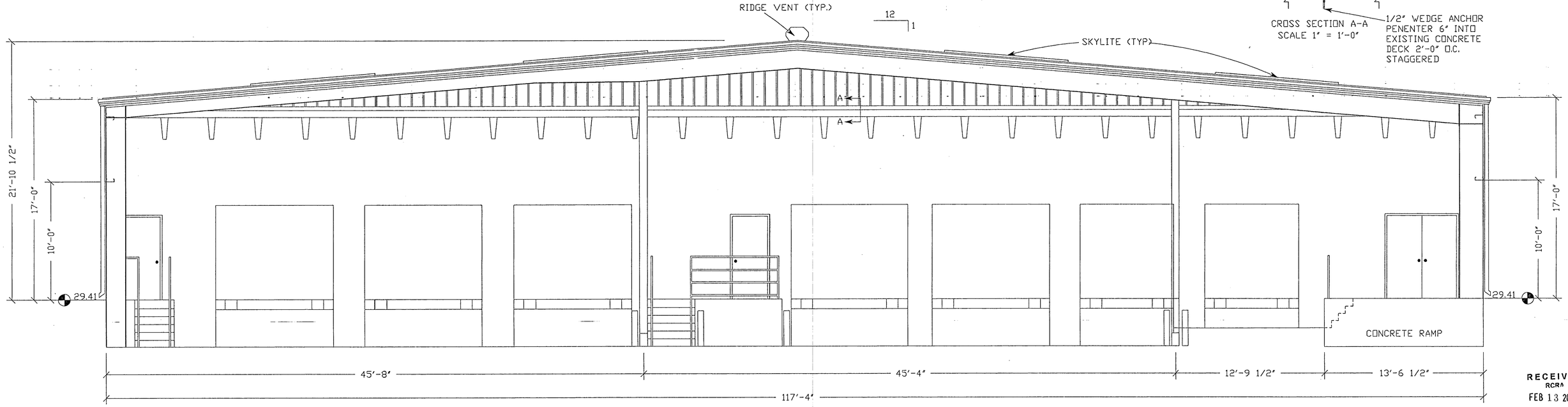
P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. GC008112
10523 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE	12/5/01
DRAWN BY	RD
FILE #	1727
PAGE NO	5 OF 11
SHEET NO	A-3



EAST ELEVATION
SCALE 1/4" = 1'-0"





WEST ELEVATION
SCALE 1/4" = 1'-0"

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RCRA
FEB 13 2003
Hazardous Waste Regulat

DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

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7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

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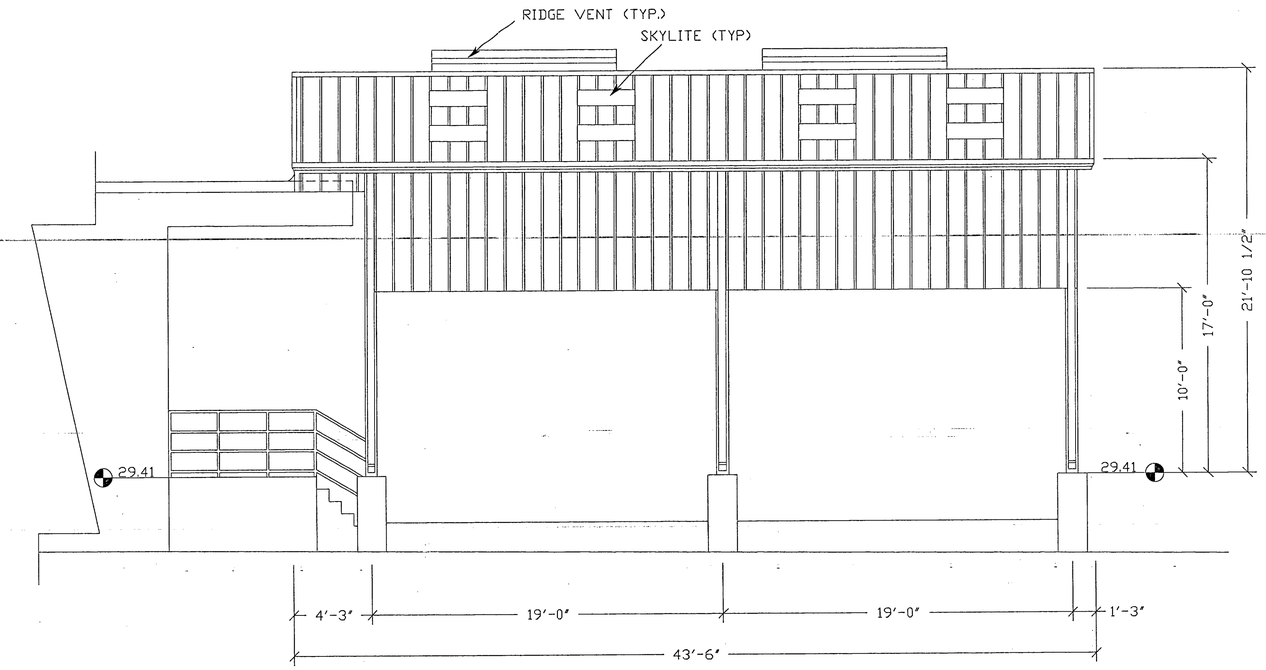
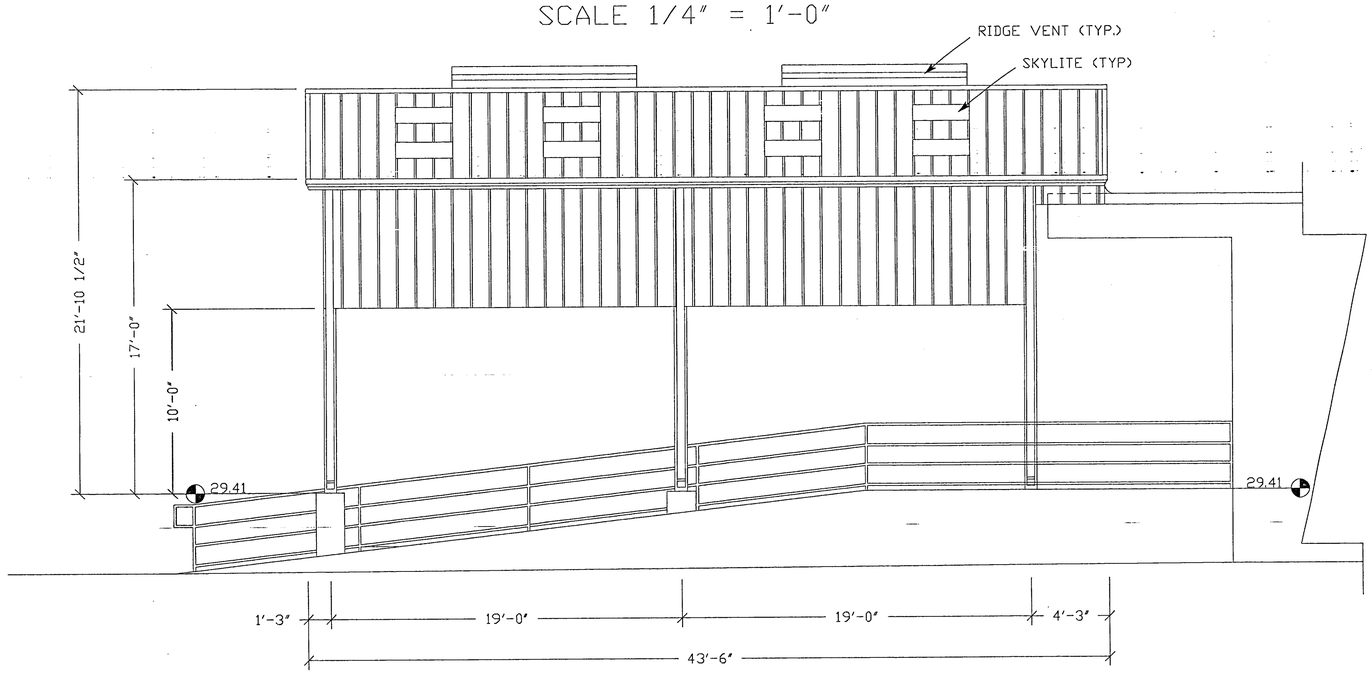
P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 12/5/01
DRAWN BY RD
FILE # 1727
PAGE NO 6 OF 11
SHEET NO A-4



NORTH ELEVATION
SCALE 1/4" = 1'-0"



SOUTH ELEVATION
SCALE 1/4" = 1'-0"

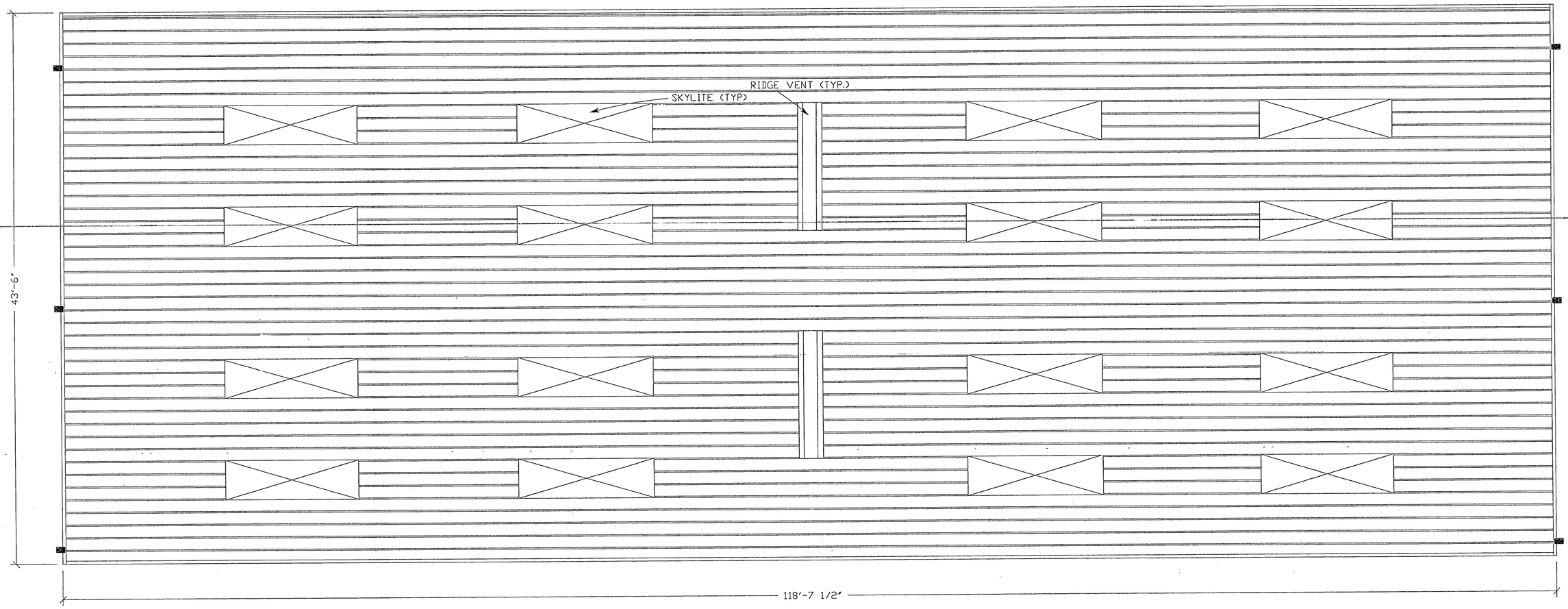
DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

SCALE 1/4" = 1'-0"
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

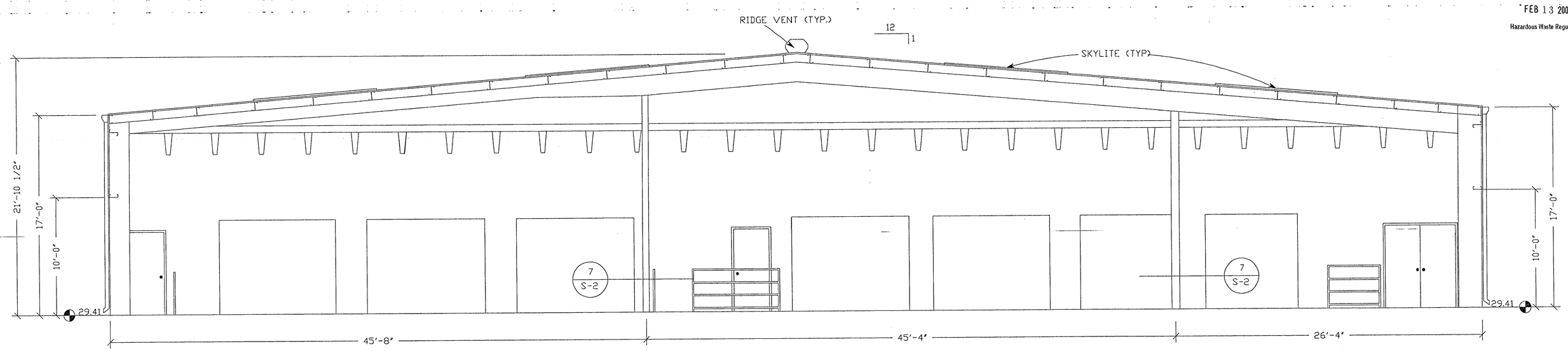
BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 12/3/01
DRAWN BY RD
FILE # 1727
PAGE NO 7 OF 11
SHEET NO A-5



ROOF PANEL PLAN
SCALE 1/4" = 1'-0"



WALL SECTION
SCALE 1/4" = 1'-0"

DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

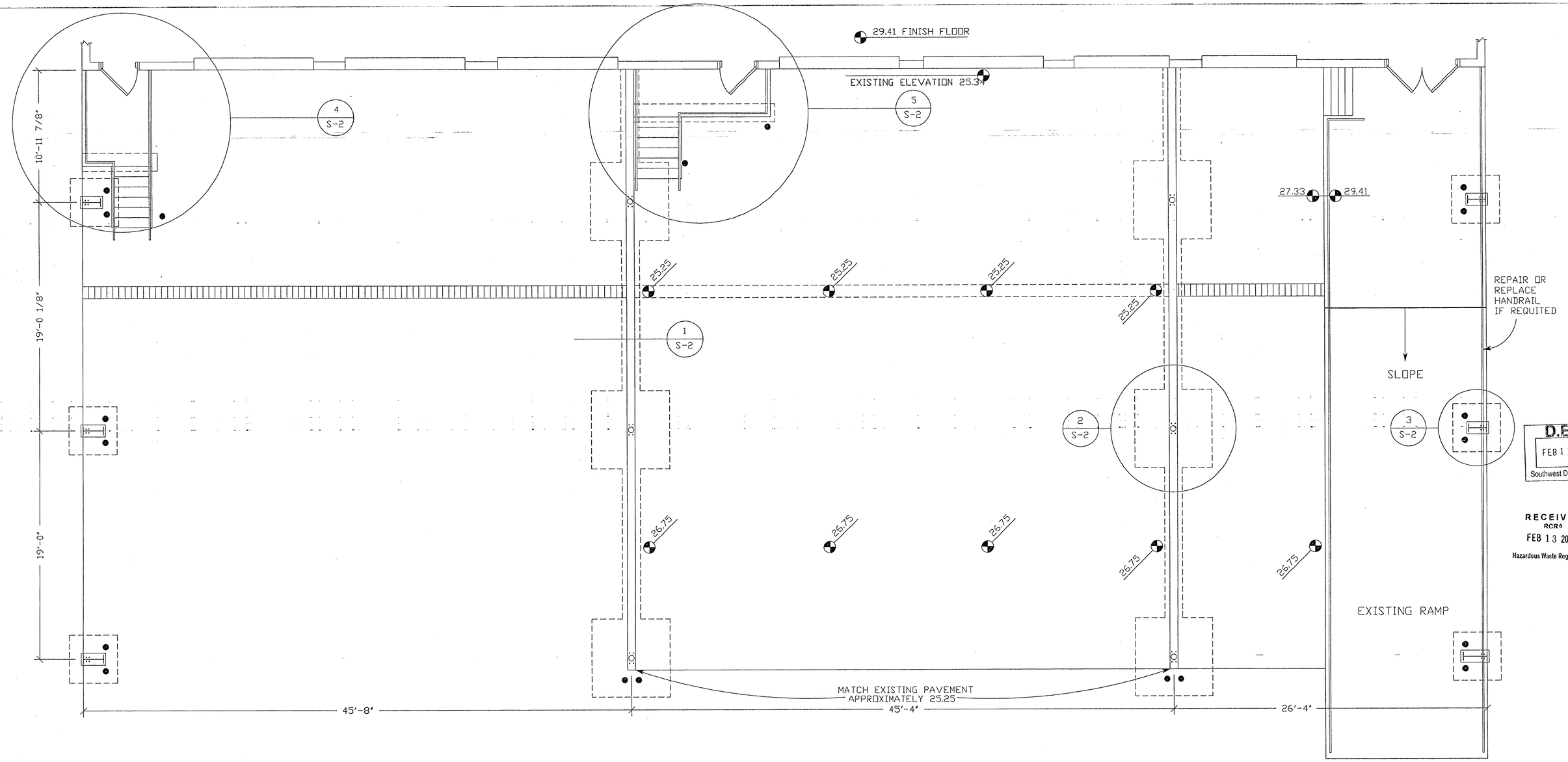
SCALE 1/4" = 1'-0"

CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

STAR BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC061112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 573-2505, FAX 572-8077

DATE 12/3/01
DRAWN BY RD
FILE # 1727
PAGE NO 8 OF 11
SHEET NO A-6



CONTAINMENT AREA FOUNDATION PLAN

SCALE 1/4" = 1'-0"

- NEW 6" BOLLARDS CONCRETE FILLED 48" FINNISH ELEVATION 36" EMBEDDED

DATE		REVISION	BY
1/24/03	1	AS-BUILD	RD
	2		
	3		
	4		
	5		

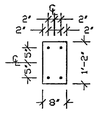
SCALE 1/4" = 1'-0" © 2001

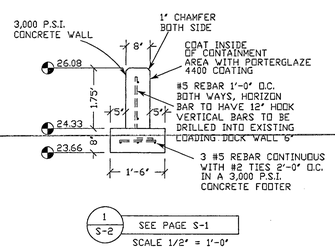
CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
7202 EAST EIGHT AVENUE
TAMPA, FLORIDA, 33619

STAR BUILDINGS

P.J. CALLAGHAN
GENERAL CONTRACTORS
LICENSE NO. CGC008112
10525 49th ST. NO.
CLEARWATER FL. 33762
PH 579-2565, FAX 572-8077

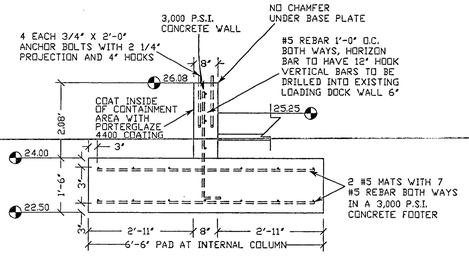
DATE 12/5/01
DRAWN BY RD
FILE # 1727
PAGE NO 9 OF 11
SHEET NO S-1





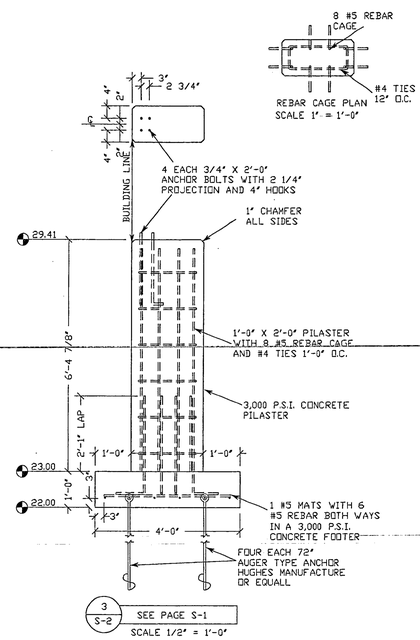
1 / S-2 SEE PAGE S-1

SCALE 1/2" = 1'-0"



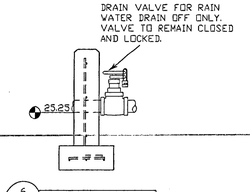
2 / S-2 SEE PAGE S-1

SCALE 1/2" = 1'-0"



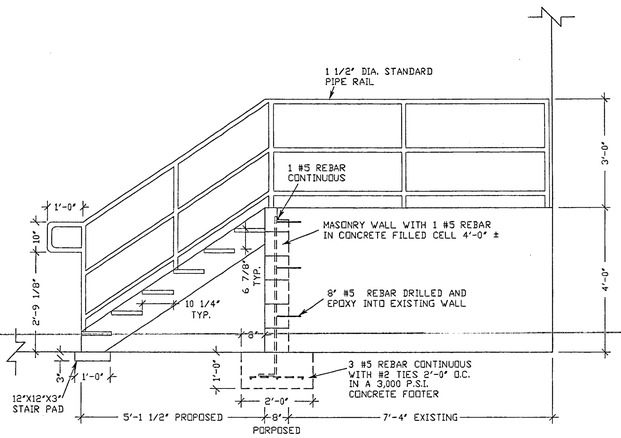
3 / S-2 SEE PAGE S-1

SCALE 1/2" = 1'-0"



6 / S-2 SEE PAGE A-3

SCALE 1/2" = 1'-0"



4 / S-2 NORTH STAIR SIDE VIEW

SEE PAGE S-1

SCALE 1/2" = 1'-0"

FOUNDATION DETAILS

SCALE 1" = 1'-0"

4 / S-2 NORTH STAIR FRONT VIEW

SEE PAGE S-1

SCALE 1/2" = 1'-0"

STAIR DETAIL TYP.

SCALE 1/2" = 1'-0"

5 / S-2 MIDDLE STAIR SIDE VIEW

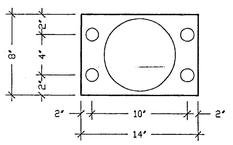
SEE PAGE S-1

SCALE 1/2" = 1'-0"

5 / S-2 MIDDLE STAIR FRONT VIEW

SEE PAGE S-1

SCALE 1/2" = 1'-0"



7 / S-2 INTERIOR COLUMN EXTENSION

SEE PAGE A-6

NOT TO SCALE

STAIR DETAILS

SCALE 1/2" = 1'-0"

D.E.P.
FEB 11 2003
Southwest District Tampa

RECEIVED
RCRA
FEB 13 2003
Hazardous Waste Regulation

DATE		REVISION	BY
1/24/03	1	AS-BUILT	RD
	2		
	3		
	4		
	5		

SCALE 1/2" = 1'-0" © 2001

CITY ENVIRONMENTAL, SERVICE, INC. OF FLORIDA
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BUILDINGS

P.J. CALLAGHAN
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PH 573-2505, FAX 572-8077

DATE 12/5/01
DRAWN BY RD
FILE # 1727
PAGE NO 10 OF 11
SHEET NO S-2

APPENDIX E

SWFWMD Well Inventory

SOUTHWEST FLORIDA WATER MANAGEMEN . DISTRICT RDBS CODE TABLE DISCRIPTIONS

WELL USE CODES

CODE	DESCRIPTION
A	IRRIGATION
AL	AQUIFER WATER LEVELS
AQ	AQUACULTURE
AS	AQUIFER AND STORAGE RECOV.
AU	AUGMENTATION
B	PUBLIC SUPPLY
C	DEWATERING
CN	PUBLIC SUPPLY CONVERSION (TOP 20)
CV	PUBLIC SUPPLY CONVERSION RECLASS
D	DOMESTIC
DF	DISCHARGE FLOW
E	ESSENTIAL SERVICES (FIRE PROTECTION)
EF	EFFLUENT WASTEWATER
F	FOUNDATION TEST WELL (SOIL BORINGS)
G	RECHARGE/ SATELITE
GR	GROUNDING ROD
GT	GEOTHERMAL WELL
HA	REPAIR IRRIGATION
HB	REPAIR PUBLIC SUPPLY
HD	REPAIR DOMESTIC
HY	BACKPLUGGED
HZ	REPAIR OR DEEPEN (USE UNSPECIFIED)
T	TESTWELL / PIEZOMETER
U	RECOVERY
V	INVENTORY WELL
W	AIR COND. SUPPLY - HEAT PUMP
WL	WETLAND WATER LEVEL
WQ	WATER QUALITY, GENERAL
Y	PLUGGED
YY	DISMANTLED
Z	SEALING WATER
ZZ	CONVERSION USE CODE ERROR

WELL USE CODES (CONT'D)

I	INDUSTRIAL
J	INJECTION WELL
K	CONNECTION WELLS
L	LIVESTOCK
LL	LAKE WATER LEVEL
M	MINING
N	RETURN AIR/ HEAT
O	OBSERVATION OR MONITOR WELL
PO	POWER
PC	PUBLIC SUPPLY CONV. (NO RECORD)
Q	DRAINAGE WELL
R	RECREATIONAL
RC	RECHARGE
RF	RAINFALL
RP	REPUMP
RU	REUSE
RV	RECOVERY WELL
SF	STREAMFLOW
SL	STORMWATER REUSE LINE
SR	REPLACEMENT WELL (SARASOTA)
SW	SALINE WATER INTRUSION

T TESTWELL / PIEZOMETER

SOUTHWEST FLORIDA WATER MANAGEMEN . DISTRICT RDBS CODE TABLE DISCRIPTIONS

WCP DRILLING METHODS

CODE	DESCRIPTION
A	AUGER
B	HYDRAULIC PUNCH
C	CABLE TOOL
D	HORIZONTAL TRENCH
G	GROUTED BY APPROVED METHOD
H	HAND DRIVER (WELL POINT, SAND POINT)
J	JETTED
P	PUMPED THROUGH TREMIE PIPE
R	HYDRAULIC ROTARY
S	SONIC
T	TWO OR MORE METHODS
Z	NOT ENTERED

WCP CASING MATERIALS

CODE	DESCRIPTION
A	BLACK STEEL
B	PVC
C	GALVANIZED
D	STAINLESS STEEL
E	COPPER
F	FIBERGLASS REINFORCED CASING (FRP)
S	SOIL BORING / NOT CASED
T	TEFLON
Z	NOT ENTERED

MASTER PUMP TYPES

CODE	DESCRIPTION
*	TYPE UNKNOWN
C	CENTRIFUGAL
J	JET
S	SUBMERSIBLE
T	TURBINE

WCP DELETE CODE (REASON)

CODE	DESCRIPTION
CN	PERMIT CANCELLED BY CONTRACTOR
CU	COMPLETION UNKNOWN OR UNAVAILABLE
DC	DECEASED
DE	DECEASED
DL	DENIAL EDB CONDITIONS
DP	DUPLICATE PERMIT (CANCELLED BY STAFF)
MD	MOVED (NO FORWAR ADDRESS)
ND	WCP NOT WITHIN DISTRICT BOUNDARIES
NL	NO LONGER IN BUSINESS
NR	NOT RENEWED
OD	OVERDUE COMPLETION REPORTS
TR	TRANSFERRED TO OTHER CONTRACTOR
WD	PERMIT WITHDRAWN
WM	WMD DELETION (UNABLE TO FIND WUP)
WN	WUP NEVER ISSUED
90	PHYSICAL DELETION

WCP CONTAMINATION CODE

CODE	DESCRIPTION
BZ	BENZENE
EDB	ETHYLENE DIBROMIDE
NI	NITRATE
PB	LEAD

WCP FINISH CODES

CODE	DESCRIPTION
A	NOT ENTERED
B	BACKPLUGGED
D	WELL CAPPED
E	GROUNDING ROD
F	FAILED WELL
G	GRAVEL PACK
H	HORIZONTAL WELL
I	INCOMPLETE WELL (NOT FINISHED)
O	OPEN HOLE
P	ABANDONED
Q	GEOTHERMAL / U-TUBE
R	REPAIR
S	SCREENED
T	SANDPOINT OR SCREEN, TELES.
U	UPGRADE TO PSW W/ TOP 20 GROUT
V	UPGRADE TO PSW/ NO WORK DONE

SWFWD W. Inventory
S 14, T 29S, R 19E

WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
316870	1	1/1/70	7/1/79	14	29	19	4	A	FLA STEEL C	NO ADDRESS	NO CITY	FL	
331140	1	1/1/70	7/1/79	14	29	19	4	A	CHAPMAN COM	NO ADDRESS	NO CITY	FL	
377412	1	10/13/82	10/18/82	14	29	19	4	A	CENTRAL FLORIDA LANDSCAPING	6109 ORIENT RD	TAMPA	FL	33610
467955	1	10/5/88	10/31/88	14	29	19	4	A	LEVANT, LEE	6912 E. 9TH AVE.	TAMPA	FL	33605
477406	1	3/22/89	4/17/89	14	29	19	8	A	HILLSBOROUGH CO BOCC	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
667886	1	4/19/02	4/27/02	14	29	19	4	A	SOUTHWESTERN SUPPLIERS	6815 E 14TH ST	TAMPA	FL	33610
339486	1	1/1/70	7/1/79	14	29	19	4	B	D JOSEPH CO	NO ADDRESS	NO CITY	FL	
490957	1	12/20/89	1/10/90	14	29	19	4	B	FLORIDA MEGA-MIX INC	1902 NORTH 69TH STREET	TAMPA	FL	33619
622364	1	6/30/99	8/30/99	14	29	19	4	B	BAY CITIES GAS CORP	5322 KELLY RD	TAMPA	FL	33615
307009	1	1/1/70	7/1/79	14	29	19	3	D	R N VANCE	NO ADDRESS	NO CITY	FL	
310940	1	1/1/70	7/1/79	14	29	19	3	D	BIVAN SLS	4406 WISCONSIN	TAMPA	FL	33609
316339	1	1/1/70	7/1/79	14	29	19	3	D	C COOPER	1410 21ST AVE.	TAMPA	FL	33609
317346	1	1/1/70	7/1/79	14	29	19	4	D	FLORIDA MATERIAL HANDLING	4314 EAST 7TH AVE.	TAMPA	FL	33609
317824	1	1/1/70	7/1/79	14	29	19	4	D	SINGLETON, CHARLES	3201 3RD AVE.	TAMPA	FL	33609
318215	1	1/1/70	7/1/79	14	29	19	4	D	HACKETT, C.A.	1800 ORIENT ROAD	TAMPA	FL	33609
324981	1	1/1/70	7/1/79	14	29	19	4	D	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
349177	1	11/13/79	11/19/79	14	29	19	2	D	BLACKHAWK ELECTRIC	3114 BAY-TO-BAY BOULEVARD	TAMPA	FL	33605
349461	1	11/27/79	11/29/79	14	29	19	2	D	SOUTHWEST FLA WATER MGT DISTRICT	2379 BROAD ST	BROOKSVILLE	FL	34604
357482	1	8/27/80	9/9/80	14	29	19	2	D	BELL, ANN	325 GLEN OAKS AVENUE	TEMPLE TERRACE	FL	33617
361296	1	1/21/81	1/24/81	14	29	19	4	D	MEENING, MR.	2806 N 66TH ST	TAMPA	FL	33601
362857	1	3/11/81	3/17/81	14	29	19	4	D	OSBORNE, MARIE	3505 72ND ST	TAMPA	FL	33601
368283	1	8/18/81	8/25/81	14	29	19	4	D	WOODHAM, T. C.	2002 65TH ST	TAMPA	FL	33619
368738	1	9/8/81	10/6/81	14	29	19	2	D	FREEMAN, FRED F.	2003 65TH STREET NORTH	TAMPA	FL	33619
399419	1	1/7/85	1/10/85	14	29	19	4	D	DRURY, O.D.	7220 E 29 AVE	TAMPA	FL	33619
547815	1	2/2/94	2/28/94	14	29	19	4	D	JAMES W DUPREE	7110 EAST 14TH AVENUE	TAMPA	FL	33619
471877	1	11/21/88	12/16/88	14	29	19	4	H	DAVID JOSEPH COMPANY	1002 ORIENT ROAD	TAMPA	FL	33605
471878	1	11/21/88	12/16/88	14	29	19	2	H	DAVID JOSEPH COMPANY	1002 ORIENT ROAD	TAMPA	FL	33605
517210	1	9/16/91	10/29/91	14	29	19	4	H	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
305163	1	3/3/70	3/12/70	14	29	19	6	I	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
305886	1	5/28/70	7/2/70	14	29	19	10	I	SEABOARD COASTLINE	GENERAL DELIVERY	TAMPA	FL	33612
359356	1	11/4/80	11/22/80	14	29	19	6	I	COOKS LUMBER COMPANY	1905 NORTH 66TH STREET	TAMPA	FL	33619
392785	1	6/13/84	6/20/84	14	29	19	6	I	CONCRETE PRODUCTS CORPORATION	4100 PARK STREET	ST PETERSBURG	FL	33709
466446	1	8/31/88	9/21/88	14	29	19	5	I	JOSEPH, DAVID	BOX 11906	TAMPA	FL	33680
483237	1	7/10/89	7/14/89	14	29	19	4	I	UNIVERSAL WASTE INC.	2002 N. ORIENT RD.	TAMPA	FL	33619
509947	1	1/29/91	3/8/91	14	29	19	8	I	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
687154	1	7/11/03	7/23/03	14	29	19	4	J	ALARIC	2110 NORTH 71ST ST	TAMPA	FL	33619
361279	1	1/20/81	5/14/81	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
361280	1	1/20/81	5/14/81	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
361281	1	1/20/81	5/14/81	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
375658	1	6/30/82	7/5/82	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381712	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381713	1	5/3/83	9/13/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381714	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381715	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381716	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381717	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381718	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381719	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381720	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381721	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381722	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381723	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381724	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601

SWFWD W... Inventory
S 14, T 29S, R 19E

WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
381725	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381726	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381727	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381728	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381729	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381730	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381731	1	5/3/83	9/15/83	14	29	19	1	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381732	1	5/3/83	10/10/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381733	1	5/3/83	9/15/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381734	1	5/3/83	9/15/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381735	1	5/3/83	9/15/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381736	1	5/3/83	9/15/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
381737	1	5/3/83	9/15/83	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
402622	1	4/4/85	1/28/85	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
402623	1	4/4/85	7/23/86	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
402624	1	4/4/85	4/4/85	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
402625	1	4/4/85	4/4/85	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
402626	1	4/4/85	4/4/85	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
412672	1	2/20/86	2/24/86	14	29	19	4	O	HILLSBOROUGH CO BOCC	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
412673	1	2/20/86	2/24/86	14	29	19	4	O	HILLSBOROUGH CO BOCC	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
412674	1	2/20/86	2/25/86	14	29	19	4	O	HILLSBOROUGH CO BOCC	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
412675	1	2/20/86	2/25/86	14	29	19	4	O	HILLSBOROUGH CO BOCC	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
422277	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
422278	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
422279	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
422280	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
422281	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
422282	1	10/14/86	10/15/86	14	29	19	2	O	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
425994	1	12/30/86	1/2/87	14	29	19	2	O	PETROLEUM PRODUCTS SERV	6584 50TH AVE NORTH	ST PETERSBURG	FL	33709
425995	1	12/30/86	1/2/87	14	29	19	2	O	PETROLEUM PRODUCTS SERV	6584 50TH AVE NORTH	ST PETERSBURG	FL	33709
425996	1	12/30/86	1/2/87	14	29	19	2	O	PETROLEUM PRODUCTS SERV	6584 50TH AVE NORTH	ST PETERSBURG	FL	33709
425997	1	12/30/86	1/2/87	14	29	19	2	O	PETROLEUM PRODUCTS SERV	6584 50TH AVE NORTH	ST PETERSBURG	FL	33709
430658	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430659	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430660	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430661	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430662	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430663	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430664	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430665	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430666	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
430667	1	4/10/87	5/1/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
431755	1	5/5/87	5/6/87	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
431756	1	5/5/87	5/6/87	14	29	19	2	O	CIOE, LOUIE & DEBBIE	LOT 2, MCGOWAN ST	CRYSTAL RIVER	FL	32629
438928	1	10/6/87	10/7/87	14	29	19	2	O	ROUNTREE TRANSPORT	7021 E. BROADWAY	TAMPA	FL	
438929	1	10/6/87	10/7/87	14	29	19	2	O	ROUNTREE TRANSPORT	7021 E. BROADWAY	TAMPA	FL	
438930	1	10/6/87	10/7/87	14	29	19	2	O	ROUNTREE TRANSPORT	7021 E. BROADWAY	TAMPA	FL	
438931	1	10/6/87	10/7/87	14	29	19	2	O	ROUNTREE TRANSPORT	7021 E. BROADWAY	TAMPA	FL	
438932	1	10/6/87	10/7/87	14	29	19	2	O	ROUNTREE TRANSPORT	7021 E. BROADWAY	TAMPA	FL	
439025	1	10/8/87	10/9/87	14	29	19	2	O	CHAPMAN CONTRACTING CO	1910 ORIENT RD	TAMPA	FL	33601
439026	1	10/8/87	10/9/87	14	29	19	2	O	CHAPMAN CONTRACTING CO	1910 ORIENT RD	TAMPA	FL	33601
439027	1	10/8/87	10/9/87	14	29	19	2	O	CHAPMAN CONTRACTING CO	1910 ORIENT RD	TAMPA	FL	33601
439028	1	10/8/87	10/9/87	14	29	19	2	O	CHAPMAN CONTRACTING CO	1910 ORIENT RD	TAMPA	FL	33601

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
440941	1	11/23/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
440942	1	11/23/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
440943	1	11/23/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
440944	1	11/23/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
440945	1	11/23/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
441838	1	12/11/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
441839	1	12/11/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
441840	1	12/11/87	1/15/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
442173	1	12/18/87	12/26/87	14	29	19	2	O	BISHOPS WELDING SUPPLY	6601-14TH AVE	TAMPA	FL	
442174	1	12/18/87	12/26/87	14	29	19	2	O	BISHOPS WELDING SUPPLY	6601-14TH AVE	TAMPA	FL	
442176	1	12/18/87	12/26/87	14	29	19	2	O	BISHOPS WELDING SUPPLY	6601-14TH AVE	TAMPA	FL	
442178	1	12/18/87	12/26/87	14	29	19	2	O	BISHOPS WELDING SUPPLY	6601-14TH AVE	TAMPA	FL	
442926	1	1/6/88	1/13/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442927	1	1/6/88	1/13/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442928	1	1/6/88	1/14/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442929	1	1/6/88	1/14/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442930	1	1/6/88	1/20/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442931	1	1/6/88	1/20/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442932	1	1/6/88	1/20/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442933	1	1/6/88	1/26/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442934	1	1/6/88	1/26/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442935	1	1/6/88	1/26/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442936	1	1/6/88	1/26/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442937	1	1/6/88	1/27/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442938	1	1/6/88	1/27/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442939	1	1/6/88	1/27/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
442940	1	1/6/88	1/27/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
444091	1	1/28/88	1/28/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
444635	1	2/9/88	2/9/88	14	29	19	2	O	DEPT OF ENVIRONMENTAL REGULATION	2600 BLAIR STONE ROAD	TALLAHASSEE	FL	32301
465575	1	8/15/88	9/16/88	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
465576	1	8/15/88	9/16/88	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
465577	1	8/15/88	9/16/88	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
472784	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472785	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472792	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472794	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472795	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472796	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
472797	1	12/9/88	12/23/88	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
475372	1	2/7/89	12/18/89	14	29	19	2	O	SMALLEY TRANSPORTATION CO.	2414 N. 70TH ST.	TAMPA	FL	33619
475373	1	2/7/89	12/18/89	14	29	19	2	O	SMALLEY TRANSPORTATION CO.	2414 N. 70TH ST.	TAMPA	FL	33619
475374	1	2/7/89	12/18/89	14	29	19	2	O	SMALLEY TRANSPORTATION CO.	2414 N. 70TH ST.	TAMPA	FL	33619
475375	1	2/7/89	12/18/89	14	29	19	2	O	SMALLEY TRANSPORTATION CO.	2414 N. 70TH ST.	TAMPA	FL	33619
478944	1	4/20/89	4/28/89	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
478945	1	4/20/89	4/28/89	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
478946	1	4/20/89	4/28/89	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
479764	1	5/4/89	5/5/89	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
481206	1	6/1/89	6/7/89	14	29	19	4	O	N.U.S. CORPORATION	1300 N. 17TH ST. STE. 1320	ARLINGTON	VA	22209
481207	1	6/1/89	6/5/89	14	29	19	4	O	N.U.S. CORPORATION	1300 N. 17TH ST. STE. 1320	ARLINGTON	VA	22209
481713	1	6/9/89	9/28/89	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
481714	1	6/9/89	7/28/89	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
481715	1	6/9/89	7/28/89	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
483337	1	7/12/89	7/28/89	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
492047	1	1/17/90	2/2/90	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
492048	1	1/17/90	2/2/90	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
492049	1	1/17/90	2/2/90	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
492050	1	1/17/90	2/2/90	14	29	19	4	O	GULF COAST LEAD CO	10901 N 66TH ST	TAMPA	FL	33601
494349	1	2/13/90	2/14/90	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
500969	1	6/28/90	7/4/90	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
500970	1	6/28/90	7/7/90	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
500972	1	6/28/90	7/4/90	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
500973	1	6/28/90	7/4/90	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
502329	1	7/30/90	8/1/90	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
502330	1	7/30/90	8/1/90	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
502331	1	7/30/90	8/1/90	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
502430	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502431	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502432	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502433	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502434	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502435	1	7/31/90	10/1/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502436	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502437	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502438	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502439	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502440	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
502441	1	7/31/90	9/10/90	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
504169	1	9/17/90	10/15/90	14	29	19	2	O	ECOL	1954 AIRPORT RD	CHAMBLEE	GA	30341
504170	1	9/17/90	10/15/90	14	29	19	2	O	ECOL	1954 AIRPORT RD	CHAMBLEE	GA	30341
504171	1	9/17/90	10/15/90	14	29	19	2	O	ECOL	1954 AIRPORT RD	CHAMBLEE	GA	30341
504172	1	9/17/90	10/15/90	14	29	19	2	O	ECOL	1954 AIRPORT RD	CHAMBLEE	GA	30341
504178	1	9/17/90	10/23/90	14	29	19	2	O	ECOL	1954 AIRPORT RD	CHAMBLEE	GA	30341
506301	1	11/1/90	11/16/90	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
509996	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
509997	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
509998	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
509999	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
510000	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
510001	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
510002	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
510003	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
510004	1	1/29/91	2/1/91	14	29	19	2	O	RAHN'S FINA STATION	7748 ADAMO DR.	TAMPA	FL	33605
512317	1	4/3/91	4/5/91	14	29	19	2	O	BITEC	6601 14TH AVENUE	TAMPA	FL	33619
512317	2	4/3/91	4/5/91	14	29	19	2	O	BITEC	6601 14TH AVENUE	TAMPA	FL	33619
512317	3	4/3/91	4/5/91	14	29	19	2	O	BITEC	6601 14TH AVENUE	TAMPA	FL	33619
512317	4	4/3/91	4/5/91	14	29	19	2	O	BITEC	6601 14TH AVENUE	TAMPA	FL	33619
514655	1	6/21/91	7/25/91	14	29	19	2	O	RON'S FINA	7748 ADAMO DRIVE	TAMPA	FL	33619
514655	2	6/21/91	7/25/91	14	29	19	2	O	RON'S FINA	7748 ADAMO DRIVE	TAMPA	FL	33619
514655	3	6/21/91	7/25/91	14	29	19	2	O	RON'S FINA	7748 ADAMO DRIVE	TAMPA	FL	33619
518212	1	10/22/91	11/1/91	14	29	19	4	O	CAMP, DRESSER & MCKEE	2100 RIVEREDGE PARKWAY SUITE	ATLANTA	GA	30328
518212	2	10/22/91	11/1/91	14	29	19	4	O	CAMP, DRESSER & MCKEE	2100 RIVEREDGE PARKWAY SUITE	ATLANTA	GA	30328
518506	1	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	2	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	3	11/1/91	11/6/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	4	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	5	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
518506	6	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	7	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518506	8	11/1/91	11/4/91	14	29	19	2	O	RADIANT OIL	P.O. BOX 5751	TAMPA	FL	33675
518875	1	11/14/91	11/13/91	14	29	19	2	O	HYDRO CONDUIT CORP.	62ND ST	TAMPA	FL	33603
518875	2	11/14/91	11/13/91	14	29	19	2	O	HYDRO CONDUIT CORP.	62ND ST	TAMPA	FL	33603
518875	3	11/14/91	11/13/91	14	29	19	2	O	HYDRO CONDUIT CORP.	62ND ST	TAMPA	FL	33603
518875	4	11/14/91	11/13/91	14	29	19	2	O	HYDRO CONDUIT CORP.	62ND ST	TAMPA	FL	33603
518875	5	11/14/91	11/13/91	14	29	19	2	O	HYDRO CONDUIT CORP.	62ND ST	TAMPA	FL	33603
529127	1	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	2	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	3	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	4	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	5	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	6	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529127	7	8/31/92	9/11/92	14	29	19	4	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	1	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	2	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	3	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	4	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	5	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	6	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
529128	7	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	2405 NORTH 71ST STREET	TAMPA	FL	33607
529128	8	8/31/92	9/11/92	14	29	19	2	O	FLORIDA STEEL CORP	2405 NORTH 71ST STREET	TAMPA	FL	33607
536790	1	4/9/93	4/29/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	PO BOX 45052-500 WATER ST	JACKSONVILLE	FL	32232
536790	2	4/9/93	4/29/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	PO BOX 45052-500 WATER ST	JACKSONVILLE	FL	32232
538274	1	5/17/93	5/18/93	14	29	19	2	O	CSX TRANSPORTATION	PO BOX 45052-500 WATER ST	JACKSONVILLE	FL	32232
538274	2	5/17/93	5/18/93	14	29	19	2	O	CSX TRANSPORTATION	PO BOX 45052-500 WATER ST	JACKSONVILLE	FL	32232
538274	3	5/17/93	5/18/93	14	29	19	2	O	CSX TRANSPORTATION	1715 CLEVELAND ST	TAMPA	FL	33606
538274	4	5/17/93	5/18/93	14	29	19	2	O	CSX TRANSPORTATION	1715 CLEVELAND ST	TAMPA	FL	33606
543125	1	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	2	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	3	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	4	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	5	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	6	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	7	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543125	8	9/17/93	10/15/93	14	29	19	2	O	FLORIDA STEEL CORP	601 E KENNEDY BLVD 23RD FLOOR	TAMPA	FL	33602
543206	1	9/20/93	9/22/93	14	29	19	2	O	HILLSBOROUGH CO BOCC	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	1	9/21/93	10/5/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	2	9/21/93	10/12/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	3	9/21/93	10/20/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	4	9/21/93	10/20/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	5	9/21/93	11/20/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	6	9/21/93	11/10/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	7	9/21/93	11/20/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543251	8	9/21/93	11/19/93	14	29	19	4	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543252	1	9/21/93	10/15/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543253	1	9/21/93	10/28/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543254	1	9/21/93	11/6/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543255	1	9/21/93	11/1/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543256	1	9/21/93	11/18/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543257	1	9/21/93	11/23/93	14	29	19	6	O	ICI/STAUFFER MGT. C/O CDM	2100 RIVEREDGE PARKWAY	ATLANTA	GA	30528
543386	1	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
543386	2	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543386	3	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543386	4	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543386	5	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543387	1	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543387	2	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543387	3	9/24/93	9/28/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
543429	1	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	2	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	3	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	4	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	5	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	6	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	7	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543429	8	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	1	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	2	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	3	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	4	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	5	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	6	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	7	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543444	8	9/27/93	10/15/93	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
543475	1	9/28/93	11/3/93	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
543475	2	9/28/93	11/1/93	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
543475	3	9/28/93	10/6/93	14	29	19	2	O	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
544886	1	11/3/93	11/4/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
544887	1	11/3/93	11/4/93	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
552436	1	5/13/94	8/24/94	14	29	19	2	O	UNIVERSAL WASTE & TRANSIT INC	2002 N ORIENT AVE	TAMPA	FL	33619
552436	2	5/13/94	8/24/94	14	29	19	2	O	UNIVERSAL WASTE & TRANSIT INC	2002 N ORIENT AVE	TAMPA	FL	33619
552436	3	5/13/94	8/24/94	14	29	19	2	O	UNIVERSAL WASTE & TRANSIT INC	2002 N ORIENT AVE	TAMPA	FL	33619
552436	4	5/13/94	8/23/94	14	29	19	2	O	UNIVERSAL WASTE & TRANSIT INC	2002 N ORIENT AVE	TAMPA	FL	33619
562876	1	1/26/95	1/26/95	14	29	19	2	O	COMCAR INDUSTRIES	PO BOX 67	AUBURNDALE	FL	33823
562876	2	1/26/95	1/26/95	14	29	19	2	O	COMCAR INDUSTRIES	PO BOX 67	AUBURNDALE	FL	33823
562876	3	1/26/95	1/26/95	14	29	19	2	O	COMCAR INDUSTRIES	PO BOX 67	AUBURNDALE	FL	33823
562876	4	1/26/95	1/26/95	14	29	19	2	O	COMCAR INDUSTRIES	PO BOX 67	AUBURNDALE	FL	33823
562876	5	1/26/95	1/26/95	14	29	19	2	O	COMCAR INDUSTRIES	PO BOX 67	AUBURNDALE	FL	33823
566694	1	4/28/95	5/10/95	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
566694	2	4/28/95	5/10/95	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
567055	1	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	2	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	3	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	4	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	5	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	6	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	7	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567055	8	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	1	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	2	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	3	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	4	5/8/95	5/19/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	5	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
567057	6	5/8/95	5/10/95	14	29	19	1	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
572328	1	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	2	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	3	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	4	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	5	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	6	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	7	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572328	8	9/28/95	10/2/95	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
572934	1	10/19/95	10/20/95	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
572934	2	10/19/95	10/20/95	14	29	19	2	O	FLORIDA STEEL CORP	1715 CLEVELAND ST	TAMPA	FL	33606
574566	1	12/14/95	12/15/95	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
574566	2	12/14/95	12/15/95	14	29	19	2	O	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
576856	1	3/1/96	3/29/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	2	3/1/96	3/29/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	3	3/1/96	3/29/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	4	3/1/96	3/29/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	5	3/1/96	3/29/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	6	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	7	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576856	8	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	1	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	2	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	3	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	4	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	5	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	6	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
576857	7	3/1/96	3/14/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
578684	1	4/24/96	4/25/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
580929	1	6/21/96	6/25/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	2	6/21/96	6/26/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	3	6/21/96	6/26/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	4	6/21/96	6/25/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	5	6/21/96	6/25/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	6	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	7	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580929	8	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580930	1	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580930	2	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580930	3	6/21/96	6/28/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580933	1	6/21/96	7/1/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580933	2	6/21/96	7/1/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580933	3	6/21/96	7/1/96	14	29	19	2	O	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
583723	1	9/19/96	9/19/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
583723	2	9/19/96	9/19/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
583723	3	9/19/96	9/19/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
583723	4	9/19/96	9/19/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
584044	1	10/1/96	10/2/96	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
584044	2	10/1/96	10/2/96	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
584044	3	10/1/96	10/2/96	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
584377	1	10/11/96	10/21/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
584377	2	10/11/96	10/21/96	14	29	19	2	O	FLORIDA STEEL CORP	1800 ORIENT RD	TAMPA	FL	33619
584463	1	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584463	2	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
584463	3	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584463	4	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584463	5	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584463	6	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584463	7	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	1	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	2	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	3	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	4	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	5	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	6	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	7	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584464	8	10/15/96	10/22/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584466	1	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584466	2	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584466	3	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584466	4	10/15/96	11/7/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
584740	1	10/23/96	10/29/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
584740	2	10/23/96	10/29/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
584740	3	10/23/96	10/28/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
584740	4	10/23/96	10/28/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
584905	1	10/29/96	10/29/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
584905	2	10/29/96	10/29/96	14	29	19	4	O	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
585824	1	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	2	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	3	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	4	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	5	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	6	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	7	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
585824	8	11/26/96	12/16/96	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
593608	1	6/10/97	6/11/97	14	29	19	4	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
593608	2	6/10/97	6/11/97	14	29	19	4	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
593608	3	6/10/97	6/11/97	14	29	19	4	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
593608	4	6/10/97	6/11/97	14	29	19	4	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
595965	1	8/11/97	8/14/97	14	29	19	2	O	IT CORPORATION	4921 MEMORIAL HWY SUITE 100	TAMPA	FL	33634
595965	2	8/11/97	8/14/97	14	29	19	2	O	IT CORPORATION	4921 MEMORIAL HWY SUITE 100	TAMPA	FL	33634
595965	3	8/11/97	8/14/97	14	29	19	2	O	IT CORPORATION	4921 MEMORIAL HWY SUITE 100	TAMPA	FL	33634
596604	1	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	2	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	3	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	4	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	5	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	6	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	7	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
596604	8	8/28/97	9/10/97	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
599637	1	11/19/97	12/1/97	14	29	19	2	O	ALARIC	2110 NORTH 71ST ST	TAMPA	FL	33619
599637	2	11/19/97	12/1/97	14	29	19	2	O	ALARIC	2110 NORTH 71ST ST	TAMPA	FL	33619
599637	3	11/19/97	12/1/97	14	29	19	2	O	ALARIC	2110 NORTH 71ST ST	TAMPA	FL	33619
610214	1	9/11/98	10/13/98	14	29	19	2	O	KARL WESTERMAN	4225 NAPERVILLE RD	LISLE	IL	60532
613586	1	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
613586	2	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
613586	3	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
613586	4	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
613586	5	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
613586	6	12/15/98	12/21/98	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
615361	1	2/2/99	2/3/99	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
617161	1	3/16/99	3/17/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
617161	2	3/16/99	3/17/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
617161	3	3/16/99	3/17/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
621002	1	6/1/99	6/4/99	14	29	19	5	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	1	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	2	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	3	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	4	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	5	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621003	6	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621004	1	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621004	2	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621004	3	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
621004	4	6/1/99	6/4/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
622554	1	7/2/99	7/7/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
622554	2	7/2/99	7/7/99	14	29	19	2	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
623500	1	7/26/99	7/26/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
623500	2	7/26/99	7/26/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
623500	3	7/26/99	7/26/99	14	29	19	2	O	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
624114	1	8/9/99	8/9/99	14	29	19	2	O	CITY ENVIRONMENTALSERVICES	7202 E 8TH AVE	TAMPA	FL	33619
624114	2	8/9/99	8/9/99	14	29	19	2	O	CITY ENVIRONMENTALSERVICES	7202 E 8TH AVE	TAMPA	FL	33619
629937	1	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629937	2	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629937	3	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629937	4	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629940	1	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629940	2	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629940	3	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629940	4	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629940	5	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629941	1	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629941	2	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629941	3	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	1	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	2	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	3	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	4	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	5	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
629945	6	1/7/00	1/19/00	14	29	19	2	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
630468	1	1/19/00	1/25/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
630468	2	1/19/00	1/25/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
630468	3	1/19/00	1/25/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
630468	4	1/19/00	1/25/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
630468	5	1/19/00	1/25/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
631715	1	2/18/00	2/23/00	14	29	19	2	O	AMERICAN STEEL	5100 W LEMON ST SUITE 312	TAMPA	FL	33609
631715	2	2/18/00	2/23/00	14	29	19	2	O	AMERICAN STEEL	5100 W LEMON ST SUITE 312	TAMPA	FL	33609
631715	3	2/18/00	2/23/00	14	29	19	2	O	AMERICAN STEEL	5100 W LEMON ST SUITE 312	TAMPA	FL	33609
631715	4	2/18/00	2/23/00	14	29	19	2	O	AMERICAN STEEL	5100 W LEMON ST SUITE 312	TAMPA	FL	33609
633172	1	3/20/00	3/20/00	14	29	19	2	O	REPUBLIC INDUSTRIES	110 SOUTHEAST 6TH STREET	FT. LAUDERDALE	FL	33301

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
633397	1	3/24/00	3/30/00	14	29	19	0.5	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
633397	2	3/24/00	3/30/00	14	29	19	0.5	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
633397	3	3/24/00	3/30/00	14	29	19	0.5	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
633397	4	3/24/00	3/30/00	14	29	19	0.5	O	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
635434	1	5/4/00	5/8/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
635434	2	5/4/00	5/8/00	14	29	19	2	O	SPEEDWAY SUPER AMERICA LLC	3200 E PARKWAY SUITE 150	NORCROSS	GA	30092
637422	1	6/7/00	6/8/00	14	29	19	2	O	CSX	2710 5TH AVE	TAMPA	FL	33601
637422	2	6/7/00	6/8/00	14	29	19	2	O	CSX	2710 5TH AVE	TAMPA	FL	33601
637422	3	6/7/00	6/8/00	14	29	19	2	O	CSX	2710 5TH AVE	TAMPA	FL	33601
642625	1	9/29/00	9/29/00	14	29	19	2	O	FLORIDA STEEL	7105 E 6TH AVE	TAMPA	FL	33619
643593	1	10/23/00	10/23/00	14	29	19	2	O	FLORIDA STEEL	7105 E 6TH AVE	TAMPA	FL	33619
646124	1	12/20/00	12/21/00	14	29	19	0.75	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
646124	2	12/20/00	12/22/00	14	29	19	0.75	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
646124	3	12/20/00	12/22/00	14	29	19	0.75	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
646124	4	12/20/00	12/22/00	14	29	19	0.75	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
646124	5	12/20/00	12/22/00	14	29	19	0.75	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
646451	1	1/3/01	1/4/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
649452	1	3/7/01	3/9/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
649452	2	3/7/01	3/9/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
649852	1	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649852	2	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649852	3	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649852	4	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649855	1	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649855	2	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649855	3	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649855	4	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
649855	5	3/14/01	3/30/01	14	29	19	1	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
653987	1	6/1/01	6/1/01	14	29	19	6	O	TAMPA MILL	7105 6TH AVE	TAMPA	FL	32962
655457	1	6/27/01	7/3/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
655457	2	6/27/01	7/3/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
655694	1	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	2	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	3	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	4	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	5	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	6	7/3/01	7/5/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
655694	7	7/3/01	7/6/01	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
657465	1	8/14/01	8/15/01	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657465	2	8/14/01	8/15/01	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657465	3	8/14/01	8/15/01	14	29	19	2	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	1	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	2	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	3	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	4	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	5	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	6	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	7	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657466	8	8/14/01	8/16/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657467	1	8/14/01	8/17/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657467	2	8/14/01	8/17/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
657467	3	8/14/01	8/17/01	14	29	19	0.75	O	MANTUA MANUFACTURING CO	6911 ADMO DR	TAMPA	FL	33619
661014	1	11/8/01	11/16/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
661014	2	11/8/01	11/16/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
661222	1	11/14/01	11/26/01	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
663726	1	1/22/02	1/30/02	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
666256	1	3/18/02	4/25/02	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
666256	2	3/18/02	4/25/02	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
666256	3	3/18/02	4/25/02	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
666256	4	3/18/02	4/25/02	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
666256	5	3/18/02	4/25/02	14	29	19	2	O	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
673527	1	8/12/02	8/14/02	14	29	19	2	O	SINGLETON BATTERY	2120 N 71ST ST	TAMPA	FL	33619
674705	1	9/6/02	9/8/02	14	29	19	2	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
674706	1	9/6/02	9/8/02	14	29	19	4	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
674706	2	9/6/02	9/8/02	14	29	19	4	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
674706	3	9/6/02	9/8/02	14	29	19	4	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
674706	4	9/6/02	9/8/02	14	29	19	4	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
676313	1	10/16/02	10/18/02	14	29	19	2	O	DANIEL HURST	1411 NORTH KINGSWAY	BRANDON	FL	33510
676313	2	10/16/02	10/18/02	14	29	19	2	O	DANIEL HURST	1411 NORTH KINGSWAY	BRANDON	FL	33510
676313	3	10/16/02	10/18/02	14	29	19	2	O	DANIEL HURST	1411 NORTH KINGSWAY	BRANDON	FL	33510
677104	1	11/4/02	11/7/02	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
677104	2	11/4/02	11/7/02	14	29	19	2	O	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
677240	1	11/6/02	11/22/02	14	29	19	6	O	A & D RECYCLING & HAULING	7006 E 9TH AVE	TAMPA	FL	33619
677241	1	11/6/02	11/24/02	14	29	19	6	O	A & D RECYCLING & HAULING	7006 E 9TH AVE	TAMPA	FL	33619
677242	1	11/6/02	11/22/02	14	29	19	2	O	A & D RECYCLING & HAULING	7006 E 9TH AVE	TAMPA	FL	33619
677247	1	11/6/02	11/20/02	14	29	19	6	O	NATIONAL FISHERIES	7104 E 9TH AVE	TAMPA	FL	33619
677248	1	11/6/02	11/22/02	14	29	19	6	O	NATIONAL FISHERIES	7104 E 9TH AVE	TAMPA	FL	33619
677249	1	11/6/02	11/23/02	14	29	19	2	O	NATIONAL FISHERIES	7104 E 9TH AVE	TAMPA	FL	33619
677250	1	11/6/02	12/4/02	14	29	19	6	O	GULF COAST METALS COMPANY INC	6912 E 9TH ST	TAMPA	FL	33619
677251	1	11/6/02	12/5/02	14	29	19	6	O	GULF COAST METALS COMPANY INC	6912 E 9TH ST	TAMPA	FL	33619
678118	1	11/26/02	11/29/02	14	29	19	2	O	MANTUA MANUFACTURING CO INC	7900 NORTHFIELD RD	CLEVELAND	OH	44146
680717	1	2/11/03	2/13/03	14	29	19	2	O	GULF COAST RECYCLING	1901 N 66TH ST	TAMPA	FL	33609
682551	1	3/25/03	3/27/03	14	29	19	1	O	LEE OGLESBY	2110 NORTH 71 ST STREET	TAMPA	FL	33619
682551	2	3/25/03	3/27/03	14	29	19	1	O	LEE OGLESBY	2110 NORTH 71 ST STREET	TAMPA	FL	33619
682551	3	3/25/03	3/27/03	14	29	19	1	O	LEE OGLESBY	2110 NORTH 71 ST STREET	TAMPA	FL	33619
682551	4	3/25/03	3/27/03	14	29	19	1	O	LEE OGLESBY	2110 NORTH 71 ST STREET	TAMPA	FL	33619
684603	1	5/12/03	5/15/03	14	29	19	1	O	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
684603	2	5/12/03	5/15/03	14	29	19	1	O	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
684603	3	5/12/03	5/15/03	14	29	19	1	O	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
685505	1	5/30/03	5/30/03	14	29	19	0.75	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
685505	2	5/30/03	5/30/03	14	29	19	0.75	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	1	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	2	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	3	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	4	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	5	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	6	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	7	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692966	8	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692968	1	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692968	2	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692968	3	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
692968	4	12/2/03	12/10/03	14	29	19	1.5	O	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
699666	1	4/22/04	4/26/04	14	29	19	2	O	CIRCLE K	PO BOX 52085	PHOENIX	AZ	85072
699666	2	4/22/04	4/26/04	14	29	19	2	O	CIRCLE K	PO BOX 52085	PHOENIX	AZ	85072
699666	3	4/22/04	4/26/04	14	29	19	2	O	CIRCLE K	PO BOX 52085	PHOENIX	AZ	85072

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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
699666	4	4/22/04	4/26/04	14	29	19	2	O	CIRCLE K	PO BOX 52085	PHOENIX	AZ	85072
709802	1	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	2	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	3	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	4	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	5	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	6	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	7	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709802	8	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
709813	1	11/17/04		14	29	19	2	O	STAUFFER MANAGEMENT CO	1800 CONCORDE PIKE	WILMINGTON	DE	19850
575514	1	1/23/96	1/25/96	14	29	19	2	T	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
575514	2	1/23/96	1/25/96	14	29	19	2	T	FLA STEEL CORPORATION	1715 CLEVELAND STREET	TAMPA	FL	33601
554973	1	7/7/94	7/13/94	14	29	19	6	U	RADIANT OIL COMPANY	2004 DURHAM STREET	TAMPA	FL	33605
586473	1	12/17/96	12/17/96	14	29	19	5	U	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
642164	1	9/18/00	9/21/00	14	29	19	5	U	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
687041	1	7/9/03	7/21/03	14	29	19	6	U	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
687042	1	7/9/03	8/1/03	14	29	19	6	U	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
687043	1	7/9/03	8/1/03	14	29	19	6	U	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
687044	1	7/9/03	8/1/03	14	29	19	6	U	US ARMY CORP OF ENGINEERS	PO BOX 4970	JACKSONVILLE	FL	32232
362971	1	3/16/81	3/11/81	14	29	19	6	Y	COOK LUMBER CO INC.	1905 N 66TH ST	TAMPA	FL	33619
382788	1	6/6/83	6/5/83	14	29	19	10	Y	A L WELDING PRODUCTS	1502 ORIENT RD	TAMPA	FL	33601
385101	1	8/31/83	10/3/83	14	29	19	4	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
385102	1	8/31/83	10/3/83	14	29	19	6	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
385103	1	8/31/83	10/3/83	14	29	19	6	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
393936	1	7/16/84	2/20/86	14	29	19	2	Y	DAVID JOSEPH COMPANY	1002 ORIENT ROAD	TAMPA	FL	33605
466007	1	8/22/88	8/23/88	14	29	19	2	Y	DAVID JOSEPH CO	PO BOX 11928	TAMPA	FL	33607
466256	1	8/26/88	8/27/88	14	29	19	3	Y	EQUITY INVESTMENTS CORP	11300 N CENTRAL AVE	TAMPA	FL	33612
473948	1	1/9/89	1/12/89	14	29	19	4	Y	SOUTHWEST FLA WATER MGT DISTRICT	2379 BROAD ST	BROOKSVILLE	FL	34604
481208	1	6/1/89	6/5/89	14	29	19	4	Y	N.U.S. CORPORATION	1300 N. 17TH ST. STE. 1320	ARLINGTON	VA	22209
481209	1	6/1/89	6/7/89	14	29	19	4	Y	N.U.S. CORPORATION	1300 N. 17TH ST. STE. 1320	ARLINGTON	VA	22209
501414	1	7/9/90	7/12/90	14	29	19	4	Y	HILLSBOROUGH CO DEPT OF PUBLIC	PO BOX 1110-601 E KENNEDY BLV	TAMPA	FL	33601
502821	1	8/10/90	8/10/90	14	29	19	2	Y	METALS, R & L	1902 ORIENT RD.	TAMPA	FL	33699
502822	1	8/10/90	8/10/90	14	29	19	2	Y	METALS, R & L	1902 ORIENT RD.	TAMPA	FL	33699
502823	1	8/10/90	8/10/90	14	29	19	2	Y	METALS, R & L	1902 ORIENT RD.	TAMPA	FL	33699
514878	1	7/1/91	7/9/91	14	29	19	4	Y	HYDROCONDUIT	11915 62ND STREET	TAMPA	FL	33605
514879	1	7/1/91	7/9/91	14	29	19	6	Y	HYDROCONDUIT	11915 62ND STREET	TAMPA	FL	33605
547610	1	1/27/94	1/31/94	14	29	19	2	Y	WHEELBLAST, INC.	3951 COPELAND DR	ZEPHYRHILLS	FL	33540
548521	1	2/18/94	2/23/94	14	29	19	2	Y	FRUEHAUF TRAILER CORP	26999 CENTRAL PARK BLVD	SOUTHFIELD	MI	48076
548521	2	2/18/94	2/23/94	14	29	19	2	Y	FRUEHAUF TRAILER CORP	26999 CENTRAL PARK BLVD	SOUTHFIELD	MI	48076
548521	3	2/18/94	2/23/94	14	29	19	2	Y	FRUEHAUF TRAILER CORP	26999 CENTRAL PARK BLVD	SOUTHFIELD	MI	48076
555567	1	11/29/94	7/22/94	14	29	19	2	Y	HELENA CHEMICAL CORPORATION	2405 NORTH 71ST STREET	TAMPA	FL	33607
568662	1	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
568662	2	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
568662	3	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
568662	4	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
568662	5	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
568662	6	6/13/95	12/4/95	14	29	19	2	Y	COMMERCIAL WAREHOUSING INC	502 BRIDGES AVE E	AUBURNDALE	FL	33823
573013	1	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
573013	2	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
573013	3	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
573013	4	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
573013	5	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
573013	6	10/23/95	10/25/95	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631

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579948	1	5/28/96	6/6/96	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
579948	2	5/28/96	6/6/96	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
579948	3	5/28/96	6/6/96	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
580810	1	6/19/96	6/24/96	14	29	19	2	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
591600	1	4/21/97	4/22/97	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
591600	2	4/21/97	4/22/97	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
591600	3	4/21/97	4/22/97	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
591600	4	4/21/97	4/22/97	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
608363	1	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	2	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	3	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	4	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	5	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	6	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	7	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608363	8	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608365	1	7/21/98	7/28/98	14	29	19	8	Y	FLORIDA STEEL CORPORATION	PO BOX 31328	TAMPA	FL	33631
608367	1	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608368	1	7/21/98	7/28/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
608369	1	7/21/98	7/28/98	14	29	19	4	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	1	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	2	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	3	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	4	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	5	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	6	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	7	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611969	8	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	1	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	2	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	3	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	4	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	5	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	6	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	7	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611970	8	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	1	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	2	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	3	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	4	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	5	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	6	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	7	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611971	8	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611972	1	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611972	2	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611972	3	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611972	4	11/2/98	11/12/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611973	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611973	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611973	3	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611973	4	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611973	5	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609

SWFWD W. Inventory
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WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
611973	6	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	3	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	4	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	5	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	6	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	7	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611974	8	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	3	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	4	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	5	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	6	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611975	7	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611976	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611976	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611977	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	3	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	4	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	5	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611978	6	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	1	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	2	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	3	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	4	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	5	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	6	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	7	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
611979	8	11/2/98	11/10/98	14	29	19	2	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
612501	1	11/16/98	12/2/98	14	29	19	4	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
612502	1	11/16/98	12/2/98	14	29	19	4	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
612503	1	11/16/98	12/1/98	14	29	19	8	Y	AMERI STEEL	5100 W. LEMON STREET, STE 312	TAMPA	FL	33609
615240	1	1/29/99	2/1/99	14	29	19	4	Y	LEE OGLESBY	2110 NORTH 71 ST STREET	TAMPA	FL	33619
644356	1	11/8/00	11/10/00	14	29	19	4	Y	GCR	1901 N 66TH ST	TAMPA	FL	33619
647177	1	1/19/01	1/26/01	14	29	19	4	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647178	1	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647178	2	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647178	3	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647178	4	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	1	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	2	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	3	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	4	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	5	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	6	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	7	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
647179	8	1/19/01	1/26/01	14	29	19	2	Y	AMERISTEEL TAMPA	5100 WEST LEMON STREET SUITE	TAMPA	FL	33609
648059	1	2/7/01	2/9/01	14	29	19	2	Y	CITY ENVIRONMENTALSERVICES	7202 E 8TH AVE	TAMPA	FL	33619
648059	2	2/7/01	2/9/01	14	29	19	2	Y	CITY ENVIRONMENTALSERVICES	7202 E 8TH AVE	TAMPA	FL	33619

SWFWD W .nventory
S 14, T 29S, R 19E

WCP NUMB	WELL NO	ISSUED	COMPLETED	S	T	R	DIA	WELL USE CODE	OWNERS NAME	ADDRESS	CITY	STATE	ZIP
649330	1	3/5/01	3/8/01	14	29	19	2	Y	CSX	2710 5TH AVE	TAMPA	FL	33601
649330	2	3/5/01	3/8/01	14	29	19	2	Y	CSX	2710 5TH AVE	TAMPA	FL	33601
649330	3	3/5/01	3/8/01	14	29	19	2	Y	CSX	2710 5TH AVE	TAMPA	FL	33601
659957	1	10/15/01	10/18/01	14	29	19	4	Y	SOUTHWESTERN SUPPLIERS	6815 E 14TH ST	TAMPA	FL	33610
663652	1	1/17/02	1/29/02	14	29	19	2	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663652	2	1/17/02	1/29/02	14	29	19	2	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663652	3	1/17/02	1/29/02	14	29	19	2	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663652	4	1/17/02	1/29/02	14	29	19	2	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663652	5	1/17/02	1/29/02	14	29	19	2	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663653	1	1/17/02	1/29/02	14	29	19	6	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
663654	1	1/17/02	1/29/02	14	29	19	4	Y	STAUFFER CHEMICAL CO	2009 ORIENT RD	TAMPA	FL	33605
668755	1	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
668755	2	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
668755	3	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
668755	4	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
668755	5	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
668755	6	5/6/02	5/10/02	14	29	19	2	Y	CIRCLE K CORP	5650 BRECKENRIDGE PKWY #300	TAMPA	FL	33610
672328	1	7/15/02	7/16/02	14	29	19	2	Y	MANNA PRO INC	7000 ADAMO DR	TAMPA	FL	33619
672328	2	7/15/02	7/16/02	14	29	19	2	Y	MANNA PRO INC	7000 ADAMO DR	TAMPA	FL	33619
672523	1	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	2	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	3	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	4	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	5	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	6	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	7	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672523	8	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672526	1	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672526	2	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672526	3	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672526	4	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
672529	1	7/19/02	7/24/02	14	29	19	2	Y	CSX TRANSPORTATION	500 WATER STREET J350	JACKSONVILLE	FL	32202
677325	1	11/7/02	11/15/02	14	29	19	1	Y	CSX TRANSPORTATION	5656 ADAMO DR	TAMPA	FL	33619
677325	2	11/7/02	11/15/02	14	29	19	1	Y	CSX TRANSPORTATION	5656 ADAMO DR	TAMPA	FL	33619
705797	1	8/17/04	8/21/04	14	29	19	1	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
705797	2	8/17/04	8/21/04	14	29	19	1	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
705797	3	8/17/04	8/21/04	14	29	19	1	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
705797	4	8/17/04	8/21/04	14	29	19	1	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
705798	1	8/17/04	8/21/04	14	29	19	2	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619
705798	2	8/17/04	8/21/04	14	29	19	2	Y	SAIA MOTOR FREIGHT	2414 N 70TH ST	TAMPA	FL	33619

APPENDIX F

Financial Assurance & Insurance Documentation

Requisite Insurance Documentation and a Letter of Credit in favor of the State of Florida will be issued upon the Department's review and acceptance of the facility closure cost estimate provided in Section 11.0 of this Permit Application.

APPENDIX G

Solid Waste Management Units

EQ Florida, Inc.

Solid Waste Management Unit (SWMU)
Identification Summary

SWMU NO.	SWMU NAME/ DESCRIPTION	YEARS OF OPERATION	WASTE MANAGED	EVIDENCE OF RELEASE
1	Concrete Container Storage Area	June 1990 - Present	Permitted Wastes	None
2	Loading/Unloading Dock Area	June 1990 - Present	Permitted Wastes	None
3	Stormwater Retention Pond	June 1990 - Present	Stormwater	None
4	Filter Press	June 1990 - Present (currently not in use)	Permitted Wastes	None
5	Municipal Waste Dumpster	June 1990 - Present	RCRA Empty Containers, Office Waste	None
6	Stormwater Pre-Treatment Unit	June 1990 - Present	Stormwater	None
7	Solid Waste Processing Building/Area	June 2006 - Present	Non-Hazardous Solid Waste	None
8	Universal Waste Battery Storage Area	January 2009 - Present	Universal Waste Batteries	None
9	Paint Can Crushing Area	1996 - Present	Scrap Cans & Paint	None
10	Roll-Off Storage Area (*aka* Solid Waste Operations Area)	July 2010 - Present	Non-Hazardous Solid Waste	None
11	Transfer Facility	June 1990 - Present	Permitted Wastes	None
12	Used Oil Facility	June 1990 - Present	Used Oil	None
13	Satellite Accumulation Area	January 2002 - Present	Laboratory Waste	None
14	Parts Washer	January 2009 - Present	Parts Washer Solvent	None
15	Additional Retention Pond	July 2010 - Present	Stormwater	None
16	Universal Waste Lamp Storage Area	2002 - Present	Universal Waste Lamps	None
17	Aerosol Can Crushing	2003 - Present (currently not in use)	Scrap Cans & Paint	None
18	Drum Crushing	1996 - Present	RCRA Empty Metal Containers	None
19 (Proposed)	Oil-Water Separator System	Proposed for construction	Used Oil	None

The locations of the SWMUs summarized above are depicted on Figure 17.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JAN 30 1990

4WD-RCRA

Mr. Barry Swihart, Chief
Bureau of Waste Planning and Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Universal Waste and Transit, Inc.
EPA I.D. Number FLD 981 932 544

Dear Mr. Swihart:

The Environmental Protection Agency (EPA) conducted a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) at the referenced facility on August 18, 1988. This is a new facility and it was determined that there has been no evidence of a prior or continuing release of hazardous wastes or hazardous constituents at this site. Therefore, at this time, Section 3004(u) of the Hazardous and Solid Waste Amendments (HSWA) of 1984 does not apply.

Since, apparently, only the Section 3005(h) waste minimization and Section 3004(d) prohibitions on land disposal of specified wastes requirements of HSWA apply to this facility, a separate permit would not be required, provided the State permit incorporates these requirements. In this case, the State permit would constitute the full RCRA permit.

For facilities where only the above mentioned sections apply, the public notice, the notice of intent to issue, and cover page of the permit should contain the following information:

1. EPA has determined that the provisions of 3004(u) of HSWA do not apply; but if new information to the contrary becomes available, the permit may be reopened.

2. The permit incorporates both the Section 3005(h) HSWA Waste minimization certification requirements and Section 3004(d) Land Disposal prohibitions.

3. The State permit constitutes the full RCRA permit, and a federal permit is not required to address the provisions of HSWA.

Additionally, the permit should incorporate the waste minimization requirements, land disposal restrictions and condition for reopening the permit if it is later determined that 3004(u) applies.

We have enclosed recommended wording for inclusion in the public notice, notice of intent to issue, permit cover page and permit conditions.

If you have any questions concerning this matter, please contact Harry Desai at (404) 347-3433.

Sincerely yours,

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

Enclosure

cc: Satish Kastury, FDER, Tallahassee
Bill Crawford, FDER, Southwest District

The Environmental Quality Company
FLD 981 932 494
Operating Permit 34875-HO-009

RCRA Facility Assessment (RFA) Addendum

Prepared by
Merlin D. Russell Jr, P.G.

May 13, 2011

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1.0 Introduction

The purpose of a RCRA Facility Assessment (RFA) is to compile existing information on environmental conditions at a given facility, including information on actual or potential releases. The RFA includes a review of existing information about a facility, a visit to the facility, and, if warranted, limited sampling to determine if there is an actual or potential release of hazardous wastes or hazardous constituents from the Solid Waste Management Units (SWMU) or Areas of Concern (AOC) at the facility. The primary decision point is a determination of whether there is the potential for contamination at levels that would pose human health or ecological concerns. If no further investigation or remediation is necessary, the Department of Environmental Protection (DEP or Department) issues a "No Further Action at this Time" This RFA addendum provides an update to the original RFA. This addendum provides information for twelve additional SWMUs (SWMU-7 through SWMU-18). The information is based upon documents listed in Section 4.0 References of this addendum, information submitted by EQ and the DEP inspection of August 25, 2010.

The original RCRA Facility Assessment Report was completed for Universal Waste & Transit, Inc., and was dated March 1995. That RFA identified six SWMUs. These six SWMUs are not discussed in detail in this addendum. The current Operating Permit 34875-HO-009, issued on June 14, 2006, contains the following SWMU list:

TABLE 1

• SWMU-1, Drum Storage Area	• SWMU-2, Loading and Unloading Area
• SWMU-3, Pre-Treatment Unit	• SWMU-4, Filter Press
• SWMU-5, Municipal Waste Dumpster	• SWMU-6, Retention Pond
• SWMU-7, Solid Waste Processing Building	• SWMU-8, Batteries Storage Area
• SWMU-9, Paint Can Crushing Area, and	• SWMU-10, Roll-off Storage Area

Each of these SWMUs has been given a No Further Action recommendation. A review of FDEP files revealed that a RFA Addendum had not been completed for SWMUs seven through ten above. In addition, the summary above is in error as it reversed the number assignments and names for SWMUs 3 and 6. As shown in section 2.0 below, SWMU-3 is actually the Retention Pond and SWMU-6 is actually the Pre-treatment Unit used to treat stormwater before it enters the Retention Pond.

On July 22, 2010, EQ submitted a renewal application for their Part B. The review of the Part B determined that the SWMU information was incomplete although much of the information was provided in various parts of the Part B. The request to update and consolidate the SWMU information was embodied in the First Notice of Deficiencies dated September 22, 2010.

On November 4, 2010, EQ submitted updated SWMU information to the Department as part of their response to the First Notice of Deficiencies. Upon receipt, the Department initiated the drafting of this RFA Addendum.

2.0 Corrective Action Chronology

EPA conducted the initial Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) at this location on August 18, 1988. At that time, the construction of the facility was not completed and it was determined that there was no evidence of a prior or continuing release of hazardous wastes or hazardous constituents at the site. Therefore, at that time, Section 3004(u) of the Hazardous and Solid Waste Amendments (HSWA) of 1984 did not apply.

On January 30, 1990, a site inspection was conducted to verify completion of construction activities. On July 3, 1990, DEP Tampa issued Universal Waste & Transit (UW&T) an operating permit for a Hazardous Waste Storage and Treatment Facility.

During the week of February 15-19, 1993, DEP Tallahassee conducted a facility file search. The search consisted of the review of UW&T's November 15, 1990 and May 21, 1991 RCRA Compliance Inspection Reports, permitting files, Superfund files, the permit application and the Operating Permit. The file search enabled staff to compile background data on existing and potential SWMUs and the regulatory history of the facility.

On February 25, 1993, a VSI was conducted by both DEP and EPA staff. The inspection was led by Wanda Parker (FDEP) and Harry Desai (EPA). The other attendees were Bheem Kothur (FDEP), Roger Evans (FDEP, Tampa), and John Taylor, General Manager for UW&T.

The 1993 the draft RFA (PR and VSI) resulted in the identification of six SWMUs. The findings and suggested further actions for this facility are summarized in Table 2 below. No further action was suggested for four of the SWMUs: Drum Storage Area and five Sumps (SWMU #1), Loading/Unloading Area (SWMU #2), Filter Press (SWMU #4), and Municipal Waste Dumpster (SWMU #5). Confirmatory soil sampling was recommended for the unlined retention pond (SWMU #3). Confirmatory sampling of influent and effluent of the pretreatment system (SWMU #6) was also recommended. These original six SWMUs are not discussed further in this RFA Addendum.

TABLE 2

SWMU IDENTIFICATION SUMMARY

SWMU NO.	TYPE OF UNIT	YEARS OF OPERATION	WASTE MANAGED	POLLUTANT MIGRATION PATHWAYS	EVIDENCE OF RELEASE	EXPOSURE POTENTIAL	RECOMMENDATIONS			
							Confirmatory Sampling	RFI	NFA	FURTHER ASSESSMENT
1 *	Drum Storage Area	June 1990 - Present	Permitted Wastes (see Appendix A)	Air, Soil, Surface Water, Ground Water	None	L			X	
2 *	Loading/Unloading Area	June 1990 - Present	Permitted Wastes (see Appendix A)	Air, Soil, Surface Water, Ground Water	None	L			X	
3	Retention Pond	June 1990 - Present	Storm Water	Air, Soil, Surface Water, Ground Water	None	M	X			
4 *	Filter Press	June 1990 - Present	Non-hazardous wastes (One-time test)	Air, Soil, Surface Water, Ground Water	None	L			X	
5	Municipal Waste Dumpster	June 1990 - Present	Empty storage containers, paint cans, office wastes	Air, Soil, Surface Water, Ground Water	None	L			X	
6	Pre-treatment Unit	June 1990 - Present	Storm Water	Air, Soil, Surface Water, Ground Water	None	M	X			

* = RCRA Regulated Unit

The RFA Report for UT&W was finalized by FDEP in March, 1995.

In a letter dated April 18, 1996, a request for a name change to City Environmental Services, Inc., (dated March 29, 1996), was submitted to DEP for approval. In a May 27, 1998 letter to DEP, the name was changed again to USL City Environmental Services of Florida, Inc. That change was approved on June 4, 1998. A January 9, 2001 request to change the name from USL City Environmental Services of Florida to US Liquids of Florida was approved by DEP on January 30, 2001. A February 5, 2004 request to change the name from US Liquids of Florida to EQ Florida Inc. was approved by DEP on February 13, 2004.

The current Operating Permit 34875-HO-009 was issued to EQ on June 14, 2006 and contains the following SWMU summary:

TABLE 3

- SWMU-1, Drum Storage Area
- SWMU-2, Loading and Unloading Area
- SWMU-3, Pre-Treatment Unit
- SWMU-4, Filter Press
- SWMU-5, Municipal Waste Dumpster
- SWMU-6, Retention Pond
- SWMU-7, Solid Waste Processing Building
- SWMU-8, Batteries Storage Area
- SWMU-9, Paint Can Crushing Area, and
- SWMU-10, Roll-off Storage Area

Each of these SWMUs has a No Further Action recommendation.

On July 22, 2010, EQ submitted a renewal application for their Part B. The review of the Part B determined that the SWMU information was incomplete although much of the information had

been submitted in various parts of the Part B. The request to update and consolidate the SWMU information was embodied in the First Notice of Deficiencies dated September 22, 2010.

On November 4, 2010, EQ submitted updated SWMU information to the Department as part of their response to the First Notice of Deficiencies. Upon receipt, the Department initiated the drafting of this RFA Addendum.

Included in this addendum are summary sheets describing each additional SWMU[1], photographs and a location map (Figure 5.14 from the Part B).

[1] Other than the original SWMUs identified in the UW&T RFA dated December 1995.

3.0 Facility Description & Operations

The EQ facility is a permitted hazardous waste storage and treatment facility. No on-site disposal occurs at EQ. EQ also manages non-hazardous regulated waste, household hazardous waste, used oil and filters, mercury containing lamps and devices, TSCA-exempt and limited quantity exempt PCB and asbestos wastes, recyclable materials, and other similar substances, materials, and wastes. The primary waste management operations are storage and transfer.

The facility consists of the 4.46-acre, more or less (MOL), site. The permitted hazardous waste storage facility located on site is a 5,866 square foot (MOL) building, which was specifically designed for hazardous waste management. The container storage building is composed of three separate bays separated by an eight-inch wide concrete block wall and fire doors. The wall extends from the floor to the roof and has been designed with a minimum fire resistance of four hours. Container storage is also allowed under a 1,786 square foot (MOL) improved secondary containment area located on the loading dock side of Bay 2.

The total hazardous waste capacity within the building and covered outside storage area is 50,000 gallons. The hazardous waste consists of solids, sludges, liquids, and lab packs.

Prior to construction, the land had been undeveloped. There were no existing SWMUs located at this location.

The surrounding land uses are heavy industrial. Land uses include two National Priority List (NPL) sites, metal recyclers, a construction debris transfer facility, steel cleaning and coating, fishery, gas manufacturing, a pesticide formulator, and bail bonds businesses. The facility is located in the City of Tampa in a heavy industrial area known as Orient Park. The area is zoned heavy industrial. The City of Tampa classifies this area as suitable for hazardous waste facilities.

The primary operation at the EQ facility is storage of hazardous waste in containers, primarily 55-gallon drums. Some waste is re-containerized or consolidated in other containers of similar size or larger. Re-containerization operations may also include use of the paint can crusher, aerosol spray can recycler, and/or drum crusher. Wastes are primarily shipped out of the facility in 55-gallon drums, although some wastes are consolidated in roll-off dumpsters or tanker trucks.

The following waste type categories are handled at the facility: solid waste, flammable, poisons, toxic, acids, alkaline, Hazardous Organic Compounds (HOC), oxidizers, reactive and Otherwise Regulated Material (ORM or Class 9). No regulated explosive, regulated radioactive, or regulated biohazardous waste are managed at EQ. Waste types include liquids, solids, sludges, and lab packs. Lab pack waste usually consists of waste generated by private (household) individuals such as paints, pesticides, household wastes, etc.

EQ is also authorized to operate a transfer facility on site in accordance with Rule 62-730.171, Florida Administrative Code (F.A.C.), and is authorized to hold manifested hazardous waste on site not to exceed ten (10) days as allowed for transfer facilities. Current regulations allow transfer facility waste to be held anywhere on the paved lot within the facility boundary. The maximum permitted capacity is limited to 20,000 gallons or 100 cubic yards.

EQ is also a used oil and used oil filter transporter and transfer facility in accordance with Chapter 62-710, F.A.C.

EQ is a transporter and handler of mercury containing lamps and devices that are regulated in accordance with Chapter 62-737, F.A.C.

EQ manages Solid Waste in accordance with its solid waste permit (34757-003-SO and 34757-005-SO) and Chapter 62-701, F.A.C.

EQ also manages household hazardous waste (HHW) at the facility. This waste is regulated as a Solid Waste. Any HHW received with a hazardous waste manifest is managed as hazardous waste.

EQ also manages pharmaceutical wastes in accordance with a Drugs, Devices and Cosmetics permit (53; 00007) issued by the Florida Department of Health.

4.0 References

The following documents were used in preparation of this amended RFA (listed chronologically):

1. EQ's additional information for the Operating Permit Renewal dated April 28, 2011.
2. EQ's (Stuart Stapleton) e-mail dated April 25, 2011 containing information.
3. EQ's response to the Second Notice of Deficiencies dated February 10, 2011.
4. EQ's (Stuart Stapleton) e-mail dated January 25, 2011 containing photographs and information.
5. EQ's (Stuart Stapleton) e-mail dated January 18, 2011 containing photographs and information.
6. EQ's response to the First Notice of Deficiencies dated November 4, 2010.
7. FDEP Inspection report dated August 25, 2010.
8. EQ's Part B renewal dated July 22, 2010.
9. Kleinfelder's *Monitoring Well Installation and Sampling Report* dated November 4, 2009
10. *RCRA Facility Assessment Report for Universal Waste & Transit, Inc*., March 1995, prepared by Florida Department of Environmental Protection.

5.0 SWMU/AOC Summary Table

SOLID WASTE MANAGEMENT UNITS/AREAS OF CONCERN SUMMARY TABLE						
				Suggested Action		
SWMU or AOC #	Waste Management Unit/Area of Concern Name	Type of Unit	Evidence of releases	NFA at This Time	Confirmatory Sampling Required	Wastes Managed
SWMU-7	Solid Waste Processing Facility	Treatment and Storage	No	X		Non-hazardous materials
SWMU-8	Universal Waste Battery Storage Area	Storage	No	X		Used batteries
SWMU-9	Paint Can Crushing Area	Treatment and Storage	No	X		Water- and solvent-based paints
SWMU-10	Roll-off Storage	Storage	No	X		Non-hazardous materials
SWMU-11	Transfer Facility	Temporary Holding of Waste	No	X		Hazardous Waste
SWMU-12	Used Oil Facility	Storage	No	X		Used oil
SWMU-13	Satellite Accumulation Area	Storage	No	X		Laboratory chemicals
SWMU-14	Parts Washer	Treatment and Storage	No	X		Solvents
SWMU-15	Additional Retention Pond	Treatment, Storage & Disposal	No		X	Storm water
SWMU-16	Universal Waste Lamp Storage Area	Storage	No	X		Fluorescent lamps
SWMU-17	Aerosol Can Crushing	Treatment and Storage	No	X		Aerosol cans
SWMU-18	Drum Crushing	Treatment and Storage	No	X		Drums and drum residues

6.0 SWMU/AOC Data Sheets

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	SWMU-7
NAME	Solid Waste Processing Facility (*aka* Solid Waste Processing Area)
TYPE OF UNIT	Treatment and storage
DESCRIPTION OF WASTE MANAGED	Non-hazardous materials
PHYSICAL DESCRIPTION AND CONDITION	The Materials Processing Facility (MPF) is an 8,050 square foot building located on the 8th Avenue property (southern portion of property). The building is used for processing, staging, storage and management of non-hazardous regulated solid waste. Processing includes segregation, decanting, filtration, transfer, shredding, or solidification. The storage capacity of the MPF is 185,650 gallons. The containment provided by the 8-inch high concrete curb and two 50-gallon sumps is 32,676 gallons which is sufficient to hold 110% of the largest container (a 7,660 gallon constructed steel welded box used in the solidification process) or 10% of the total volume of the waste permitted to be stored in the building. Construction of the MFP was completed in November 2009 and it went into operation in July 2010.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	The operations are conducted in accordance with DEP's solid waste permit 34757-006-SO/30 issued November 18, 2008 and expiring on November 18, 2013. Closure and postclosure of the facility are covered by Part G of the Solid Waste permit.

Photos of SWMU-7

SWMU-7, Solid Waste Processing Facility. This photograph shows the front entrance, facing west. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-8**
NAME	Universal Waste Battery Storage Area
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Universal Waste Batteries
PHYSICAL DESCRIPTION AND CONDITION	The Universal Waste Battery Storage Area is located in the southeastern portion of the container storage building in Bay 3. This area is covered by a roof and slopes towards the containment trench. Batteries stored in the battery storage area include lead acid, lithium, alkaline, and NiCd. These batteries are sent to AERC for recycling. Alkaline batteries are land filled (Omni Landfill). The Batteries Storage Area began operation in January 2009 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

SWMU-8, Universal Waste Battery Storage Area. This photograph was taken facing east. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-9**
NAME	Paint Can Crushing Area
TYPE OF UNIT	Treatment and Storage
DESCRIPTION OF WASTE MANAGED	Solvent-based paints
PHYSICAL DESCRIPTION AND CONDITION	Solvent-based paints are received in one-gallon cans for re-containerization and disposal. The operation takes place in the permitted hazardous waste processing areas. The operation includes the opening of containers, crushing the can in an enclosed unit, collecting the paint waste in a 55-gallon drum and containerizing the paint for off-site transport. The paint can is manually placed in and removed from the unit. EQ uses best management practices such as using plastic sheeting to contain any drippage. Each waste stream is characterized to determine appropriate management. Latex or water based paints are not crushed in this machine. The Paint Can Crushing Area began operations in 1996 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

Photo of SWMU-9

SWMU-9, Paint Can Crushing Area. This photograph was taken facing east/northeast. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-10**
NAME	Rolloff Storage (*aka* Rolloff Storage Area)
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Non-hazardous materials
PHYSICAL DESCRIPTION AND CONDITION	The Rolloff Storage Area is also known as the Solid Waste Processing Building. It is used for the storage of roll-off boxes that are full of the solidified material created in the MPF (SWMU-7). The roll-off boxes are staged in this area where they await outbound transportation. The area consists of a 2,288 square foot covered concrete pad and has a capacity of 20,200 gallons. The Rolloff Storage was a pre-existing building and no special construction was needed prior to using it for the roll-off storage. Operation as the Rolloff Storage began in November 2008.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	The operations are conducted in accordance with DEP's solid waste permit 34757-006-SO/30 issued November 18, 2008 and expiring on November 18, 2013. Closure and postclosure of the facility are covered by Part G of the Solid Waste permit.

Photo of SWMU 10

SWMU-10, Rolloff Storage. This photograph was taken facing east. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-11**
NAME	Transfer Facility (*aka* Transfer Area/Staging Area)
TYPE OF UNIT	Short-term Storage
DESCRIPTION OF WASTE MANAGED	Hazardous Waste
PHYSICAL DESCRIPTION AND CONDITION	The Transfer Facility is currently located in, and part of, the Container Storage Area (SWMU 1). It is located in Bay 1. EQ is authorized to operate a transfer facility on site in accordance with Rule 62-730.171, F.A.C., and is be authorized to hold manifested hazardous waste on site not to exceed ten (10) days as allowed for transfer facilities. Current regulations allow transfer facility waste to be held anywhere on the paved lot within the facility boundary. The maximum permitted capacity is limited to 20,000 gallons or 100 cubic yards The Transfer Facility began operation in 1990 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	EQ's information submitted in the February 10, 2011 Part B updates proposes to move the transfer facility to an area located on the 8th Avenue Property as identified on Figure 5.14.

Photo of SWMU 11

SWMU-11, Transfer Facility. This photograph was taken facing east. Photo taken on April 16, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-12**
NAME	Used Oil Facility
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Used Oil, Used Oil Filters
PHYSICAL DESCRIPTION AND CONDITION	The Used Oil Facility is located within, and part of, the Container Storage Area (SWMU 1). It is located in Bay 1. Used oil is received in various size containers and transferred into either 55- gallon drums or 275-gallon tote tanks. Used oil is pumped from these containers on a weekly basis. EQ does not drain oil filters other than during routine vehicle maintenance performed in the vehicle maintenance area. Used oil filter are received in various sized containers and are consolidated into 55-gallon drums. The Used Oil Facility began operation in 1990 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	EQ is registered as a used oil transporter, transfer facility, filter transporter and filter transfer facility in accordance with Chapter 62-710, F.A.C. The June 16, 2010 certification expires on June 30, 2011.

Photo of SWMU 12

SWMU-12, Used Oil Facility. This photograph was taken facing west. Photo taken on April 16, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-13**
NAME	Satellite Accumulation Area
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Laboratory samples
PHYSICAL DESCRIPTION AND CONDITION	The Satellite Accumulation Area is located in the laboratory located in the Office Building on the 8th Avenue (southern) property. The material collected in the satellite accumulation area includes various types of solvents and debris associated with waste sampling. Accumulated material is transferred to the northern property for further processing. The Satellite Accumulation Area began operation in 2002 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

Photos of SWMU 13

SWMU-13 Satellite Accumulation Area. This photograph was taken facing south. Photo taken on January 11, 2011 by Stuart Stapleton.

SWMU-13 Satellite Accumulation Area. This photograph was taken facing east. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	SWMU-14
NAME	Parts Washer
TYPE OF UNIT	Treatment and Storage
DESCRIPTION OF WASTE MANAGED	Liquids and sludges from a non-hazardous solvent
PHYSICAL DESCRIPTION AND CONDITION	EQ currently utilizes a Safety Kleen Parts Washer located in the maintenance area of the office building on the 8th Avenue property. The washer consists of a metal sink fixed to a 30-gallon drum of part cleaning solution. The solution is pumped from the drum into the sink where the parts are washed and cleaned. The solution is drained back into the drum when the cleaning is completed. The solution is reused until it is no longer useful and at that point it is sent off-site for recycling. The waste solvent is periodically tested. Parts Washers began operation in January 2009 and it is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

Photo of SWMU 14

SWMU-14 Parts Washer. This photograph was taken facing west. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	SWMU-15
NAME	Additional Retention Pond
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Storm water
PHYSICAL DESCRIPTION AND CONDITION	The Additional Retention Pond is located in the northwestern corner of the 8th Avenue property. It collects storm water from the roof of the Material Processing Facility (SWMU-7). The retention pond was sized for both the permanent pool volume required and the 1" runoff storage (temporary pool). The pond is unlined. Construction of the retention pond was completed in March 2010 and it became operational in July 2010.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None. Prior to construction, a shallow well (MW-1) was installed on October 22, 2009 to determine if there were any groundwater impacts from the Helena Chemical Company Superfund Site. The sampling did not detect any measurable concentrations of analytes. Analytes were limited to total xylenes, alpha-BHC, beta-BHC, lindane (gamma-BHC) 4,4'-DDT, aldrin, dieldrin, endosulfan I and endosulfan II.
RECOMMENDATION	Confirmatory Sampling
COMMENTS	

Photo of SWMU 15

SWMU-15 Additional Retention Pond. This photograph was taken facing north. Photo taken on January 11, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	SWMU-16
NAME	Universal Waste Lamp Storage Area
TYPE OF UNIT	Storage
DESCRIPTION OF WASTE MANAGED	Fluorescent lamps
PHYSICAL DESCRIPTION AND CONDITION	Lamps are received from various sources including Conditionally Exempt Small Quantity Generators (CESQG). If Universal waste (UW) is received in containers that show evidence of spillage, leakage or damage that could cause leakage, the material is repacked into structurally sound containers. The Universal Waste Lamp Storage Area is located in the parking area of the northern property. The material is stored in a box van with a storage capacity of 1,104 cubic feet. The Universal Waste Lamp Storage Area began operation in 2002 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	EQ is a transporter and a Small Quantity Handler Facility of Universal Waste Lamps and Devices in accordance with Chapter 62-737, F.A.C. EQ's certification was issued March 31, 2011 and it expires on March 1, 2012.

Photo of SWMU 16

SWMU-16 Universal Waste Lamp Storage Area. This photograph was taken facing south/southwest. Photo taken on January 26, 2011 by Stuart Stapleton.

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-17**
NAME	Aerosol Can Crushing (*aka* Aerosol Can Recycling)
TYPE OF UNIT	Treatment
DESCRIPTION OF WASTE MANAGED	Solvent-based paint waste, auto products (e.g., carburetor cleaner, engine degreaser, etc.) and personal care products
PHYSICAL DESCRIPTION AND CONDITION	The aerosol can crushing was conducted in a machine that crushed aerosol cans while simultaneously capturing all liquids into a 55-gallon container. Aerosol cans were placed within an enclosed unit and punctured. The material within the can was ejected into the drum. A filter unit was attached to the machine that captured vapors expelled from the can/drum during the recycling operation. This operation was carried out in area 2A of the hazardous waste storage area. The filters were changed out as per the manufacturer's specifications. Spent filters were characterized and managed as solid or hazardous waste. Both Aerosolv and TeeMark crushers have been used. The TeeMark is no longer in operation and a replacement is being considered. Additional details of the crushers are located in Attachment 16 of the Part B renewal dated July 22, 2010. The empty cans were sent off site to a metal recycler. The collected paint was sent off site for fuels blending. The Aerosol Can Crushing units began operation in 2003 but are currently ***not*** in use. This process may be used in the future at some point, and if so, information on the

	particular type of unit will be submitted to the Department.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

WASTE MANAGEMENT AREA /AREA OF CONCERN
DATA SHEET

WASTE MANAGEMENT AREA/AREA OF CONCERN REFERENCE NUMBER	**SWMU-18**
NAME	Drum Crushing
TYPE OF UNIT	Treatment
DESCRIPTION OF WASTE MANAGED	Empty Drums and residues
PHYSICAL DESCRIPTION AND CONDITION	EQ uses a Drumbeaters of America crusher, model # DC5000-10. Additional details of the compactor are located in Attachment 16 of the Part B renewal dated July 22, 2010. The unit is located at the top of the ramp leading into Bay 3. The unit is used to crush drums and other various RCRA empty metal containers. Crushed drums are sent off site to a metal recycler. Rags are no longer being compacted. Crushed drums are sent off site to a metal recycler. The Drum Crushing units began operation in 1996 and is currently in use.
HISTORY AND/OR EVIDENCE OF RELEASE(s)	None
RECOMMENDATION	No Further Action
COMMENTS	

Photo of SWMU 18

SWMU-18 Drum Crushing. This photograph was taken facing west/northwest. Photo taken on January 11, 2011 by Stuart Stapleton.

7.0 Figure

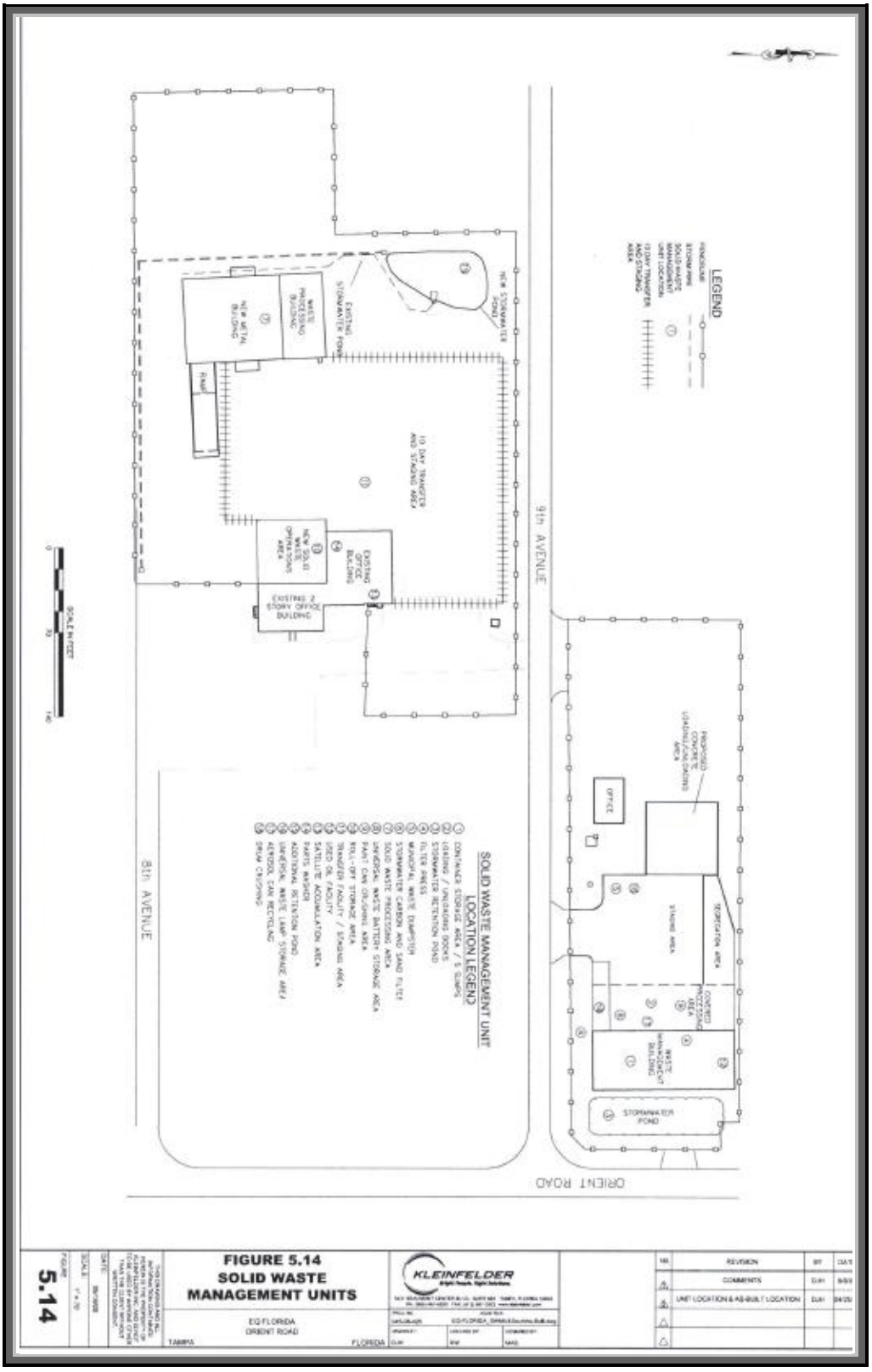


FIGURE 5.14
SOLID WASTE MANAGEMENT UNITS
EQ FLORIDA
ORIENT ROAD
TAMPA
FLORIDA
KLEINFELDER
5.14
LEGEND
SOLID WASTE MANAGEMENT UNIT LOCATION (LEGEND)
9th AVENUE
8th AVENUE
ORIENT ROAD
EXISTING 2 STORY OFFICE BUILDING
EXISTING OFFICE BUILDING
NEW METAL BUILDING
WASTE PROCESSING BUILDING
RAMP
EXISTING STORMWATER POND
NEW STORMWATER POND
10 DAY TRANSFER AND STAGING AREA
NEW SOLID WASTE OPERATIONS AREA
OFFICE
STAGING AREA
SEGREGATION AREA
CONCRETE PROCESSING AREA
WASTE MANAGEMENT BUILDING
STORMWATER POND
PROPOSED CONCRETE LOADING/UNLOADING DOCKS AREA
REVISION
COMMENTS
UNIT LOCATION & AS-BUILT LOCATION

8.0 Index

APPENDIX H

Emergency & Safety Equipment

EQ Florida, Inc

EMERGENCY AND SAFETY EQUIPMENT

1. Hand-Held blow Horns (3)
2. Telephones (2)
3. Emergency Lights (4)
4. Pull alarms (6)
5. Fire Extinguishers (6)
6. Emergency Exits (6)
7. Containment sumps (5)
8. Spill Kits (Acid, Alkaline, Solvent) (1 each)
9. Fire Hoses (3)
10. Safety Equipment Cabinets (2)
11. UV Smoke and Flame Detectors (6)
12. Heat Sensors (2)
13. LEL Sensors (2)
14. LEL Meter (1)
15. SCBA Respirator (1)
16. Eye Washes (2)
17. Safety Shower (1)
18. Sprinkler Systems (2)
19. Foam System (1)
20. Intrusion Alarm System (1)
21. Fire Alarm System (1)

APPENDIX I

Equipment Specifications

FILTER PRESS LOG

Date	Profile #	DOT Name	DOT Hazard Class	EPA Waste Code	Quantity In	Quantity Liquid Out	Quantity Solid Out	Operator

FILTER PRESS

INSTRUCTION MANUAL

SERIAL NO. 3082

JWI, INC.
2155 112th Avenue
Holland, MI 49423
(616) 772-9011

JWI FILTER PRESS MANUAL

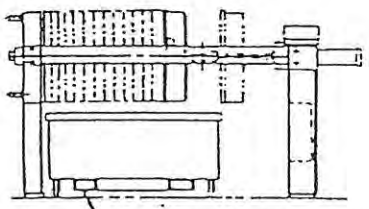
TABLE OF CONTENTS

JWI FILTER PRESS SPECIFICATIONS

MODEL NUMBER	630N32-13/27-4/8DA
SERIAL NUMBER	3082
TOTAL VOLUME -CU.FT.	4 TO 8
VOLUME/CHAMBER - CU.FT.	3
TOTAL AREA - SQ. FT.	140.4 TO 291.6
NUMBER OF CHAMBERS	13 TO 27
OVERALL LENGTH OF PRESS	43.5"
OVERALL WIDTH OF PRESS	37"
CLEARANCE - FLOOR TO PLATES	26"
PLATE SIZE - INCHES	24.8
MM	630
PLATE STYLE	NON-GASKETED
GASKET STYLE	O'RING
FILTER CLOTH	#7383 35CRM
CLOSING DEVICE	AIR POWERED HYD. PUMP
CONTROL LOCATION	LEFT HAND
AIR SUPPLY REQUIRED - MAXIMUM	28 CFM
HYDRAULIC CLOSING PRESSURE MAX. PSI	4450
RELIEF VALVE SETTING - PSI	4900
HYDRAULIC RESERVIOR CAPACITY	2 1/2 GALLONS
HYDRAULIC OIL RECOMMENDED	QUALITY BRAND-HYD. OIL
HYDRAULIC CYLINDER - SIZE	4" BORE, 18" STROKE
TYPE	PARKER
MAXIMUM INLET FEED PUMP PRESSURE	100 PSI
DISCHARGE MANIFOLD (STYLE)	AIR BLOWDOWN

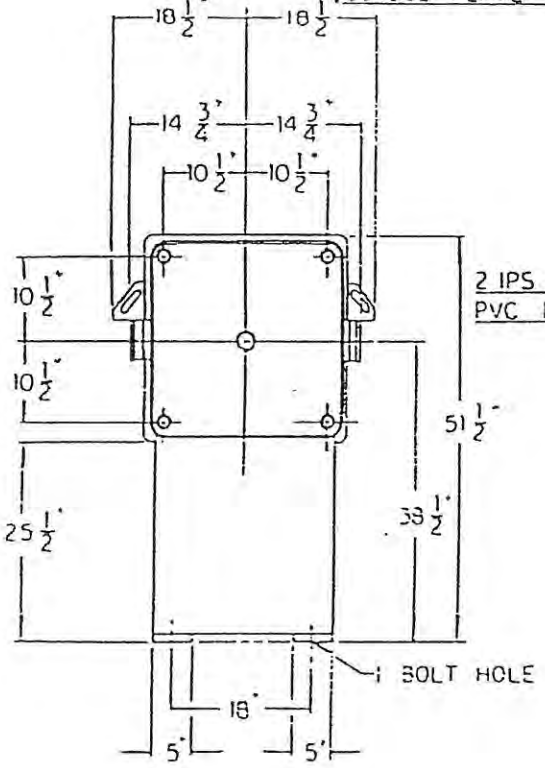
OPTION: DISTANCE PIECE, DRUM DISPOSAL SYSTEM

PLATES TO BE CENTER FEED 4 CORNER DISCHARGE. PLATES OF POLYPROPYLENE GASKETED CONSTRUCTION WITH $\frac{5}{8}$" RECESSES FOR $1\frac{1}{4}$" THICK CAKES



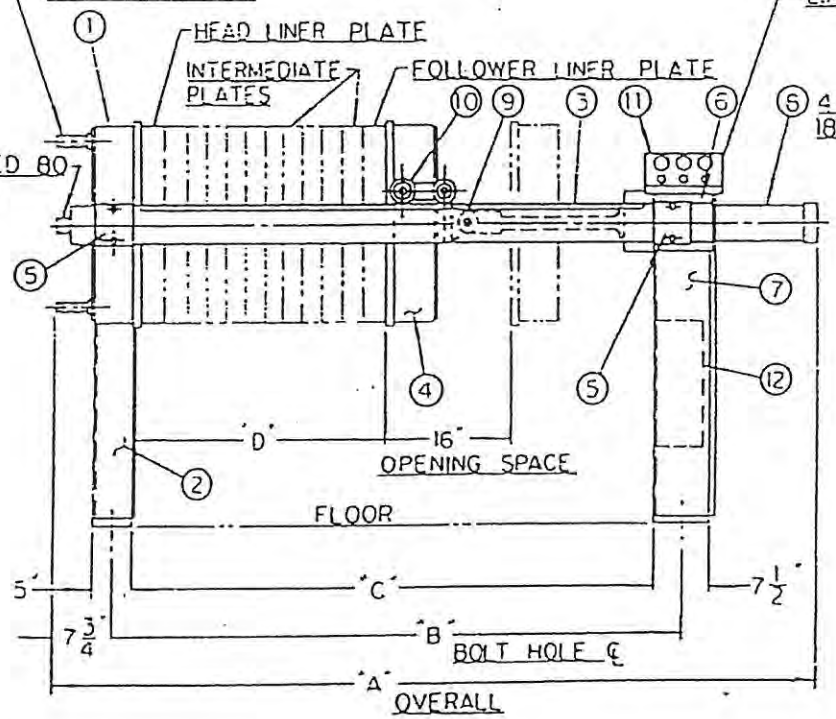
FILTER CAKE DUMPSTER (SELF DUMPING) OPTIONAL

OUTSIDE PLATE HANDLES



2 IPS SCHED 80 PVC FEED

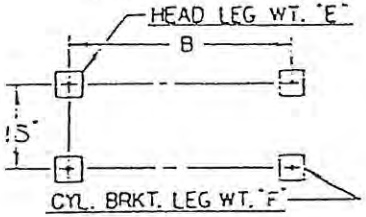
$1\frac{1}{2}$ IPS SCHED 80 PVC DISCHARGE PIPES TYP 4 CORNERS



24" SIZE (630 MM) FILTER PRESS					
CUBIC FEET	A	B	C	D	NO. OF CHAMBERS
1	75 1/2	49 1/4	43	9	3
1.5	80 3/4	54 1/2	48 1/2	14 1/4	5
2	84	57 3/4	51 1/2	17 1/2	7
3	91	64 3/4	58 1/2	24 1/2	10
4	97 3/4	71 1/2	65 1/4	31 1/4	13
5	106 3/4	80 1/2	74 1/4	40 1/4	17
6	113 1/2	87 1/4	81	47	20
8	129 1/4	103	96 3/4	62 3/4	27
10	142 3/4	116 1/2	110 1/4	76 1/4	33
12	159 1/4	133	126 3/4	92 3/4	40
13	170	143 3/4	137 1/2	103 1/2	43
15	181 1/2	155 1/4	149	115	50

ITEM NO.	QUAN.	DESCRIPTION
1	1	HEAD
2	1	HEAD LEG
3	2	SIDE BAR
4	1	FOLLOWER
5	4	JOGGLE PLATE
6	1	CYLINDER BRACKET
7	1	CYLINDER BRACKET LEG
8	1	CYLINDER
9	2	SS SIDE BAR CAPS
10	3	FOLLOWER ROLLER
11	1	CONTROL CENTER
12	1	HYDRAULIC PUMPING UNIT

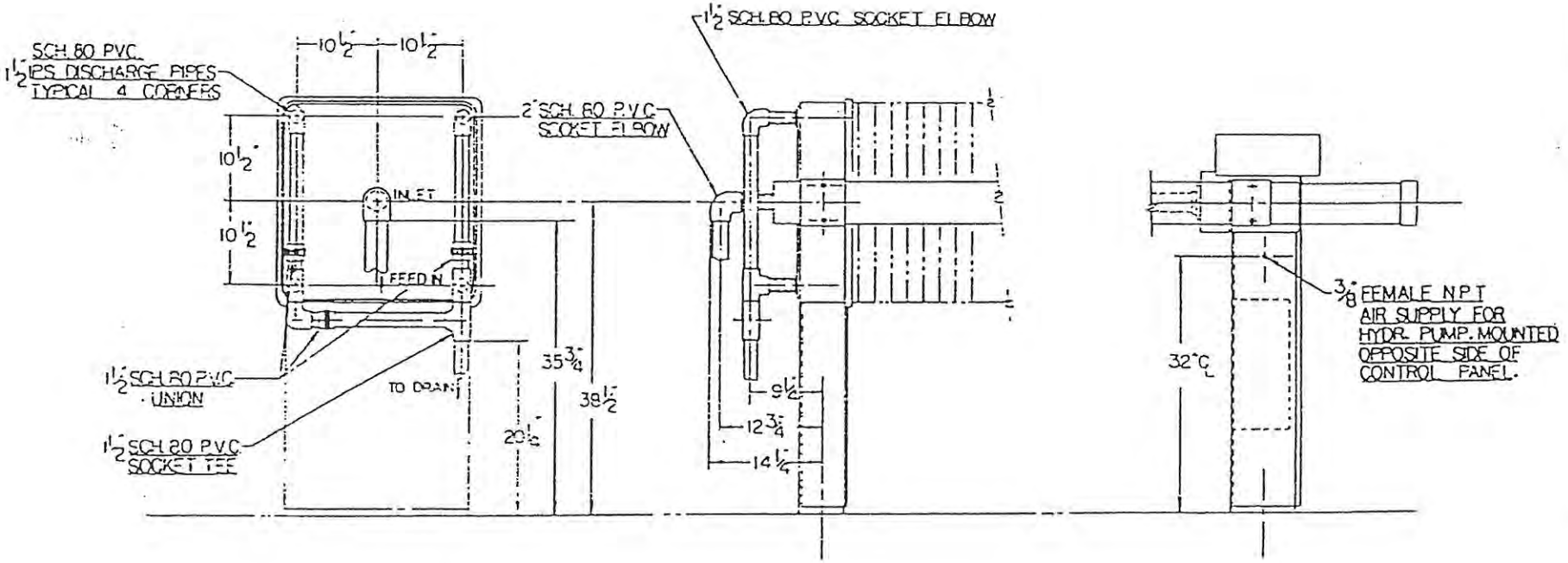
WEIGHT IN POUNDS			
CUBIC FEET	E	F	G
1	1208	805	2014
1.5	1274	849	2123
2	1336	891	2227
3	1445	963	2408
4	1553	1035	2589
5	1681	1121	2802
6	1789	1193	2982
8	2025	1350	3376
10	2242	1495	3737
12	2480	1653	4133
13	2595	1730	4325
15	2824	1883	4707



FOUNDATION DIMENSIONS ARE FOR BASIC LAYOUT ONLY. GROUT BOLTS ONLY AFTER INSTALLATION OF PRESS

JWI

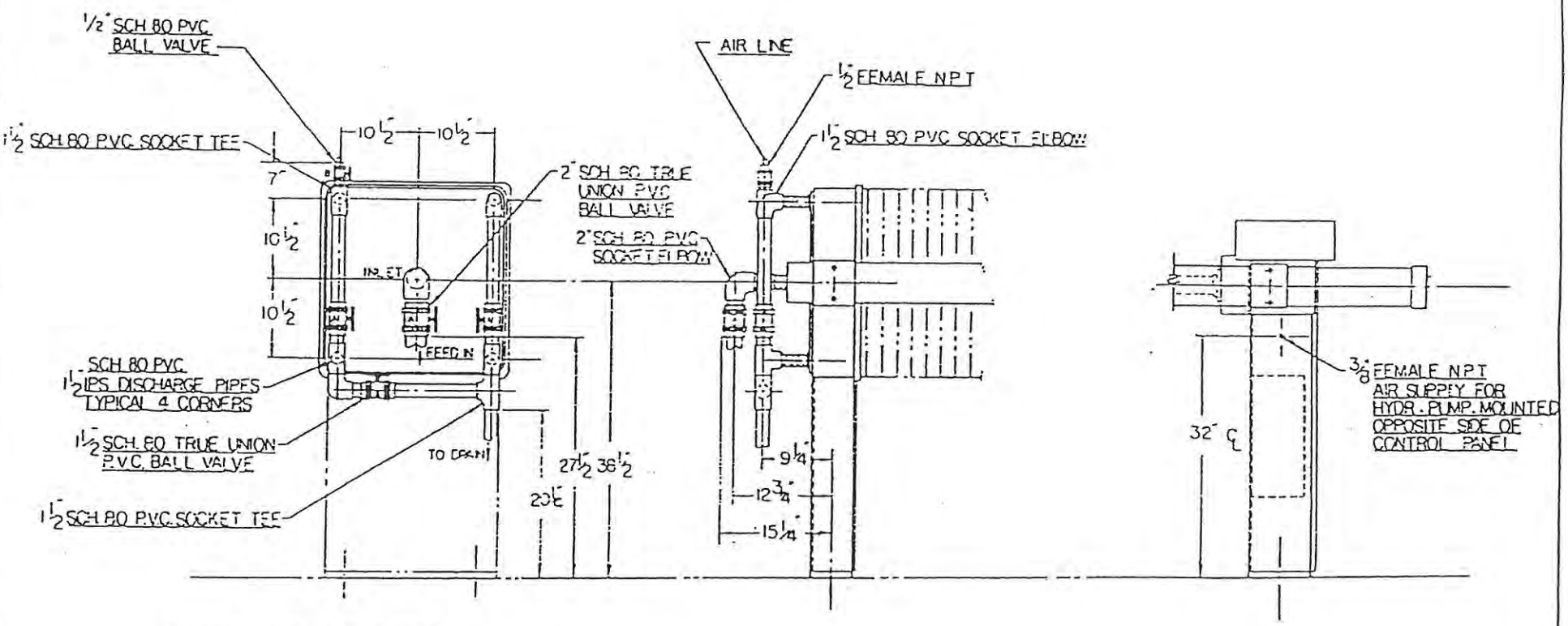
630mm (24")
FILTER PRESS



STANDARD DISCHARGE MANIFOLD
CENTER FEED-FOUR CORNER DISCHARGE
POLYPROPYLENE PLATES

J.W.I. INC.	J-PRESS	CONFORMS
	PLATE SIZE 630 MM	
	CHUTE POST	POWER WILLS
	NO. OF CHAMBERS	

1/1



"A" VALVES - OPEN DURING FEED
CLOSED DURING AIR BLOW DOWN

"B" VALVE - CLOSED DURING FEED
OPEN DURING AIR BLOW DOWN

NOTE: AT END OF AIR BLOW DOWN "A" VALVES (EXCEPT INLET FEED) SHOULD BE OPENED FOR A FEW MINUTES TO DRAIN THE PLATES PRIOR TO OPENING THE PRESS

AIR BLOW DOWN MANIFOLD
CENTER FEED - FOUR CORNER DISCHARGE
POLYPROPYLENE PLATES

J.W.I. INC.	J-PRESS 630 Ton	

SET UP INSTRUCTIONS

The JWI filter press is normally shipped completely assembled and pre-tested.

CAUTION: Use care in handling the filter press so as not to damage any components such as discharge extension pipes, plate handles, or hydraulic system.

1. Mount the filter press level to floor, platform, or extension legs through the base holes provided. NOTE: Press must be clamped up and square before exact dimension can be established. (See enclosed drawing)

2. Connect center inlet pipe to discharge of feed pump. (See enclosed filter press or manifold drawing)

3. Install drain pipe to bottom outlet of discharge manifold. (See enclosed manifold drawing) IMPORTANT! Be sure outlet of drain pipe is below level of discharge manifold outlet.

4. If optional air blowdown manifold is used, connect air supply as shown on manifold drawing. Use regulated air pressure 50 PSI maximum.

Automatic Closure Models Only

Connecting Air Supply

Air supply to the JWI filter press should be clean, dry air at 125 PSI maximum.

NOTE: An air line drying system should be installed if high levels of moisture are present in your air supply. This will prevent extensive damage to the air circuit components in the system.

1. Connect air supply, using a minimum 3/8" I.D. pipe, to fitting marked air inlet located at hydraulic cylinder end of filter press. NOTE: Use shut off valve in air line prior to filter press; air filter and regulators are incorporated within the filter press system.

OPERATION OF A FILTER PRESS

AUTOMATIC CLOSURE

JWI uses an air over hydraulic system to open and close the filter press. To close the filter press, air pressure is applied to the hydraulic fluid reservoir, forcing hydraulic fluid into the rear of the hydraulic cylinder, rapidly extending the ram. The hydraulic pump is then turned on to reach the maximum closing pressure. To open the filter press the hydraulic pressure is released thru a pilot operated valve. Air pressure is directed to the front of the hydraulic fluid back to the reservoir tank.

To Close Filter Press

1. With air supply connected to filter press, line air pressure will register on gauge.

2. Turn selector switch to close position.

3. Turn air supply switch to on position. Regulated air pressure will register on gauge. Hydraulic cylinder will extend, closing the press.

4. Leave open-close selector switch in close position. With ram fully extended, turn hydraulic pump switch to on position. Leave hydraulic pump switch in on position when press is in operation. The hydraulic pump will engage, developing maximum closing pressure on hydraulic gauge.
   NOTE: Small amounts of air excaping momentarily from the hydraulic pump prior to stroking is normal. If maximum hydraulic pressure (see specification page one) is not reached, follow the instructions titled "Regulated Air Pressure" on page 8.

5. Open inlet valve and start feed pump. With air diaphragm feed pump cycling will slow as press becomes filled. With press completely filled, feed pump will stall. This usually occurs within 2 hours.

6. Turn off feed pump. This is done by shutting off its air supply.

7. Air blowdown (optional). Maximum pressure is 40 PSI.

   a. Close center inlet valve on line from feed pump.
   b. Close the three valves on discharge manifold. (See diagram #3.)
   c. Open air valve on discharge manifold expelling any water left in the press (approximately 2 minutes or longer).
   d. Close air valve.
   e. Open the three valves on discharge manifold. Leave inlet valve closed. This will allow gravity drainage of press (approximately 2 minutes).

To Open Filter Press

Note: Make sure feed pump has been turned off, and pressure has been bled down.

1. Turn hydraulic pump switch to off position.

2. Turn selector switch to open position. Hydraulic cylinder will retract, opening the press. (Air supply switch must be in on position.)

3. With press open, turn air supply to off position.

4. Clean plates.

   a. Manually separate the plates. NOTE: New gaskets have a tendency to stick. Use care in separation of plates as not to damage them. A silicone spray can be used to eliminate this condition.

   b. Use the non-abrasive nylon paddles furnished to remove any cake that has not fallen free. NOTE: Failure to thoroughly clean the plates can cause cracking due to unbalanced pressure build up.

   c. All cake should be cleaned from sealing surfaces.

5. With the plates thoroughly cleaned, the press is ready for closing. NOTE: Follow instructions "To Close Filter Press."

CAUTION: If flow to the filter press is interrupted for a period of time, such as overnight, it is recommended that the feed pump be restarted at a low pressure for 5 to 10 minutes before slowly increasing to maximum pressure. When the feed to the press is interrupted, the sludge build up will have a tendency to fall from the sides of the chamber and settle to the bottom, possibly blocking the center feed hole. Restarting with high feed pressure does not give the sludge time to resoften and distribute itself in the chamber. Blockage of the center feed can cause uneven pressure build up and result in plate breakage.

Dual Ratio Hydraulic System

System Operation

With the pump switch turned to the "on" position, both pumps will start simultaneously. The high volume 21:1 ratio pump will stall out at around 2000 PSI. The standard 71:1 ratio pump will continue to operate until maximum closing pressure is reached. The 21:1 ratio pump operates at line air pressure while the 71:1 ratio pump operates on regulated air pressure to control closing pressure.

(To identify Dual Ratio Hydraulic System, refer to 6.00)

REGULATED AIR PRESSURE

A. The regulated air pressure to the hydraulic pump is proportionate to the hydraulic output pressure in an air to hydraulic ratio of 1 - 71. The air pressure regulator is mounted in the upper section of the pump cabinet (round, black knob) on the air line adjacent to the hydraulic pump. Regulated air pressure will be indicated on the control panel gauge.
NOTE: Do not confuse this regulator with the pilot air regulator which is mounted below the hydraulic pump regulator. The pilot air regulator should read approximately 80 PSI on the accompaning gauge and is used only for pilot air supply.

B. With filter press tightly closed, increase air pressure clockwise until maximum hydraulic pressure (see specifications sheet) is indicated on hydraulic pressure gauges. NOTE: A preset hydraulic pressure relief valve at the pump will not allow pressure to exceed maximum limit. If hydraulic pressure does not reach approximate maximum, see hydraulic pump section.

C. If pump has reached maximum pressure but continues to cycle, decrease air pressure until the pump stalls, yet maintains maximum hydraulic pressure.

D. With air pressure set, push in outer ring on regulator knob to lock in position.

E. The air powered hydraulic pumping unit is designed to maintain a constant hydraulic pressure using no air consumption. The pump will automatically start and stop to maintain the preset pressure. (See hydraulic pump section.)

OPERATION OF A FILTER PRESS

MANUAL CLOSURE

To Close Filter Press

1. Push the follower forward closing the stack of plates.

2. Pivot hydraulic ram downward into position.

3. Close release valve on hydraulic hand pump. NOTE: Hand tighten only.

4. Pump hydraulic hand pump until maximum closing pressure registers on gauge. (See specification sheet.)

5. Open inlet valve and start feed pump. With air diaphragm feed pump cycling will slow as press becomes filled. With press completely filled, feed pump will stall. This occurs within 2 hours. NOTE: In some applications it is recommended that the feed pump be started at a low pressure (25 PSI) then steadly increased to maximum. 100PSI over a 15 minute period. See "Troubleshooting" on page 9.

6. Turn off feed pump. This is done by shutting off its air supply.

7. Air blow down (optional).

   a. Close center inlet valve on line from feed pump.

   b. Close the three valves on discharge manifold. (See enclosed diagram.)

   c. Open air valve on discharge manifold expelling any water left in the press. (Approximately 2 minutes.) (NOTE: 50 PSI maximum.)

   d. Close air valve.

   e. Open the three valves on discharge manifold. Leave inlet valve closed. This will allow gravity drainage of press. (Approximately 2 minutes.)

To Open Filter Press

1. Release hydraulic pressure by turning the manual release valve on hydraulic hand pump counter clockwise.

2. Retract the hydraulic ram. This is done by grasping the handle at the top of the follower and pulling it towards the hydraulic hand pump. NOTE: This is necessary only on hydraulic rams that have gravity return. Those with spring return will retract automatically.

3. Push follower forward tightly against the stack of plates.

4. Lift hydraulic hand pump handle to the full up position.

5. Pivot hydraulic ram upward and allow it to rest on top of hydraulic hand pump.

6. Roll follower back to hydraulic hand pump end of filter press.

7. Clean plates:

   a. Manually separate the plates.

   b. Use the non-abrasive nylon paddles furnished to remove any cake that has not fallen free. NOTE: Make sure gasket sealing surfaces are free of filter cake.

8. With the plates thouroughly cleaned, the press is ready for closing. NOTE: Follow instructions "To Close Filter Press."

CAUTION: If flow to the filter press is interrupted for a period of time such as overnight, it is recommended that the feed pump be restarted at a low pressure for 5 to 10 minutes before slowly increasing to maximum pressure. When the feed to the press is interrupted, the sludge build up will have a tendency to fall from the sides of the chamber and settle to the bottom, possibly blocking the center feed hole. Restarting with high feed pressure does not give the sludge time to resoften and distribute itself in the chamber. Blockage of the center feed can cause uneven pressure build up and result in plate breakage.

APPROXIMATE AIR USAG[illegible]R STANDARD J-PRESS®

(Press only, does nc [illegible]nclude feed pump)

unction and lax. Pressure	Approx. SCFM/Number of Minutes — Cu. Ft. Press Size						
	.6 to 1.5	2 to 5	6 to 10	11 to 20	21 to 35	36 to 60	61 to 100
Closing @ 00 PSI*	N/A	25 / 1 Min.	25 / 1 Min.	30 / 2 Min.	30 / 2 Min.	30 / 3 Min.	30 / 3 Min.
Opening @ 00 PSI	N/A	25 / 1 Min.	25 / 1 Min.	30 / 1 Min.	30 / 1 Min.	30 / 1 Min.	30 / 1 Min.
Air Blowdown @ 10 PSI**	2 to 5 / 5 Min.	5 to 15 / 5 Min.	15 to 25 / 5 Min.	25 to 50 / 5 Min.	50 to 90 / 5 Min.	90 to 150 / 5 Min.	150 to 250 / 5 Min.
Shifter @ 80 PSI***	N/A	N/A	2 / 5 Min.	2 / 10 Min.	3 / 15 Min.	4 / 20 Min.	4 / 30 Min.

*A static pressure of 60 to 80 PSI with little or no consumption is required during press filling cycle.

**Approximation only. Actual consumption based on cake porosity and other variables.

***Based on approximate total cleaning time.

GENERAL MAINTENANCE

Manual Hydraulic System

Oil Reservior: Check oil level in reservoir with ram fully retracted. Watch for any signs of hydraulic oil leaks.

Caution: Do not over pressure system above specified closing pressure.

Air Over Hydraulic System

Check reservoir level periodically. Check complete hydraulic system for any signs of leaks.

Oil Reservior: Hydraulic oil - with hydraulic ram fully retracted, oil level should be approximately 1" from top of sight tube on tank.

Caution: Be sure all air pressure is off to filter press prior to removing 1/2" fill plug located on top of reservior tank.

Air Filter

The air filter is of the automatic self-draining type. For filter element replacement, see section on air filter.

Polypropylene Plates

Polypropylene plates should be inspected periodically for gasket deterioration and condition of filter cloths. See section on polypropylene plates and filter cloths.

Sealing surfaces of plates should be kept clean and free from build up.

T R O U B L E S H O O T I N G

PROBLEM	CAUSE	SOLUTION
Pump will not cycle.	1. Inadequate air supply.	1. Check air pressure and clc air system parts.
	2. Air filter plugged.	2. Check air regulator (see a regulator section).
	3. Air valve off.	3. Check air regulator (see a regulator section).
	4. Restriction in air line.	4. Check air regulator (see a regulator section).
	5. Pump seals bad.	5. Rebuild pump.
Pump cycles without building pressure or deadheading.	1. Check-valve in pump body malfunctions.	1. Clean, inspect and replace necessary.
	2. Low reservoir level.	2. Fill reservoir with oil (s maintenance section.)
	3. Filter plugged.	3. Replace filter.
	4. Bad seals in release valve.	4. Replace seals in release valve.
	5. Bad cylinder seals.	5. Replace cylinder seals.
	6. Bad relief valve.	6. Reset or replace relief va
Pump continues to cycle after it has reached maximum hydraulic pressure.	1. Air pressure is set too high.	1. Decrease regulator pressur
	2. Relief valve is set too low.	2. Set relief valve to maximu pressure.
	3. Malfunction of relief valve.	3. Replace relief valve cartridge.
	4. Failure of hydraulic cylinder seals.	4. Replace seals in cylinder.

TROUBLESHOOTING (Continued)

BLEM	CAUSE	SOLUTION
dge pump stalls , indicating ss is full. ever, when the ss is opened, filter cake solid near the th but watery the center.	1. Too low sludge pump air pressure.	1. Increase pressure 100 PSI maximum.
	2. Sludge pump not stalled out long enough.	2. Stall until one stroke/ minimum is reached.
	3. Oil in sludge forming an impermeable layer.	3. Eliminate oil or add D.E. body feed.
	4. Too high initial sludge pump pressure, causing particles to form too tightly on filter cloth.	4. Start sludge pump at lower pressure, then slowly increase. (See operation of filter press.)
	5. Filter cloths plugged.	5. See section on filter cloths.
er leaks out ween plates.	1. Gaskets loose or torn.	1. Reinstall or replace. (See section on polypropylene plates.)
	2. Low hydraulic pressure.	2. Increase to required PSI.
ter cloths pull of grooves ing operation.	A full cake was not developed before wash or blowdown, causing cloth to be pushed out of caulking groove.	Be sure chambers are completely full before wash or blowdown. The filter cake will then support the cloth.
ter cloths pull of grooves ing operation, n though full es are being lt.	Improper size sash cord for cloth or application.	Future cloths should be made with a slightly larger sash cord. Contact JWI, Inc. for recommendations.

POLYPROPYLENE FILTER PLATES

Description

Our standard polypropylene recessed, center feed, four corner alternating discharge chamber plates are superior in corrosion resistance, design and function and are available in two basic types; gasketed and non-gasketed. We also offer flush plates/frames and membrane plates.

Maintenance

Gasketed Type

With this type plate, the filter cloth is caulked into a groove located around the outer edge of the plate recess.

Redressing Procedures:

To Remove Filter Cloth

To remove a filter cloth, insert a thin bladed screw driver into the groove at the outer edge of the caulking and pry a small section of the cloth out. Grab the exposed caulking with vise grip pliers and pull the remaining cloth out of the caulking groove. After the cloth is removed, inspect and remove any accumulated solids from the groove before inserting the new cloth.

To Install New Filter Cloth

On plates having a center feed eye with sewn centers, it will be necessary to fold the cloth on one side into a small section so that it can be inserted through the center feed eye. Once the cloth is pulled through the eye, it can be unfolded for caulking.

Sewn in Sash Cord Type

The drainage surface on a gasketed chamber plate has a caulking groove approximately 3/8" wide by 3/8" deep. Filter cloths are made for this type of plate by sewing in a high density polypropylene sash cord around the outer edge of the cloth. Cord diameter will depend on type of cloth and relative thickness being used. In most cases, a No. 12 (3/8" diameter) cord is used. The filter press specifications will indicate the type of cloth used. NOTE: It is important to keep in mind that if you change the type of filter cloth, you may have to use a different number (diameter) sash caulking. Consult JWI, Inc. for proper sizing.

O-Ring Caulking Type

The drainage surface on this type gasketed plate has a machined caulking groove which utilizes an o-ring to hold the filter cloth in place.

The tool for caulking is a simple wedge of polypropylene or some other non-shattering type material. 1" thick x 3" wide x 8" long with one end tapered down to 5/16" thickness x 3" width, for use against the caulking material. Do not use a metal wedge.

Place the cloth against the plate and tap in a small section on the top to hold the cloth in position. Line up and caulk the diagonal sections first to insure proper alignment of the cloth. Distribute the caulking on the sides, top and bottom by caulking in the center of these long sections first. Then proceed to insert the balance of the caulking, making sure you distribute the caulking properly. Even though there may appear to be a surplus of material, this can be worked in easily.

NOTE: O-Ring Style Caulking: A hot knife is used to trim the excess cloth from the outer edge of the groove. The hot knife eliminates fraying of the filter cloth.

Regasketing Procedure:

The o-ring type gasket material is retained in dove tail grooves around the sealing surfaces and corner discharge eyes. The gasket is installed into the grooves so that approximately .030" to .060" of the gasket is protruding out of the groove providing the plate to plate seal.

When installing the gasket, make sure the gasket end is cut square. Insert the gasket starting at the bottom center of the filter plate using a wood or plastic mallet. Many installers will stretch the gasket which reduces the cross section sizing making it easier to insert. However, by stretching it for easier insertion, it has a tendency to creep and open the butted joints of the gasket and cause a leak.

Push the gasket into the groove around the outer edge of the plate until it mates up with the center of the plate. Cut the gasket approximately 1/2" to 1" longer than required, cutting the end square. Apply one or two drops of Eastman 910 (or super glue) to one end of the gasket and quickly join it to other end and hold it under hand pressure for approximately 30 seconds. Then, crowd the excess 1/2" to 1" of gasket into the groove to insure fullness of gasket material.

The same procedure applies for the discharge eye (ring) gaskets including the bonding together of the butted ends.

Gasket life will depend on many factors, such as length of filtration cycle, temperature, and excessive closing forces. Gasket replacement should take place if the gasket appears to be delaminating

or shreading into small particles. Also, if excessive temperatures exist and cycles are very long, the Nordel may go into additional cure, causing it to harden slightly.

While the Nordel elastomer is our standard gasket material, many other types have been used including Hypalon, neoprene, and Viton A. If the gasket life is unsatisfactory, contact JWI, Inc. for a suitable replacement.

Special Note: When gasketed plates are first put into use, the new gasket material may be slightly gummy and cause a few gaskets to pull out of the grooves when separating the plates. This condition will eliminate itself as product films are built up and act as a releasing agent. If a few of the gaskets show this characteristic, apply a silicone spray until the filter has been used for several days.

Non-Gasketed Type

With this type plate, the filter cloth provides the seal between the plates. Leakage will occur during operation even though JWI supplies most of the non-gasketed plate cloths with latex edging. The latex will cut down the wicking action somewhat but will not eliminate it.

Redressing Procedure:

To Remove Filter Cloth

Use diagonal cutters or snips to cut ties (if Supplied) on vertical sides and lift one cloth side off cloth pins on top of plate. Fold cloth and push thru center eye.

To Install New Filter Cloth

Fold and roll cloth on one side into a small section so that it can be inserted thru the center feed eye. Once the cloth is pulled thru, it can be unfolded and installed over the cloth pins on top of plate. Most types and sizes of cloth will be supplied with holes and/or grommets along the vertical sides for the installation of small plastic cable wire ties to further position and locate the cloth.

FILTER CLOTH WASHING

Filter cloths provided with the filter press have been selected specifically for use on each particular application.

Proper care and maintenance of the filter cloths are very important to the performance of the filter press.

During filtration, the filter cloth is the initial barrier that separates solids from liquid, therefore, the filter cloth must remain porous to provide high filtration rates.

During normal operation the filter cloth may gradually become plugged with minute particles, such as those from a metal finishing sludge. These particles penetrate the cloth and become lodged in the depth of the weave, which leads to decreased filterability. These particles must be removed periodically to maintain high filtration rates and drier cakes.

Filter cloth washing is required when one of the following factors indicate plugging has occured.

1. Initial high filtration pressure.
2. Long filtration cycles.
3. Wet filter cakes.

There are several methods used to wash cloths while they are still installed in the press. The most commonly used method with metal finishing sludge is acid washing which requires the following:

1. Acid storage tank of sufficient capacity to fill press and allow for recirculation, approximately 1.5 x holding capacity of press (7.5 gallons per cubic foot).

2. A 25% solution of hydrochloric (muriatic) acid. A lower or higher concentration may be necessary due to solubility levels of entrapped particles. NOTE: Extreme care must be taken when handling acid.

3. Low pressure (20-30 PSI max.) Acid resistant pump.

4. Necessary plumbing (hoses or rigid PVC pipe) to isolate the press from the sludge stream and allow for both recirculation to the acid storage tank and final draining of the spent acid solution. A throttling valve installed in the return line to the acid tank may be necessary to insure complete top to bottom press filling and washing of the cloths.

Method

1. Clean all filter cloths of all sludge cake with nylon spatulas furnished.

2. Close filter press.

3. Disconnect center feed line from sludge pump.

4. Connect outlet of acid pump to center feed line to filter press.

5. Connect lower outlet of filter press to acid recirculation tank.

6. Open acid feed line to filter press.

7. Start acid feed pump. It will take considerable time to fill all of the chambers of the filter press before the acid will return to storage tank. Continually inspect filter press for leakage during filling and recirculating.

8. Allow pump to recirculate for one to two hours.

9. Turn off acid feed pump.

10. Follow air blowdown sequence in operation instructions to purge acid from filter press (use maximum 15 PSI air).

11. Disconnect acid feed system and reinstall sludge pump and outlet lines.

12. Filter press is now ready for operation.

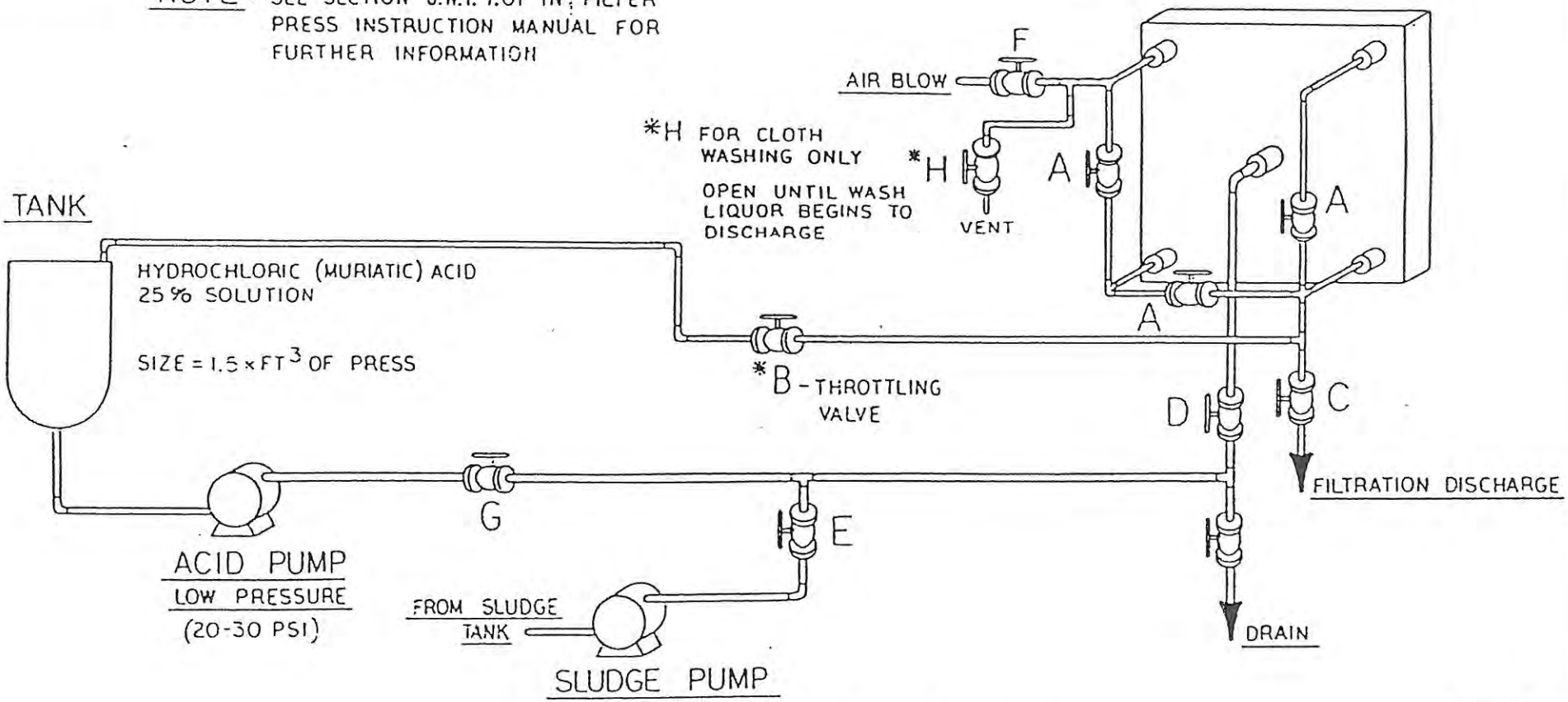
CAUTION: Acid washing is not recommended on non-gasketed type filters unless extra precautions are taken to contain the leakage between plates.

You can also acid "dip" wash the plates by inmersing them in a tank of acid. The immersion method though is less efficient than thru washing in the press and will probably require at least an overnight soaking to clean out the depth of the weave. Another slight problem is that the plates are lighter than water and will float, so some method of keeping them submerged must be used.

Another method used for cloth washing is a portable high pressure (800-1200 PSI at 2-10 GPM) cold water spray unit. These units come with a hand held power wand with spray nozzle which is slowly moved over the cloths. They clean by not only flushing off the cloth surfaces but by also penetrating the cloth to flush particles out of the depth of the weave. Contact JWI Inc. for more information on availability.

WG. NO.

NOTE : SEE SECTION J.W.I. 7.01 IN FILTER PRESS INSTRUCTION MANUAL FOR FURTHER INFORMATION



ITEM	QTY.	PART NO.	DESCRIPTION	MAT'L	WT. EA.

YPE OF CYCLE	A	B	C	D	E	F	G	H
ILTRATION	0	X	0	0	0	X	X	X
IR BLOW	X	X	0	X	X	0	X	X
LOTH WASHING	0	*	X	0	X	X	0	*

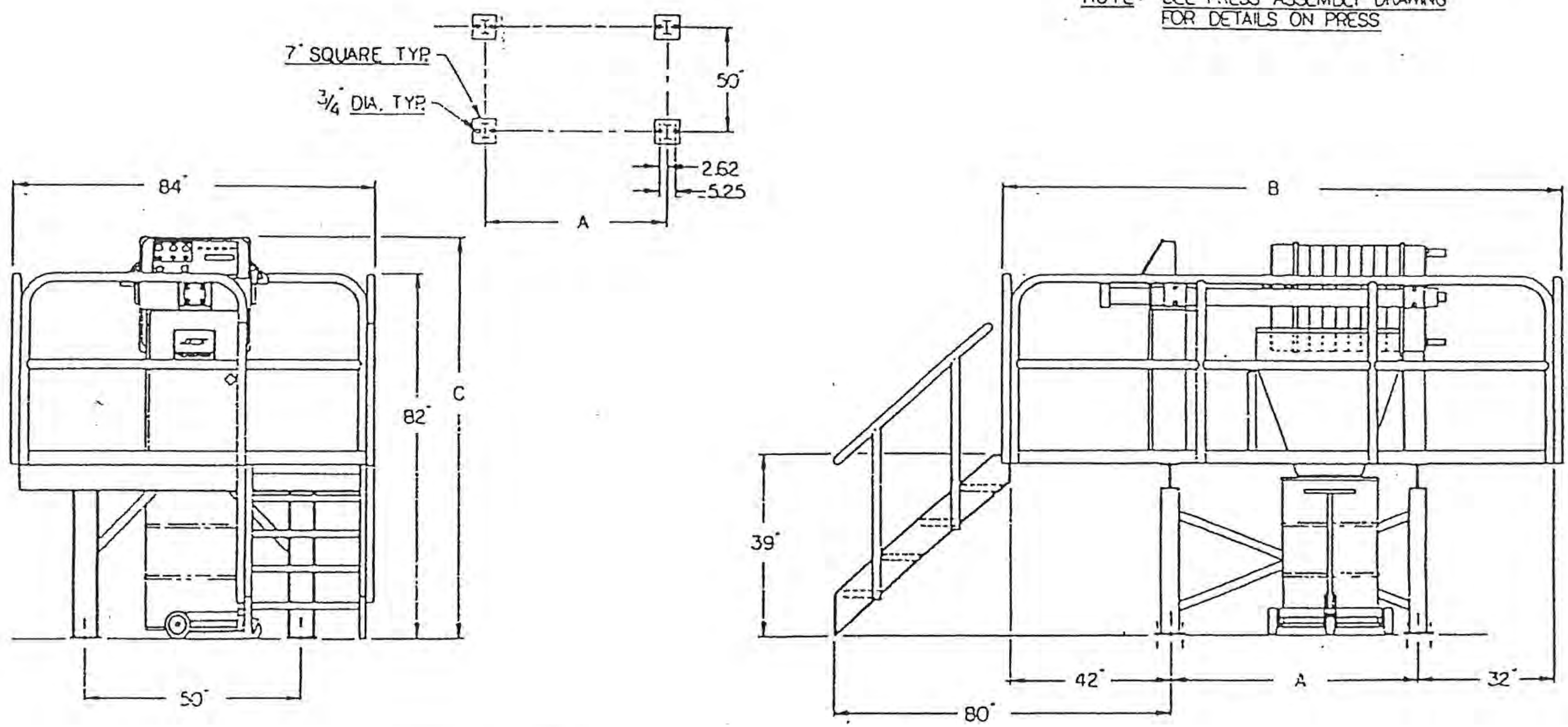
O NOT SCALE X = CLOSED 0 = OPEN

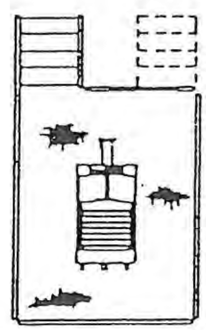
SYM.	DESCRIPTION	E.C.N.	DATE
A	ADDED VENT INSTR.		11-22-85

JMI

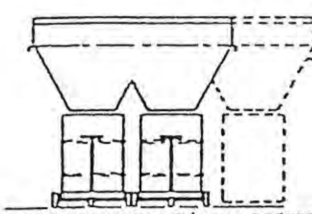
SCALE ~
DRAWN JCB
CHECKED
REV. A
DATE 1-24-85
SUPERSEDES
TITLE FILTER CLOTH WASHING
SHT.
DWG. NO.
OF
SUPS'D. BY

NOTE: SEE PRESS ASSEMBLY DRAWING FOR DETAILS ON PRESS





OPTIONAL LEFT OR RIGHT HAND STAIRS

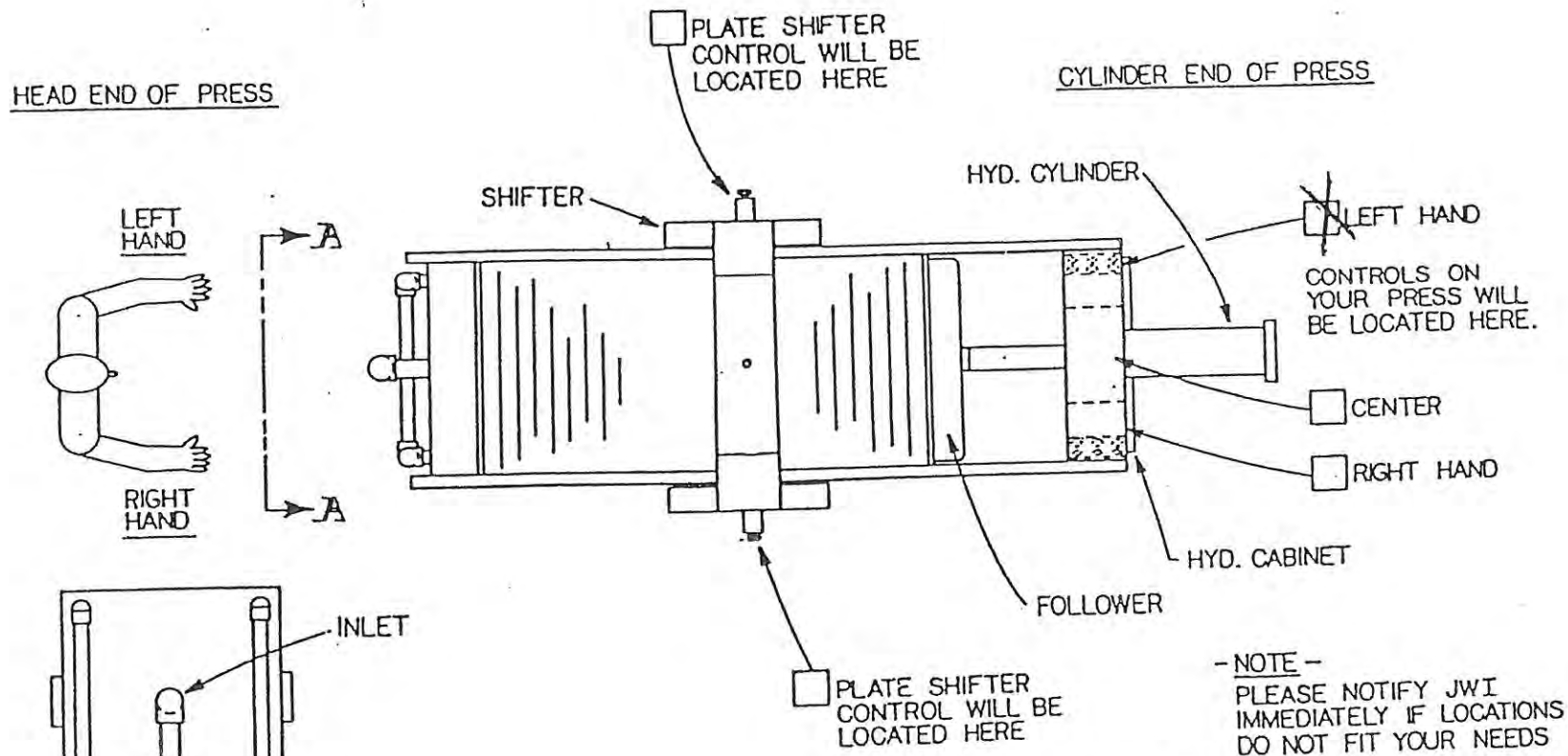


DOUBLE CHUTES REQ'D. ON PRESSES —
630 MM 6 CU.FT. TO 10 CU.FT.
800 MM 8 CU.FT. TO 15 CU.FT.

PRESS	SIZE	DIM. A	DIM. B	DIM. C
630 MM	2 CU.FT.	57.75	133.75	90.50
630 MM	3 CU.FT.	64.75	140.75	90.50
630 MM	4 CU.FT.	71.50	147.50	90.50
630 MM	5 CU.FT.	80.50	156.50	90.50
630 MM	6 CU.FT.	87.25	163.25	90.50
630 MM	8 CU.FT.	103	179	90.50
630 MM	10 CU.FT.	116.50	192.50	90.50
800 MM	5 CU.FT.	76.75	152.75	97.50
800 MM	6 CU.FT.	81.25	157.25	97.50
800 MM	8 CU.FT.	90.25	166.25	97.50
800 MM	10 CU.FT.	99.25	175.25	97.50
800 MM	12 CU.FT.	108.25	184.25	97.50
800 MM	15 CU.FT.	121.75	197.75	97.50
800 MM	20 CU.FT.	144	220	97.50

630 MM
800 MM
JWI
AUTO POOP CONTROL
DRUM DISPOSAL SYSTEM
D-10098300

JWI 128



- NOTE -
PLEASE NOTIFY JWI IMMEDIATELY IF LOCATIONS DO NOT FIT YOUR NEEDS

CUSTOMER: VSL City Environmental Services of Fl In

P.O. #: 028

JWI SER. #: 03082

PRESS SIZE: 630mm

ITEM	QTY.	PART NO.	DESCRIPTION	MAT'L

CH'K BY	CHG. BY	STN.	DESCRIPTION	E.C.N.	DATE

JWI

SCALE —

DRAWN VVH | CHECKED | ACV.

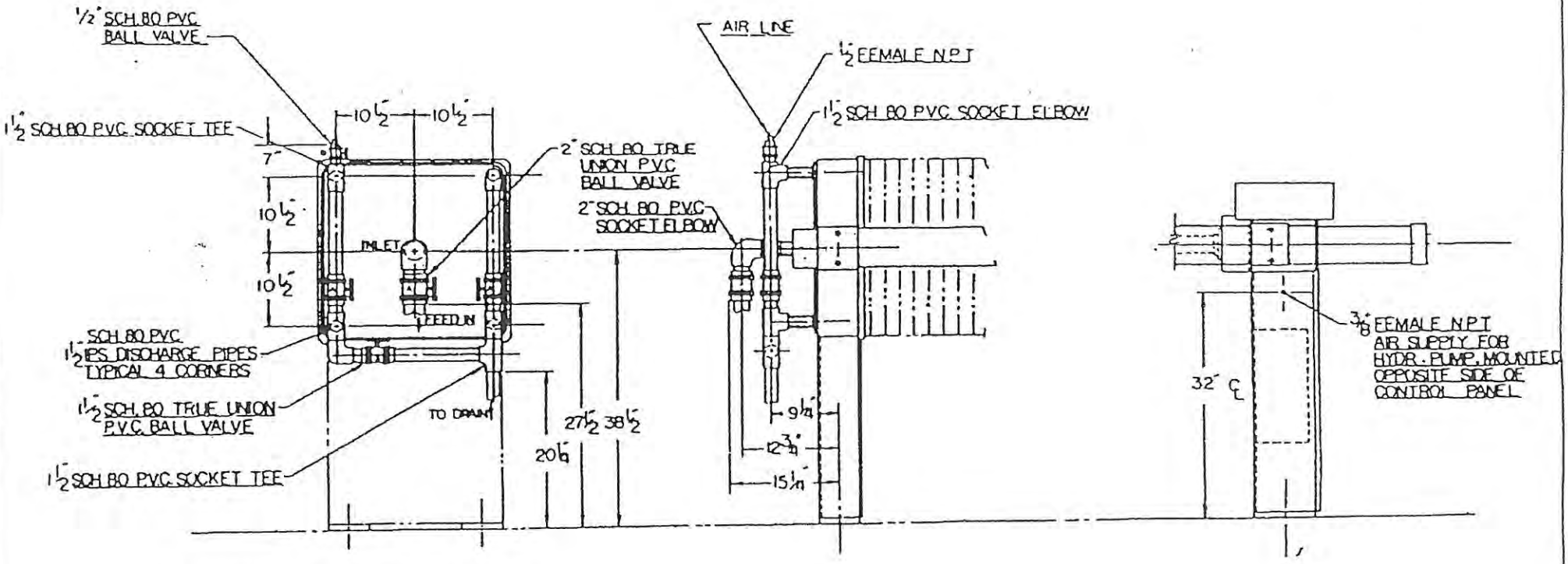
DATE 4-27-83

SUPERSEDES

SUPS'D. BY

TITLE FILTER PRESS CHECK LIST

DWG. NO. C10060000



'A' VALVES - OPEN DURING FEED
CLOSED DURING AIR BLOW DOWN

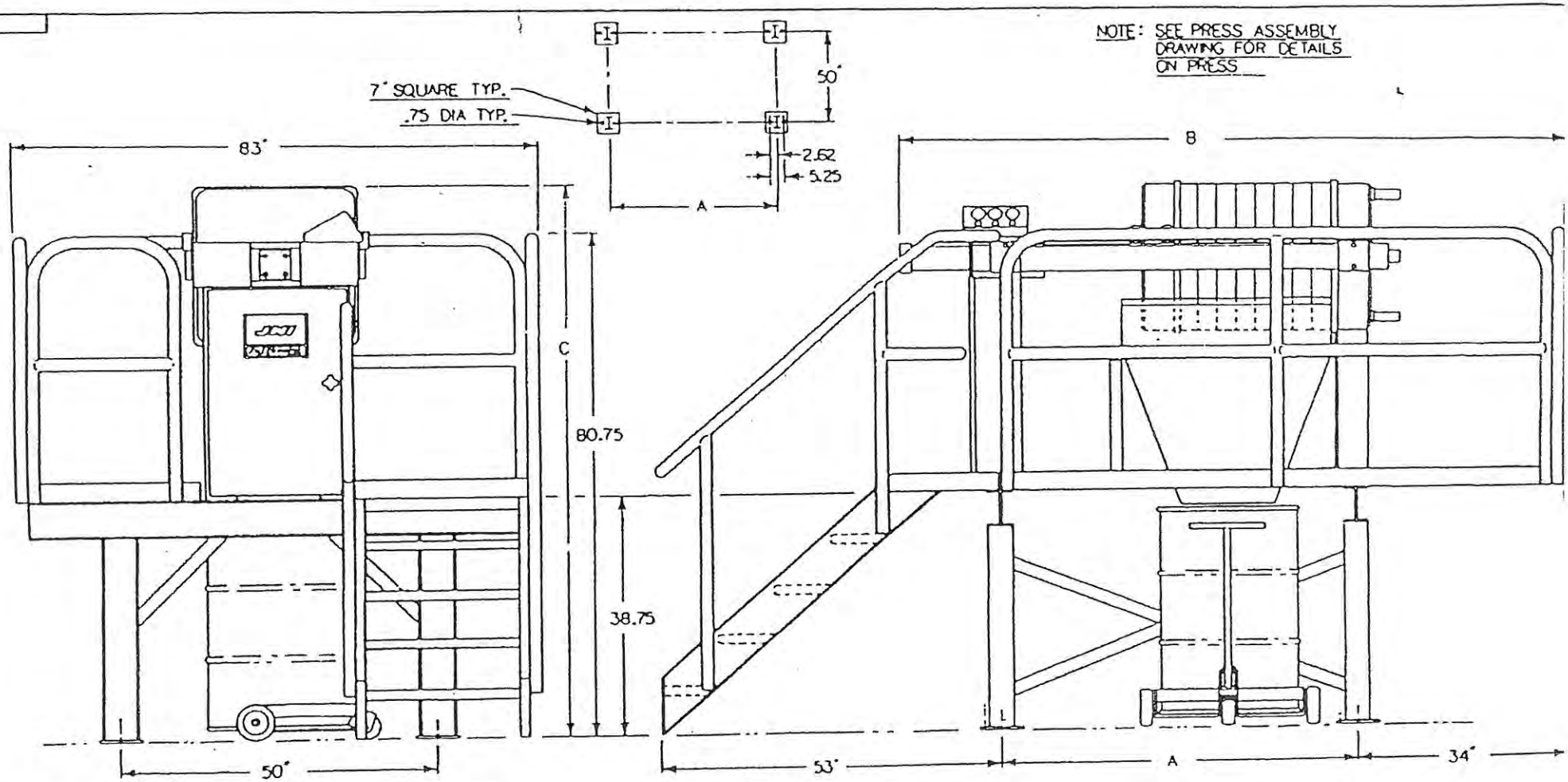
'B' VALVE - CLOSED DURING FEED
OPEN DURING AIR BLOW DOWN

NOTE: AT END OF AIR BLOW DOWN 'A' VALVES (EXCEPT INLET FEED) SHOULD BE OPENED FOR A FEW MINUTES TO DRAIN THE PLATES PRIOR TO OPENING THE PRESS.

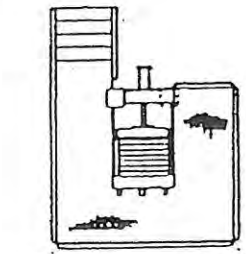
AIR BLOW DOWN MANIFOLD
CENTER FEED - FOUR CORNER DISCHARGE
POLYPROPYLENE PLATES

J.W.I. INC.	J-PRESS
	PLATE SIZE 630 MM
	SHEET SIZE
	NO. OF CHAMBERS
	DRAWN / CHECK

NOTE: SEE PRESS ASSEMBLY DRAWING FOR DETAILS ON PRESS

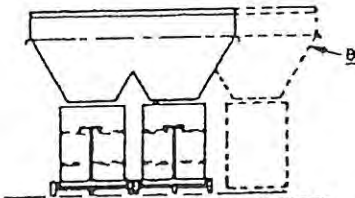


PRESS SIZE		DIM. A	DIM. B	DIM. C
630 MM	2 CU.FT.	57.75	110.25	90.25
630 MM	3 CU.FT.	64.75	117.25	90.25
630 MM	4 CU.FT.	71.50	124	90.25
630 MM	5 CU.FT.	80.50	133	90.25
630 MM	6 CU.FT.	87.25	139.75	90.25
630 MM	8 CU.FT.	103.00	155.50	90.25
800 MM	10 CU.FT.	99.25	158.75	97.25
800 MM	12 CU.FT.	108.25	167.75	97.25
800 MM	15 CU.FT.	121.75	181.25	97.25
800 MM	20 CU.FT.	144.00	203.50	97.25

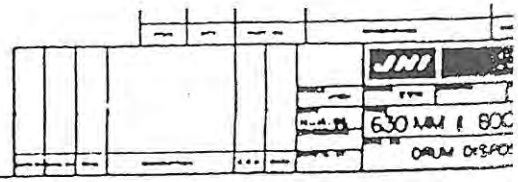


OPTIONAL LEFT OR RIGHT HAND STAIRS

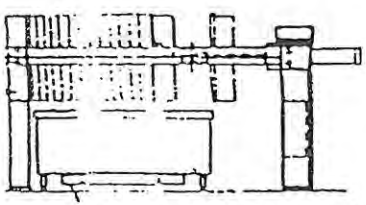
LEFT HAND RIGHT HAND



DOUBLE CHUTES REQ'D ON PRESSES
630 MM 6 CU.FT. TO 10 CU.FT.
800 MM 8 CU.FT. TO 15 CU.FT.

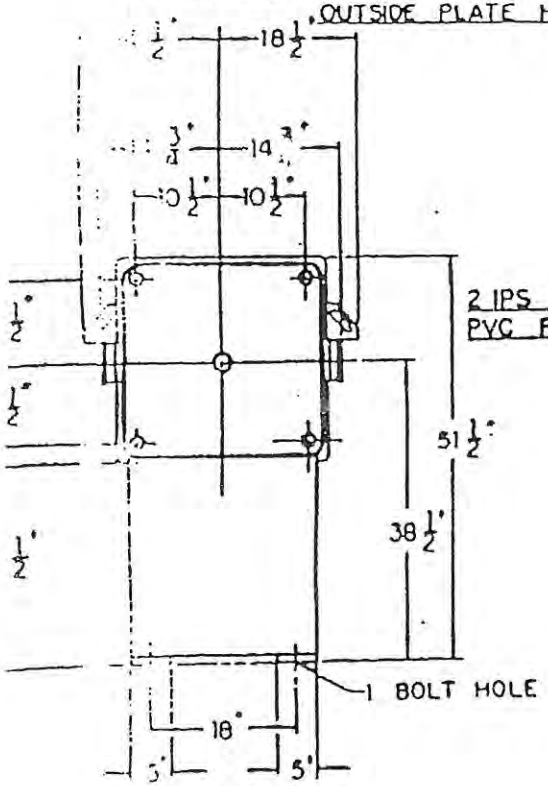


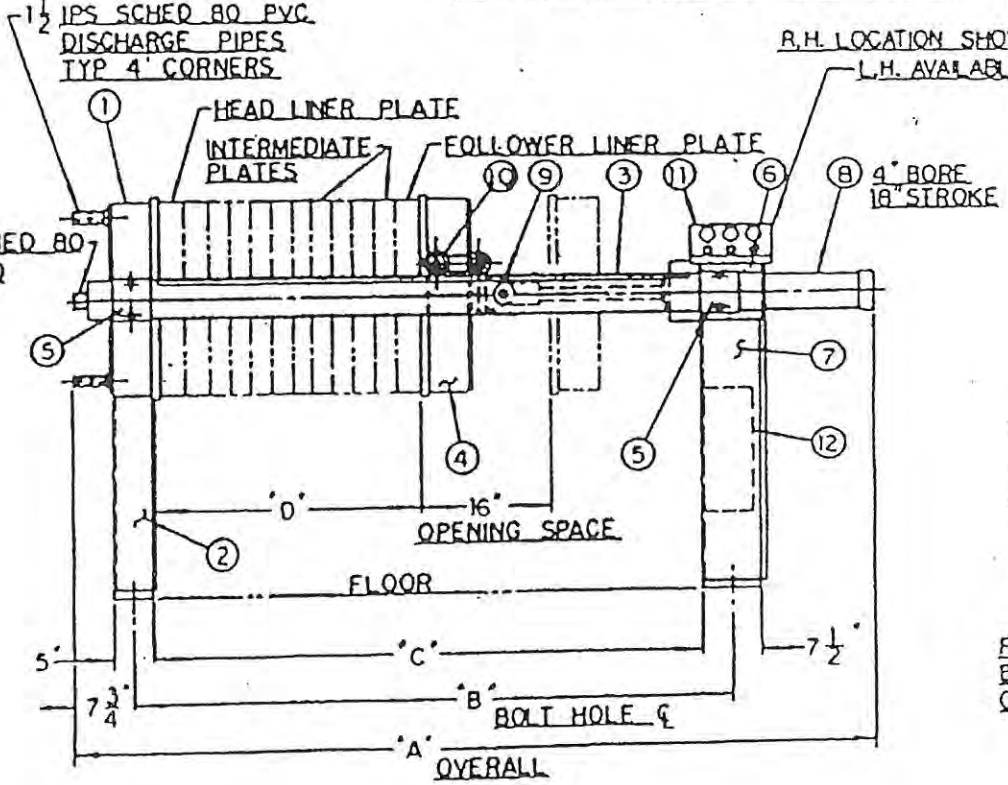
PLATES TO BE CENTER FEED 4 CORNER DISCHARGE. PLATES OF POLYPROPYLENE GASKETED CONSTRUCTION WITH $\frac{5}{8}$" RECESSES FOR $1\frac{1}{4}$" THICK CAKES



FILTER CAKE DUMPSTER (SELF DUMPING) OPTIONAL

OUTSIDE PLATE HANDLES

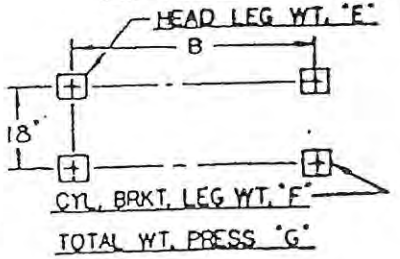




24" SIZE (630 MM) FILTER PRESS					
CUBIC FEET	A	B	C	D	NO OF CHAMBERS
1	75 1/2	49 1/4	43	9	3
1.5	80 3/4	54 1/2	48 1/4	14 1/4	5
2	84	57 3/4	51 1/2	17 1/2	7
3	91	64 3/4	58 1/2	24 1/2	10
4	97 3/4	71 1/2	65 1/4	31 1/4	13
5	106 3/4	80 1/2	74 1/4	40 1/4	17
6	113 1/2	87 1/4	81	47	20
8	129 1/4	103	96 3/4	62 3/4	27
10	142 3/4	116 1/2	110 1/4	76 1/4	33
12	159 1/4	133	126 3/4	92 3/4	40
13	170	143 3/4	137 1/2	103 1/2	43
15	181 1/2	155 1/4	149	115	50

ITEM NO.	QUAN.	DESCRIPTION
1	1	HEAD
2	1	HEAD LEG
3	2	SIDE BAR
4	1	FOLLOWER
5	4	JOGGLE PLATE
6	1	CYLINDER BRACKET
7	1	CYLINDER BRACKET LEG
8	1	CYLINDER
9	2	SS SIDE BAR CAPS
10	3	FOLLOWER ROLLER
11	1	CONTROL CENTER
12	1	HYDRAULIC PUMPING UNIT

WEIGHT IN POUNDS			
CUBIC FEET	E	F	G
1	1208	806	2014
1.5	1274	849	2123
2	1336	891	2227
3	1445	963	2408
4	1553	1036	2589
5	1681	1121	2802
6	1789	1193	2982
8	2026	1350	3376
10	2242	1495	3737
12	2480	1653	4133
13	2595	1730	4325
15	2824	1883	4707



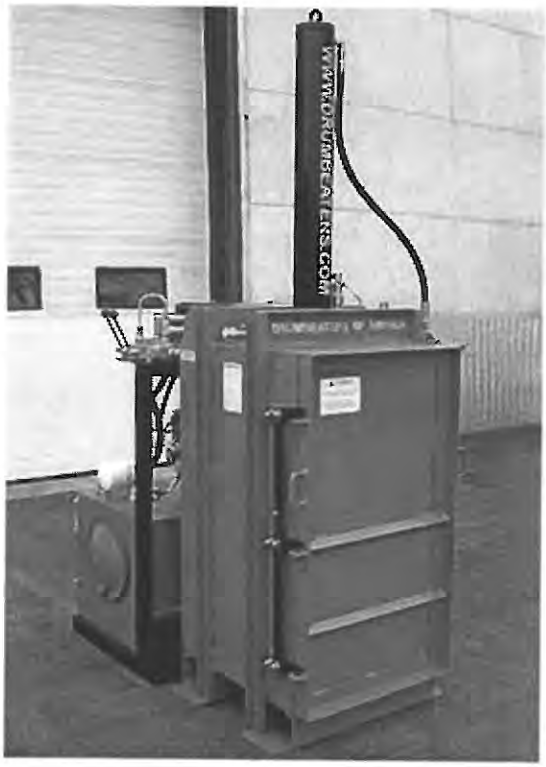
FOUNDATION DIMENSIONS ARE FOR BASIC LAYOUT ONLY. GROUT BOLTS ONLY AFTER INSTALLATION OF PRESS

630mm (24") FILTER PRESS

Drumbeaters of America Inc.

Drum Crushers
Drum Washers
Drum Washers Crushers
Tote Washers
Drum Cleaning Solutions

Drum Crusher Model# DC5000-10 Electric



The Model DC5000-10 is used to crush unlimited drums. This system will crush a 55 gallon drum down to 4" in height greatly reducing storage space requirements and transport fees.

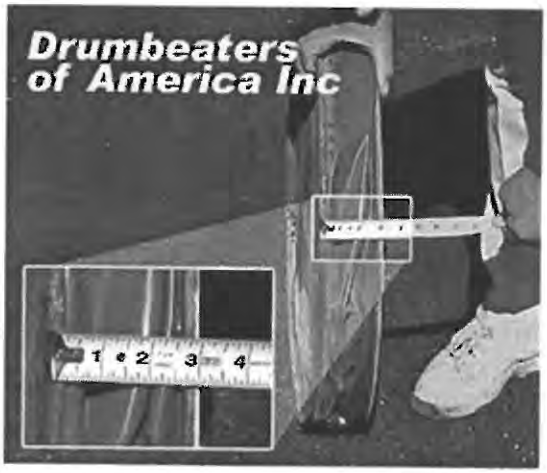
The unit comes complete with fused electrical controls, hydraulic door safety switch, and an oil sight gauge with temperature indicator. Heavy duty construction, all structural components are made with heavy steel plate.

Standard Features:

-10hp electric motor
-Compaction force 60,000 pounds at 3000 psi
-Crush 55 gallon steel drum down to 4"
-Cycle time of 35 seconds
-40 gallon hydraulic tank
-Heavy Duty Steel construction
-Directional Control Valve
-Drum ring locator, keep the drum aligned
-Safety interlocks door, prevent operation while door is open
-Electrical disconnect box
-Portability with Fork Lift Truck
-Electrical control box NEMA- 1
-Safety features to comply with OSHA

Additional Options:

Explosion Proof System	When you have a hazardous area
Drip Pan for Liquid Containment	Under the crushing chamber to collect any fluids inadvertently not removed prior to crushing the drum
One step control valve	Causes the equipment to go through a full cycle without holding the lever down through the entire crushing cycle



Shipping dimensions:

H: 75" W: 40" D: 65" Weight: 2,500 lbs

We sell directly from Elburn IL, USA
We have worldwide distribution
We ship to all countries

Drumbeaters of America Inc.
215 West Nebraska St.
Elburn, IL 60119 USA

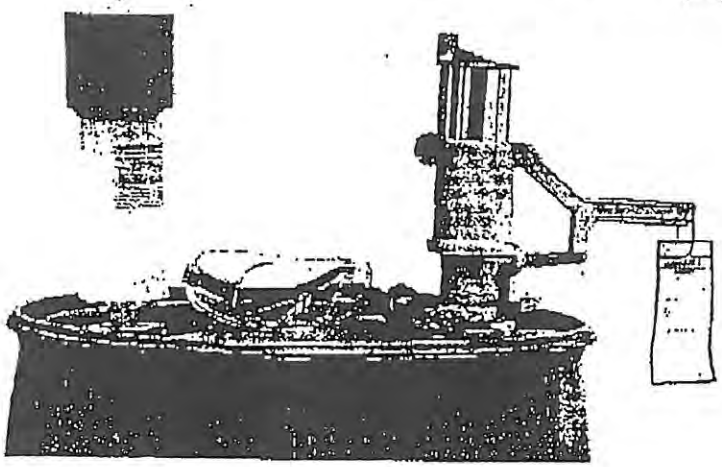
Jim Popp:
Phone: (630)365-5527 ext 3006
Fax: (630)365-9928

Mary Brown:
Phone: (630)365-5527 ext 3003
Fax: (630)365-9928

General Sales:
Phone: (630)365-5527 ext 0
Fax: (630)365-9928

http://www.drumbeaters.com

JUSTRITE



Aerosolv ®

Aerosol Can Disposal System

- **Comply with EPA regulations 40CFR261.23(a)(6)**
- **Minimize your waste system**
- **Simplify waste handling**
- **Increase recycling**

Aerosolv provides a solution to the expense of solid waste disposal of aerosol cans. RCRA regulations require that, unless relieved of pressure, aerosol cans must be packed in a drum and manifested for solid hazardous waste disposal. A drum holds 96 cans and costs as much as $1,500 for proper transportation and disposal. With Aerosolv, the cans are not solid hazardous waste, but are fully recyclable. For every 100 cans punctured, you will increase your recycled scrap metal by 25 lbs. and reduce solid waste by 10 cu.ft. Residual liquids, released by Aerosolv and collected in a drum, may be eligible for reclamation or recycling through a waste handler, resulting in "waste minimization credits." A 55 gallon drum will collect the contents of over 4,000 spent aerosols.

CONVENIENCE

- Aerosolv is lightweight and portable; weighs 5 pounds.
- Threads directly to the 2" bung of any standard drum.
- Collects residual contents directly into drum.
- Does not require a power source. Easily operated by hand.
- Increases recycling and waste minimization.
- Accommodates aerosol cans in a wide assortment of shapes and sizes. Standard unit accepts 200 series cans, deluxe unit also accomodates larger 300 series and smaller 6 oz. cans.

SAFETY

- Aerosolv is designed to prohibit unsafe usage, will not puncture aerosol cans inserted "right side up."
- Anti-Static Wire (OSHA required) enhances operational safety.
- With the press of the handle, the puncture pin pierces the can. Aerosolv leaves no sharp edges or crushed metal. The only effect is a small, smooth-edged hole.

COMBINATION FILTER

- Threads directly into the 3/4" bung of any standard drum. Effective in filtering and collecting V.O.C.'s.
- The unique Aerosolv combination Filter comprises a coalescing lower portion, which removes airborne organic compounds, and an activated carbon upper portion, which absorbs odor.
- Rain Hood on filter provides protection from elements for outdoor use.

CONSTRUCTION

- Made of aircraft aluminum, requiring no maintenance.
- All moving parts of 308 stainless steel.
- Puncture pin is carbide-tipped and o-ring sealed to prevent leakage. Grease packing lubricates puncture pin with each use.
- Carbide-tipped puncture pin will withstand repeated, long term use, with no visible wear after puncturing 10,000 aerosol cans.

Model No	Description	Pkg. Qty.	Wt. Lbs.	Dimensions
28196	Disposal system, comprised of puncturing unit, coalescing/carbon filter, anti-static wire, goggles (for 200 series cans)	1	7	Box size: 18 x 18 x 6
28202	Disposal system deluxe, comprised of puncturing unit with plastic sleeve, coalescing/carbon filter, anti-static wire, goggles (for series 200, 300 & 6oz. size cans)	1	8	Box size: 18 x 18 x 6
28197	Combination coalescing/carbon filter	1	2	14½ tall
28198	Activated carbon cartridge	2	4	6"

LAB SAFETY SUPPLY
A Division of Science Related Materials, Inc.
P.O. Box 1368
Janesville, WI 53547-1368
Call Toll Free 1-800-356-0783
1-608-754-2345 Telex 910-280-2021

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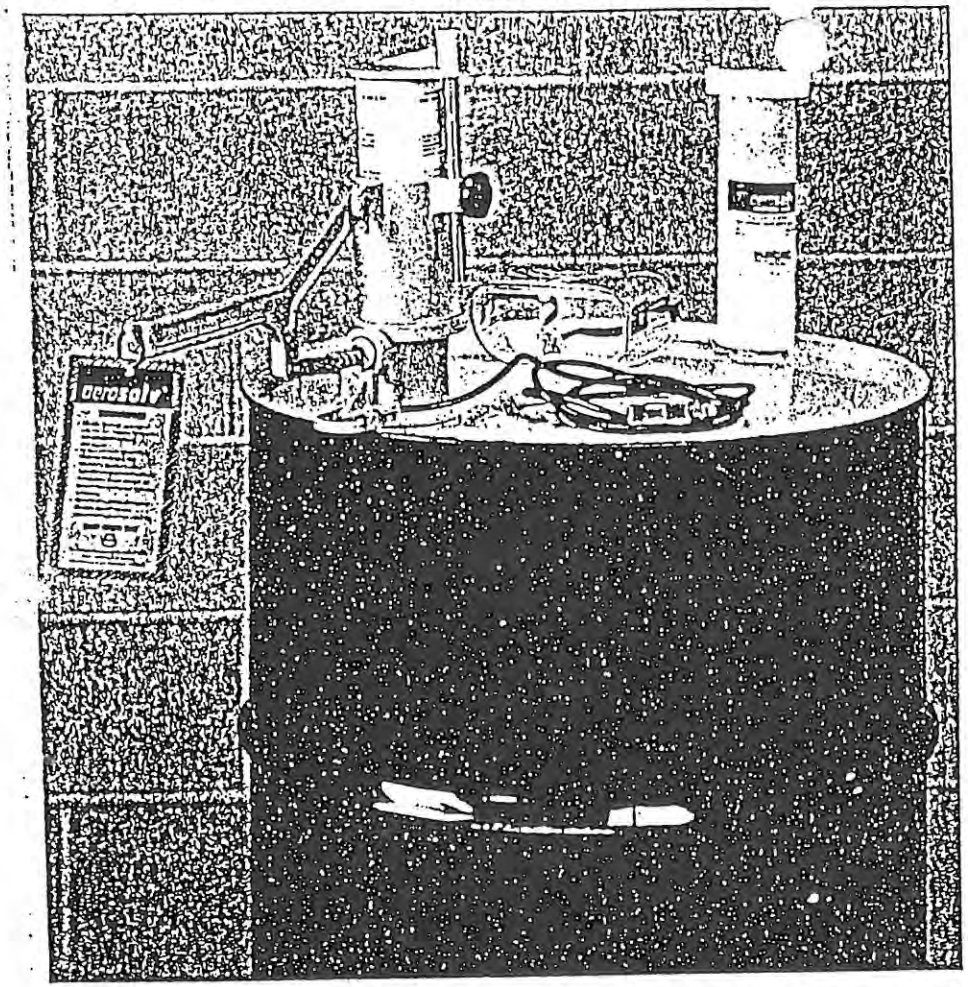


Aerosolv™ Can Depressurizer

Remove the Pressure and Residual Solvents for Recycling of Aerosol Cans

Easy-to-use system relieves pressure in empty aerosol spray cans. Requires no special training. No external power source is needed. Enhances your recycling efforts by allowing residual solvents to be collected and recycled, and empty, depressurized cans to be recycled as scrap metal rather than as regulated hazardous waste.

Specifications: Threads directly onto the 2" bung of a 55-gallon drum. Simply insert an inverted aerosol can and tighten the sliding plate to engage the can. When the handle is pressed, a puncture pin pierces the spray end of the can. Residual contents are safely collected in the drum. For added safety, a *Combination Filter* is installed on the ¾" bung to reduce flammable V.O.C. emissions. The lower portion of the filter removes airborne liquid and the activated carbon upper portion absorbs vapor. *Complete Package* also includes grounding wire and safety goggles. Complete instructions included. Made of D-712 Grade Aircraft Aluminum. All parts are 308 Stainless Steel.

Compliance: 40 CFR 261.7 (b)(1), 40 CFR 261.7 (b)(1)(B)(2)and 40 CFR 261.23 (a)(6).

TEEMark AEROSOL CAN CRUSHER SUPER 800

New Control System, Cooling System and Safety Interlocks!
Automatic Can Feeding Now Available!

- The ***NEW Super 800*** has an air/hydraulic logic control system with fewer parts, improved dependability!
- A ***NEW*** forced air oil cooling system allows continuous high speed operation.
- ***NEW*** interlocked motors allow crusher to operate only when the blower is operating.
- ***NEW*** crushed can ejection to rear makes automatic can feed available.

Air Filtration & Carbon Filtration/Collection

The TeeMark Super 800 moves up to 500 cubic feet of air per minute through its particulate filtration system. The air and gases are then delivered to a 5-inch duct to be dealt with in accordance with local codes. TeeMark offers an ***optional carbon filtration/collection system*** that has proven to be an economical method for capturing VOCs and other gases whose release to the atmosphere may be prohibited.

Reduce Volume, Recycle!

The Super 800 will crush a standard 8-inch aerosol can down to 1/2-inch. This typically leaves only 1% of residue in the can!

9 cans, before and after

TEEMark CRUSHERS

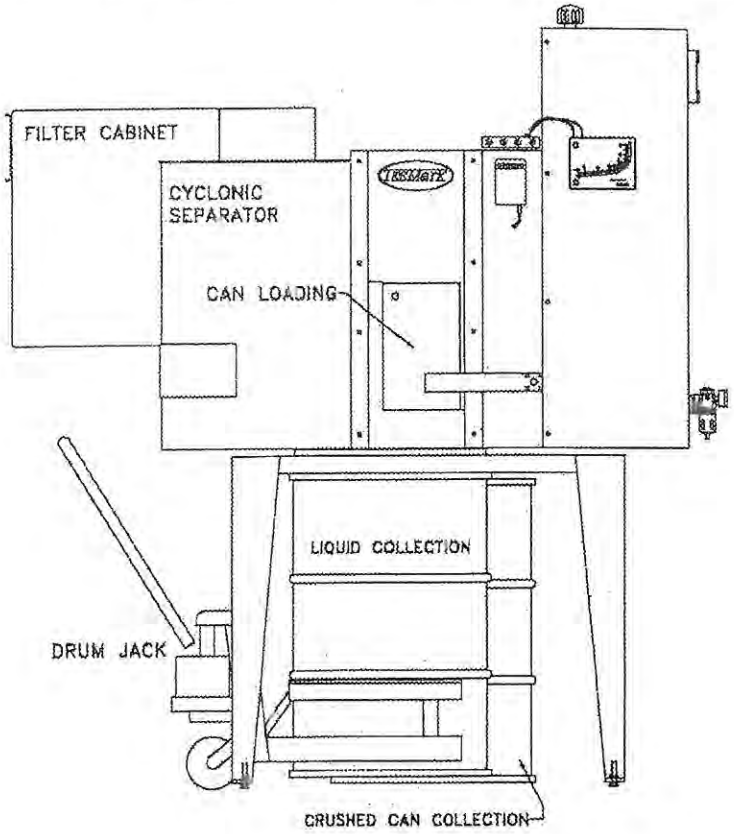
For more information, call us: **Toll Free: 800 / 428-9900**

Aitkin, Minnesota 56431
FAX 218/927-2333
e-mail: teemark@aitkin.com
Homepage with Super 800 Video:
www.teemarkcorp.com

From half pints to 110 gallons TeeMark Can and Drum Crushers prepare containers and their contents for recycling or disposal.

TEEMark AEROSOL CAN CRUSHER SUPER 800

The **Super 800** is an aerosol can crusher that automatically opens, empties, crushes and ejects *800 aerosol cans per hour.*



The Super 800:

Incorporates a blower that pulls VOCs and propellents from the crushing compartment, crushed aerosol can collection drum and liquid collection drum. This provides a permanent, total enclosure of the can contents.

Provides an automatic processing cycle that is activated when the operator inserts the can and closes the door. These steps can also be automated and auto feed of cans is available.

Processes many different aerosol can sizes with a wide range of can contents. Also handles small paint cans.

Removes and captures 99% of can contents.

Separates liquid can content from propellants, VOCs and other gaseous components

Utilizes explosion proof piercing and crushing systems that have proven themselves on millions of paint cans and pails.

Explosion Proof!

The Super 800 has an explosion proof motor, blower and electrical controls. Class 1, Div. 1 & 2, Grp D.

SPECIFICATIONS

Crushing Force: 12,000 lbs.

Operating Cycle Time: 4.5 seconds

Crushing Chamber: Handles cans from 4 to 12-inches long and 1½ to 3-inches in diameter

Dimensions: 95 in. high, 70 in. wide, 65 in. deep.

Shipping Weight: 1,800 lbs.

ELECTRICAL REQUIREMENTS:
The Super 800 uses three 230/460 three phase motors. These motors are powered by a 20/10 FLA three phase electrical service. Motor starters for the individual motors are included .

AIR REQUIREMENTS: 8 cfm @ 80-90 psi – oiler, dryer and regulator provided.

Warranty: ONE YEAR ON ALL MATERIALS AND WORKMANSHIP

10/03

TEEMARK CORPORATION • Aitkin, Minnesota 56431
800 / 428-9900 • FAX 218 / 927-2333
e-mail: teemark@aitkin.com • **Crusher Homepage: www.teemarkcorp.com**

TEEMark CORPORATION

www.teemarkcorp.com

CRUSHER DIVISION

1132 Air Park Dr. Aitkin, MN 56431
218-927-2200 800-428-9900
FAX 218-927-2333
Email: teemark@aitkin.com

TEEMARK CORPORATION

Model SUPER-800

EXPLOSION PROOF AEROSOL CAN CRUSHER

CARE & USE INSTRUCTIONS

SERIAL NO. 2064

DATE MFG. _____

9/30/03

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TEEMARK CORPORATION

WARRANTY

TeeMark manufactured products are warranted free of original defects in material and workmanship for a period of one year from the date of shipment to first user.

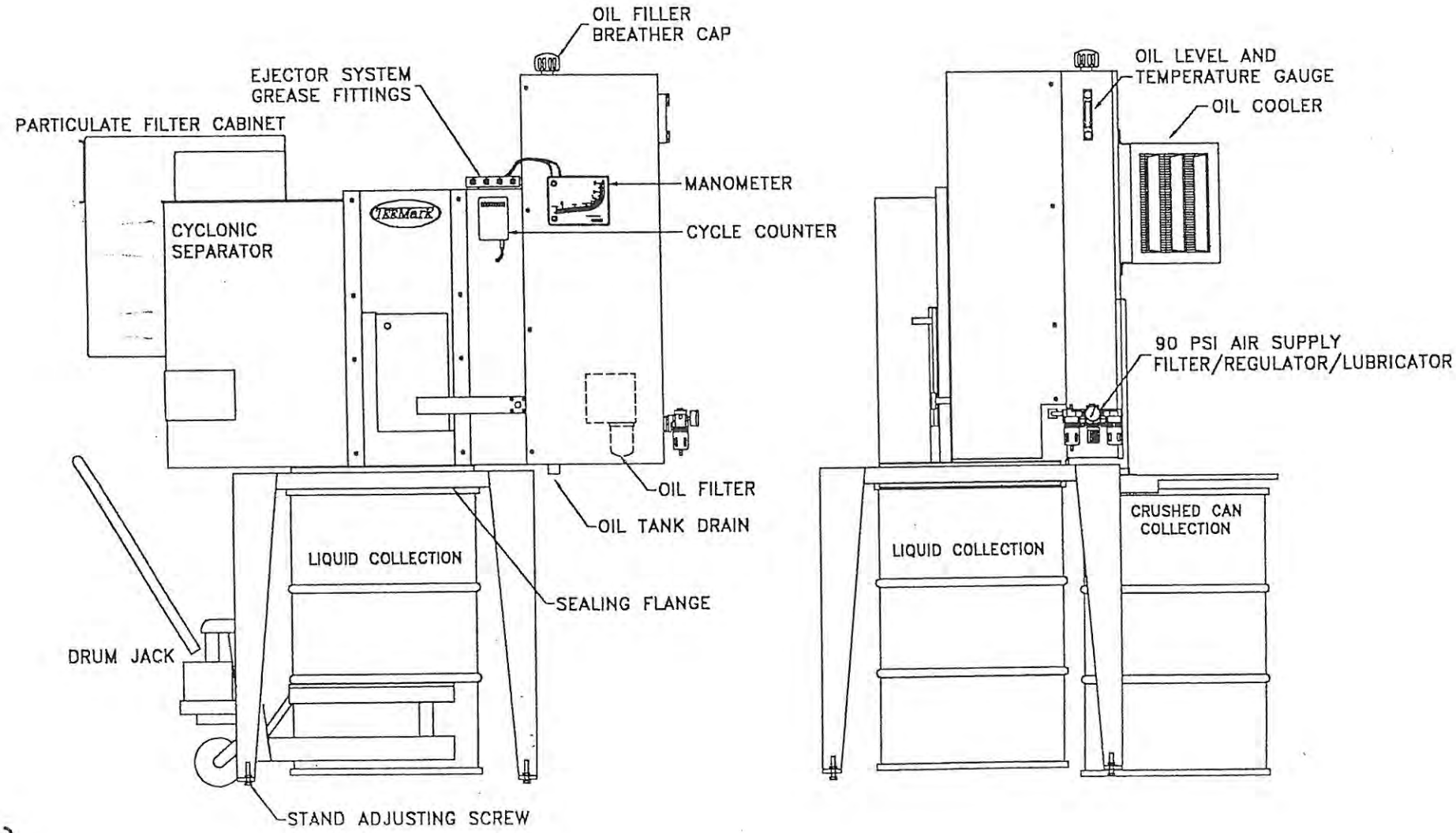
TeeMark's obligation is to repair or replace free of charge any part that its inspection shows to be defective. Except as it may otherwise specifically agree in writing, TeeMark shall not be liable for transportation, labor or other charges for adjustments, repairs, replacement parts, or other work which may be done upon or in connection with such products. TeeMark shall not be liable for loss of time, manufacturing costs, removal and installation costs, loss of profits, consequential damages, direct or indirect, because of defective products, whether due to rights arising under the contract of sale or independently thereof, and whether or not such claim is based on contract, tort or warranty.

Written permission for any warranty claim repair or return must be first obtained from authorized TeeMark personnel. Any part or parts of a product to be repaired or replaced under this warranty must be returned to the factory f.o.b.

Any modification to any TeeMark product without TeeMark's prior approval and consent, is at the user's sole risk and responsibility. TeeMark disclaims any and all liability, obligation, or responsibility for the modified product and for any claims, demands, or causes of action for damage or for personal injuries resulting from the modification and/or use of such a modified TeeMark product.

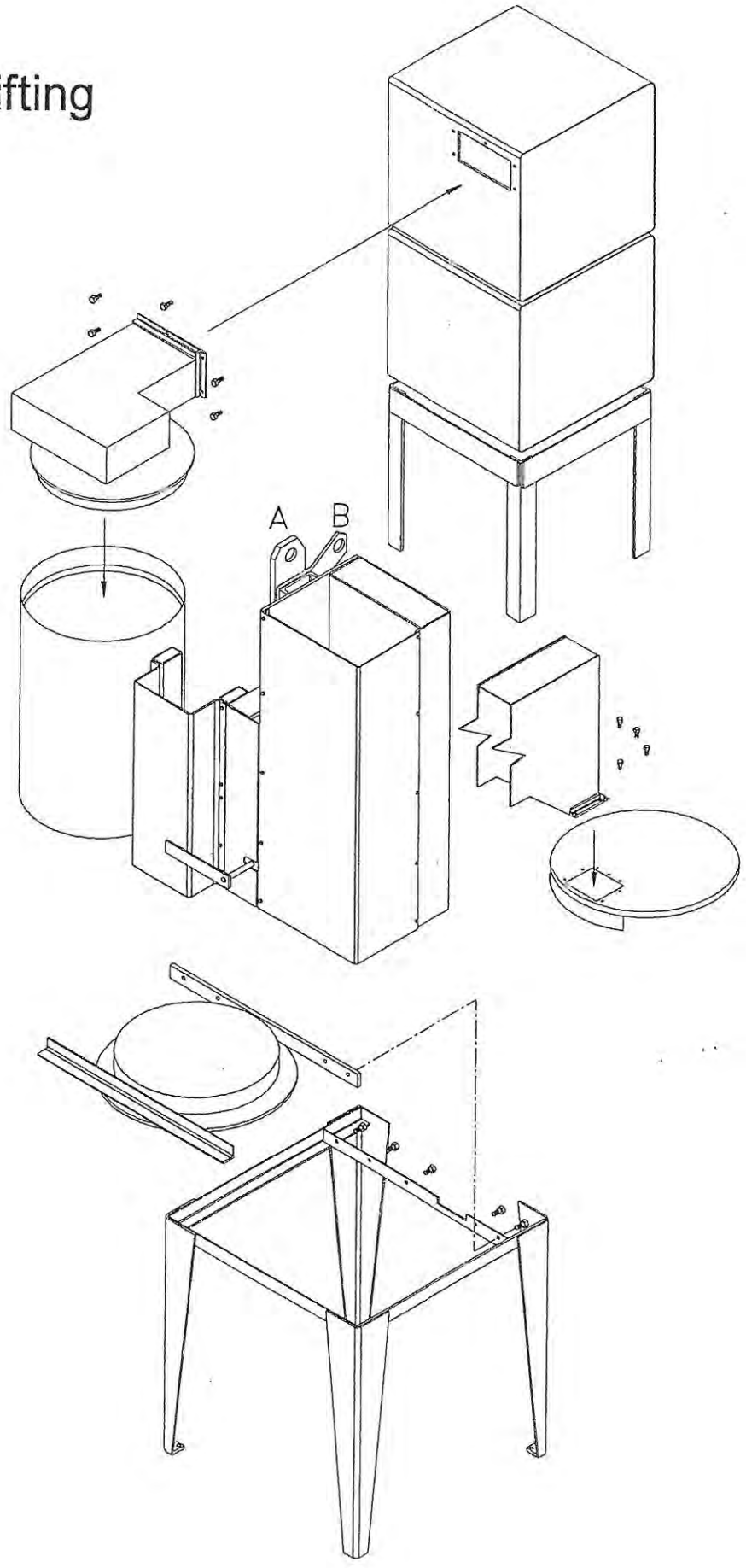
THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(This warranty voids all previous issues.)
(Effective Date: January 1, 1996)


OIL FILLER
BREATHER CAP
EJECTOR SYSTEM
GREASE FITTINGS
PARTICULATE FILTER CABINET
MANOMETER
CYCLONIC
SEPARATOR
CYCLE COUNTER
OIL FILTER
OIL TANK DRAIN
LIQUID COLLECTION
SEALING FLANGE
DRUM JACK
STAND ADJUSTING SCREW
OIL LEVEL AND
TEMPERATURE GAUGE
OIL COOLER
90 PSI AIR SUPPLY
FILTER/REGULATOR/LUBRICATOR
LIQUID COLLECTION
CRUSHED CAN
COLLECTION

Use lift point A for lifting machine only

Use lift point B for lifting fully assembled machine with filter cabinets attached



SUPER 800 / 450 ASSEMBLY INSTRUCTIONS

Tools required are two (2) 9/16-inch wrenches, two (2) ½ inch wrenches, one (1) 7/16-inch wrench, Level, Hammer, Pry Bar, Small Clevis, Small Chain, and a Fork Lift or Overhead Crane. ***The machine weights approximately 2300 pounds.***
You will need approximately 8 feet of overhead clearance to place the machine on the stand.

See exploded view of machine for assembly.

Dismantle crates and remove all the bolts fastening the Machine and components to the crate.
Remove the Stand from the crate and position it in your chosen location. Note the front of the Stand has a flush cross member, back is recessed. Be sure to leave sufficient room around the stand to maneuver the Drum Jack and Drums. The Stand is equipped with leveling bolts and holes in the pads for anchoring. The machine is somewhat top heavy, anchoring is recommended. Once the stand is level check for Drum clearance under the stand, it should measure 35 ½-inches to the bottom of the cross member.

Using the clevis and chain, attach them to lift eye "A". Pick up the machine and lower it on to the stand with the door facing the front of the Stand. Secure the machine to the stand using the 3/8-16x1 ¼ bolts provided; five across the back, and two in front.

Attach the Vapor Collection Bonnet to the bottom of the discharge chute using the seven (7) 5/16-18x1 ¼ Bolts, nuts, and washers.

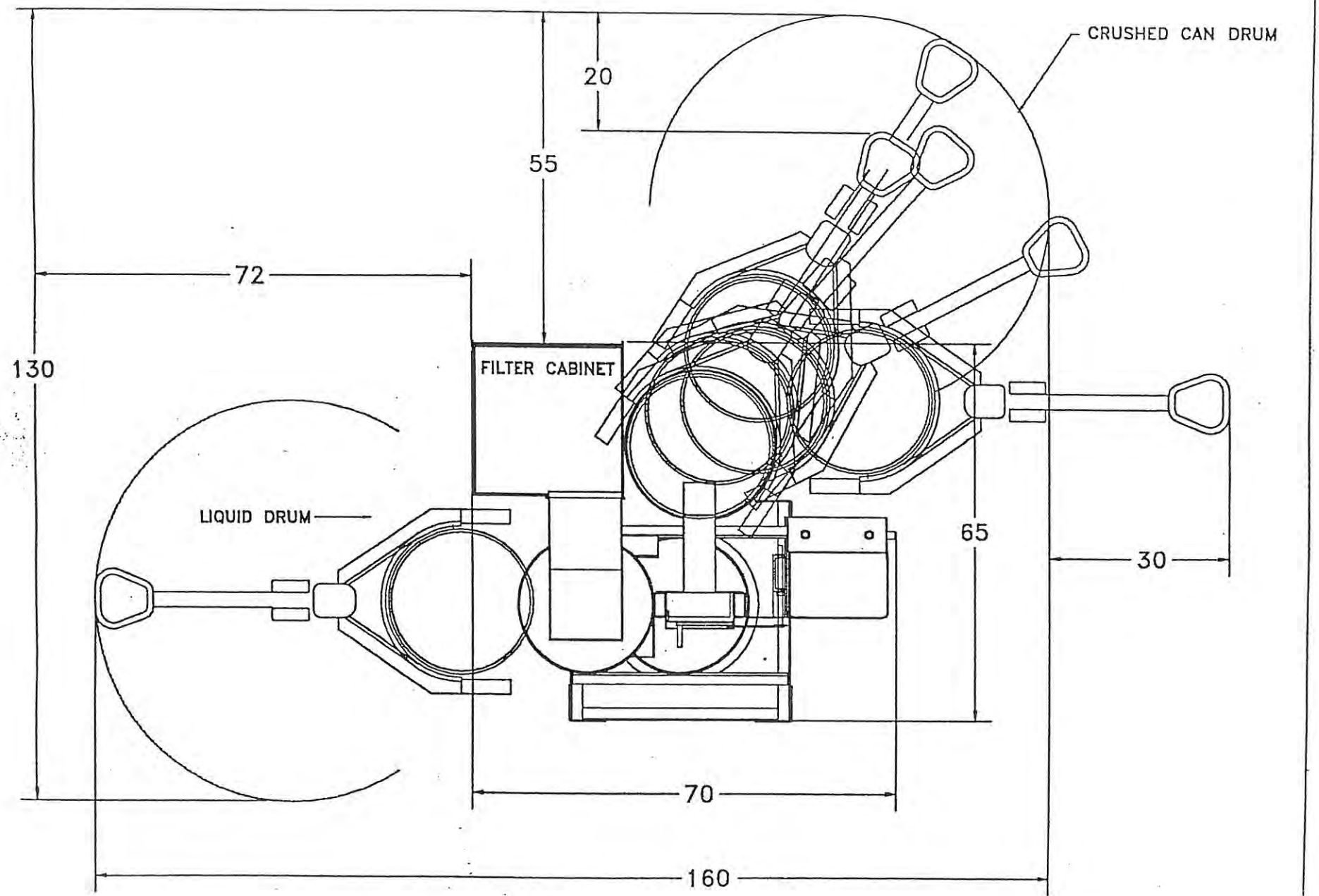
If your machine is equipped with the optional Carbon Filtration Cabinet, you will need to attach the assembled Filter Cabinet, Carbon Cabinet, and top of Cyclonic Seperator to the machine (refer to assembly diagram). After attaching, level the Carbon Filtration Cabinet Legs with adjustment screws. The legs should support the weight of the entire cabinet.

Have an Electrician complete the wiring of the machine in accordance with local codes. Machines equipped with the optional Carbon Filtration System require the wiring connected to the Blower motor. Wiring Diagrams are included in the Care & Use Manual. Check all poured fittings to be sure they are completed.

Connect Air Supply to the FRL, DO NOT exceed 90 psi.

After the machine is completely assembled and wired, you will need to adjust the Manometer, see instruction in the C & U Manual.

See Initial Operation Instructions in this Manual.



SUPER SERIES AEROSOL CRUSHER

TeeMark Corp

WARNING

EXPLOSION HAZARD

All TeeMark explosion proof can and drum crushers are manufactured in accordance with the National Electrical Code for **Class 1 Group D** hazardous locations .

It is the responsibility of the end user to properly install and operate the crusher in compliance with all local and national electrical codes for hazardous locations.

THIS MEANS

All sources of **ignition must be** ***a safe distance away*** **from the crusher while it is being operated.**
(as determined by your insurance underwriter)

Sources of ignition include:

- All forklift trucks. Propane, gas and electric powered.
- All air compressors
- Any motor control equipment not rated for Hazardous Locations. (Class 1 Group D)
- Any electrical equipment such as radios, tape players etc.

EXPLOSION PROOF AEROSOL CAN CRUSHER

Model SUPER-800

The **TeeMark SUPER-800 Aerosol Can Crusher** is designed to process 800 aerosol cans per hour. The liquid contents of the cans are typically collected in a 55-gallon drum. The crushed cans are collected in a second 55-gallon drum and can be recycled. The propellants and VOCs are collected and vented by means of a centrifugal blower system. All systems have been thoroughly tested before leaving the factory.

SAFETY FEATURES

The SUPER-800 is equipped with a safety interlock system that is linked to the Crushing Chamber door. The interlock system prevents operator injury by stopping all functions of the machine in the event that the crushing chamber door is opened during the crushing process.
In addition, the Hydraulic Motor and Oil Cooler motor are interlock with the Blower motor, if for any reason the Blower motor should experience low voltage or lose of voltage, all motor will stop.

AIR HANDLING SYSTEM FEATURES

The SUPER-800 is designed to vent VOCs and propellants from the crushing chamber and the two collection drums. A 24 x 24 bag filter housed within the filtration cabinet filters particulates from the air stream. A pressure drop indicator (Manometer) is provided to monitor filter condition. Filter should be changed when indicator rises to 0.10 gauge reading on the Manometer. A centrifugal pressure blower will provide up to 500 CFM of particulate free air to be handled in accordance with local regulations.

ELECTRICAL CONNECTION

The explosion proof motor, motor controls, and connections on your **SUPER-800** are UL listed and CSA certified for Class 1, Group D, Hazardous locations. It is up to the purchaser to make final connections in compliance with local and national electrical codes for Class 1, Group D, Hazardous locations.

A 5 hp, 230/460 VAC, 13/6.5 FLA (full load amps), 3 phase motor powers the Crusher Hydraulic System.

A 1 hp, 230/460 VAC 3.6/1.8 FLA 3 phase motor powers the
Air Exhaust System.

A ¼ hp, 230/460 VAC 1.3/.65 FLA 3 phase motor powers the Hydraulic
Oil Cooler Fan.

If your Crusher is equipped with an Optional Carbon Filtration Package, wiring to the Blower must be completed during field installation. The necessary wire, conduit, and conduit fittings are supplied. Please refer to wiring diagram for proper connections. See following page for Conduit Sealing instructions.

AIR REQUIREMENTS

The **SUPER-800** uses less than 4 CFM and requires a maximum air pressure of **90 psi.** All Crushers are equipped with a Filter/Regulator/Lubricator (FRL). The pressure of the FRL must be set at **90 psi** to insure proper machine performance.

HYDRAULIC FLUID

The hydraulic reservoir must be kept full to a level that is visible in the temperature/sight gauge throughout the complete ram cycle. Use a premium grade antiwear hydraulic oil, **150 viscosity grade 32** (e.g. Mobile #DTE24 or equal). This is the same antiwear hydraulic fluid that is typically used in farm tractors and dump trucks. It should be available at most auto or farm supply stores. Total fluid capacity is approximately 20 US gallons.

OIL FILTER

A High Pressure, High performance 10 micron (absolute) oil filter is standard on all TeeMark Crushers. It should be changed after every 500 hours of operation.

OIL FILTER OPTIONS	
PART NUMBER	BRAND NAME
P164375	DONALDSON
1455	NAPA
HF 717	HASTING

VALVE SETTINGS

All Hydraulic and Pneumatic Valve Components have been preset at the factory for optimum performance. **DO NOT RE-ADJUST ANY VALVE SETTINGS WITHOUT FIRST CONSULTING THE MANUFACTURER. (TeeMark Corp)**

CONDUIT SEALING

SEALING CEMENT

DIRECTIONS: Separate each conductor and pack the fiber filler (disposable shop towels work nicely) tightly around and between each conductor at the sealing fitting hub. Conductors must not touch one another nor touch the sealing fitting wall. Shake the sealing cement container thoroughly in all directions to overcome powder segregation before each use. Add 7 ¾ oz. of water to 1lb. of cement (*equivalent to 1 part water to 2 parts cement by volume*). Stir thoroughly for a minimum of 5 minutes or until an even pouring consistency is obtained. Pour compound into the sealing fitting per instructions provided with the sealing fitting.

SEALING INSTRUCTIONS

VERTICAL SEALS: When sealing vertical conduits, follow above directions. Compound is poured through the small pipe plug opening above the cover or pipe plug.

HORIZONTAL SEALS: For horizontal sealing remove both threaded plugs from EYS. Follow above directions, and pour the compound through the large opening. Replace plugs and screw into body.

CAUTIONS

Sealing compound to be mixed ONLY at temperatures above 35° F/ 2° C and *ONLY* poured into fittings that have been brought to a temperature above 35° F/ 2° C. Seals must not be exposed to temperatures below 35° F/ 2° C for at least 8 hours. Compound *MUST* be allowed 8 hours to cure to full strength before energizing system.

If any batch of compound starts to set before pouring *DO NOT* try to thin by adding water or stirring. This will spoil seals. Discard the batch and make a new one.

OPERATING INSTRUCTIONS

START UP PROCEDURE

Make certain that all necessary electrical and air connections are made before proceeding.

INITIAL WARMUP

IT IS RECOMMENDED THAT ALL CRUSHERS RUN IDLE FOR 5-10 MINUTES TO ALLOW THE HYRAULIC OIL TO REACH OPERATING TEMPURATURE. THIS IS ESPECIALLY IMPORTANT WHEN AMBIENT TEMPURATURE IS BELOW 65' F

1. Position an empty 55-gallon drum under the Sealing Flange just below the Crushing Chamber using the Drum Jack that is supplied with the crusher. Raise the drum until it contacts the sealing flange. **DO NOT LIFT THE DRUM PAST THE POINT OF CONTACT WITH THE SEALING FLANGE, THIS COULD CAUSE DAMAGE TO THE CRUSHER.**
2. Place a second 55-gallon drum, to receive the crushed cans beneath the vapor collection bonnet.
3. Start Blower motor by pulling out the red **BLOWER** stop button.

BLOWER MUST RUN AT ALL TIMES WHILE LIQUID CONTENTS ARE PRESENT IN COLLECTION DRUMS AND CRUSHING CHAMBER.

4. Open the Crushing Chamber door.
5. Start Crusher motor by pulling out the red **CRUSHER** stop button.
6. Place an Aerosol can into the Crushing Chamber in an upright position, centered over the piercer opening.
7. Close the Crushing Chamber door and the crushing cycle will begin automatically. When the can has been emptied and crushed the can will automatically be ejected into the Can Collection drum
8. When the crushing cycle is complete the door will open automatically and the crusher is ready for the next crushing cycle.

RETRACTING CYLINDER/SQUEEZE HEAD

1. On the front of the machine below the Door Shaft is a button marked **Cylinder Retract.**
2. With the Hydraulic Motor running, Air Supply turned on, and the Door open.
3. Push in and hold the button, close door. Hold button in until cycle ends and the door opens.

***** CAUTION *****
ALWAYS TURN THE POWER OFF WHEN SERVICING
THE CRUSHER OR WHEN NOT IN USE.

RECOMMENDED PERIODIC MAINTENANCE

1) Change the hydraulic oil filter element every 500 hours after that; more often if your system is in an extremely dirty atmosphere.
2) Change the hydraulic oil completely every 5000 hours or 5 years of operation, which ever comes first.
3) Change air particulate filter when the pressure drop indicator reaches .01 on the Manometer scale.
4) It is recommended that the piercer be sharpened periodically to prevent undue pressure buildup inside the cans
5) Remember your machine is only as good as your maintenance.

MINOR TROUBLE SHOOTING

Noisy Pump

1) Suction line is blocked. Disassemble and clean.
2) Air entering suction side of pump. Check the pump to tank connections and oil level.
3) Low oil level.
4) Pump badly worn, loose parts in pump case.
5) Suction line restricted.
6) Pump unloader valve is adjusted too low.

Lack of System Pressure

1) Bad pump.
2) Air system malfunction.
3) Coupling between pump and motor separated.
4) Line breakage.
5) Low hydraulic fluid level.

Pump Not Delivering Oil

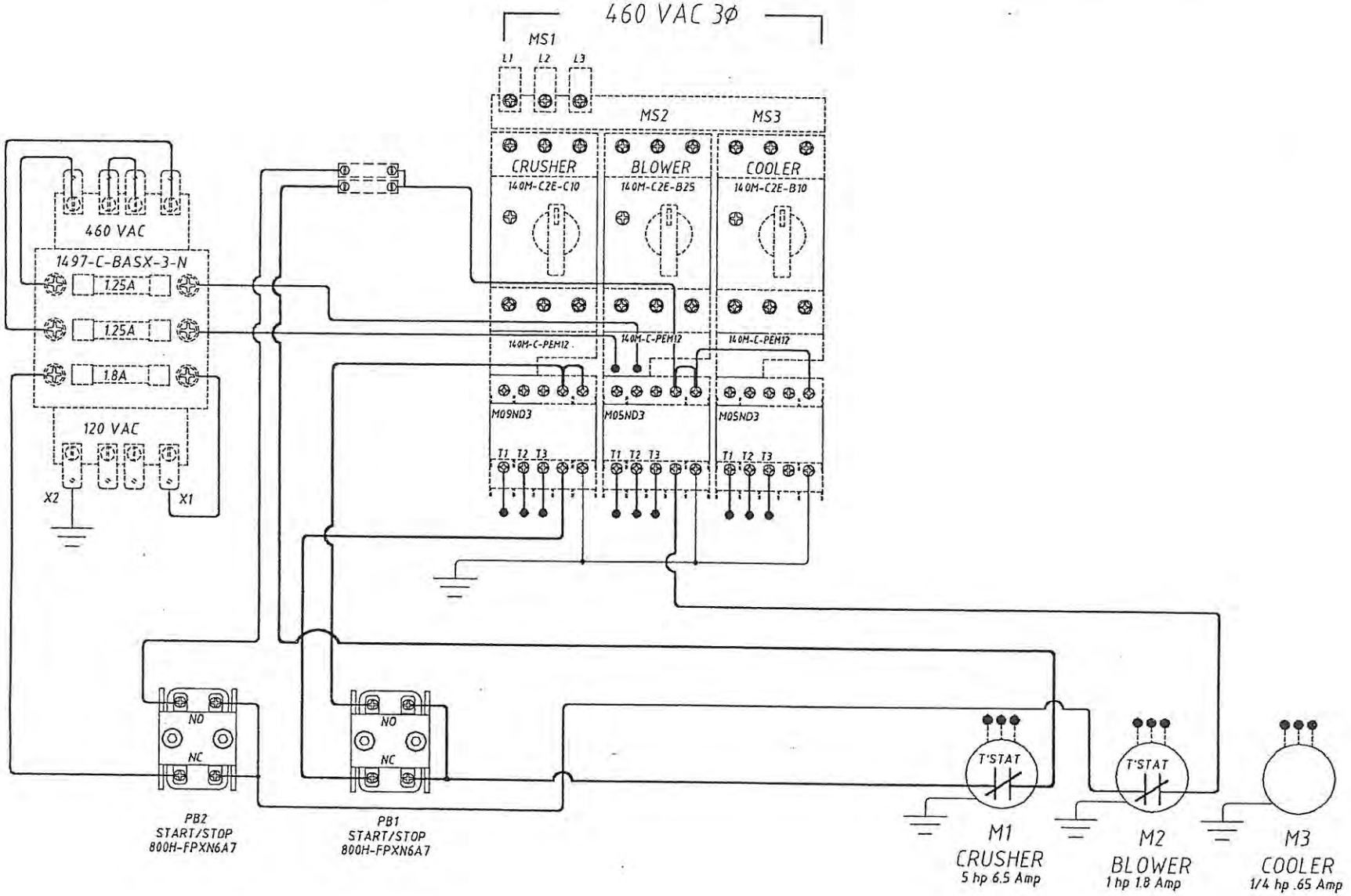
1) Blocked suction.
2) Air leak in suction line causing pump to lose prime.
3) Pump rotation in wrong direction; should be clockwise as viewed from the fan end of the motor.
4) Low hydraulic fluid level.

Erratic Motion in Cylinder

1) Air entrapped in oil due to excessive agitation. Oil will be cloudy in appearance.
2) Improper valve adjustment.

Reservoir Temperature Excessive (Over 170° F.) Call the factory

NOTES | DO NOT SCALE PLOT SCALE 1" = UNITS | ANSI Y 14.5M - 1994 APPLIES



ITEM	QTY	DESCRIPTION
ITEM	QTY	DESCRIPTION

REV	DESCRIPTION

TOLERANCES UNLESS OTHERWISE SPECIFIED
DIM'S ARE IN INCHES
FRACT AL ±1/16
1 PLC EC. ±.100
2 PLC. C. ±.010
3 PLC. ±.005

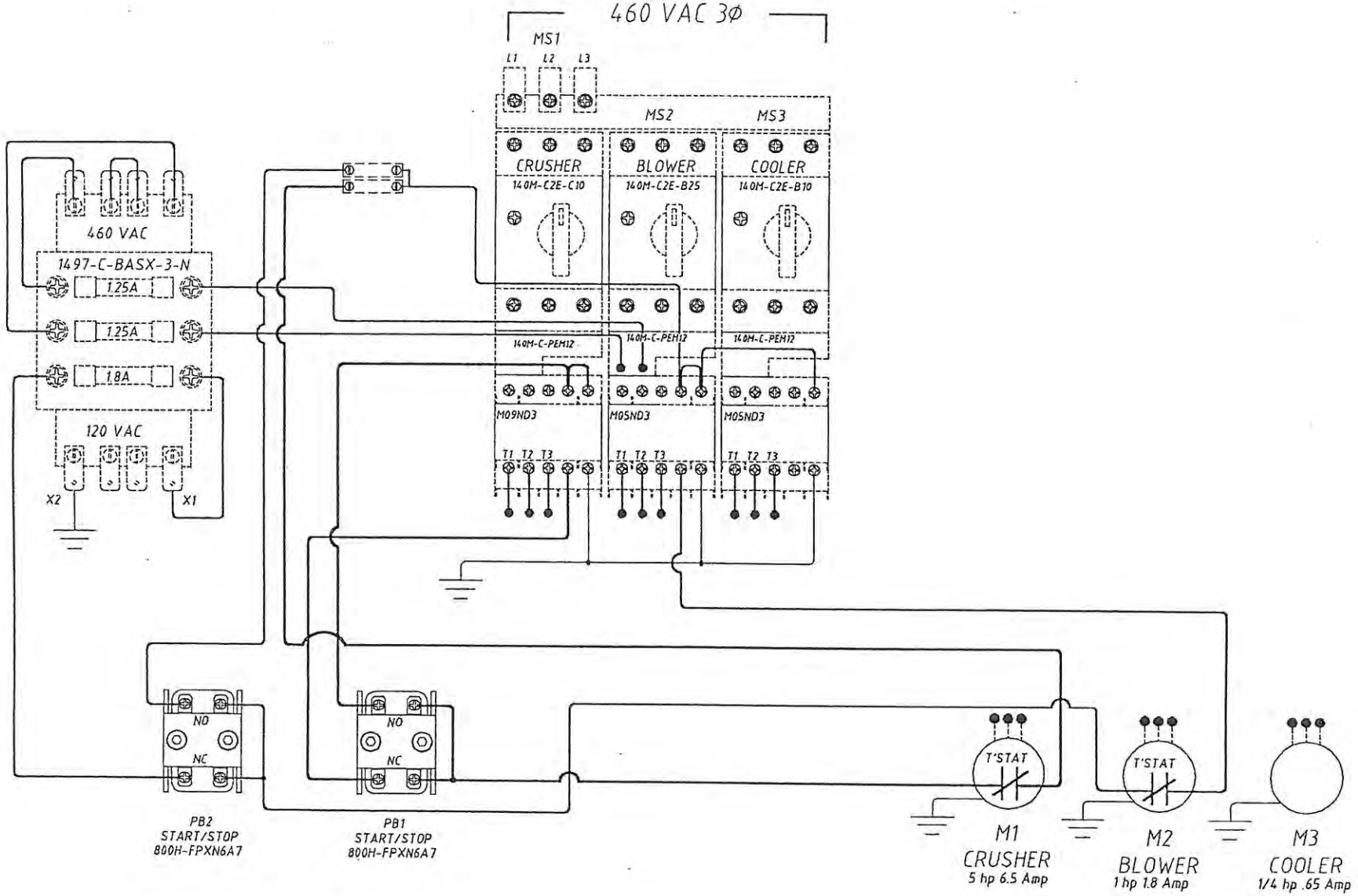
DRN	LGF
DATE	08/04/04

MOTOR STARTER CONNECTION
460 VAC 3 PH 5 HP CRUSHERS

TeeMark Corp

CAD. REF. SCHE. TCS
PART NO. [illegible]

NOTES | DO NOT SCALE PLOT SCALE 1" = UNITS | ANSI Y 14.5M - 1994 APPLIES



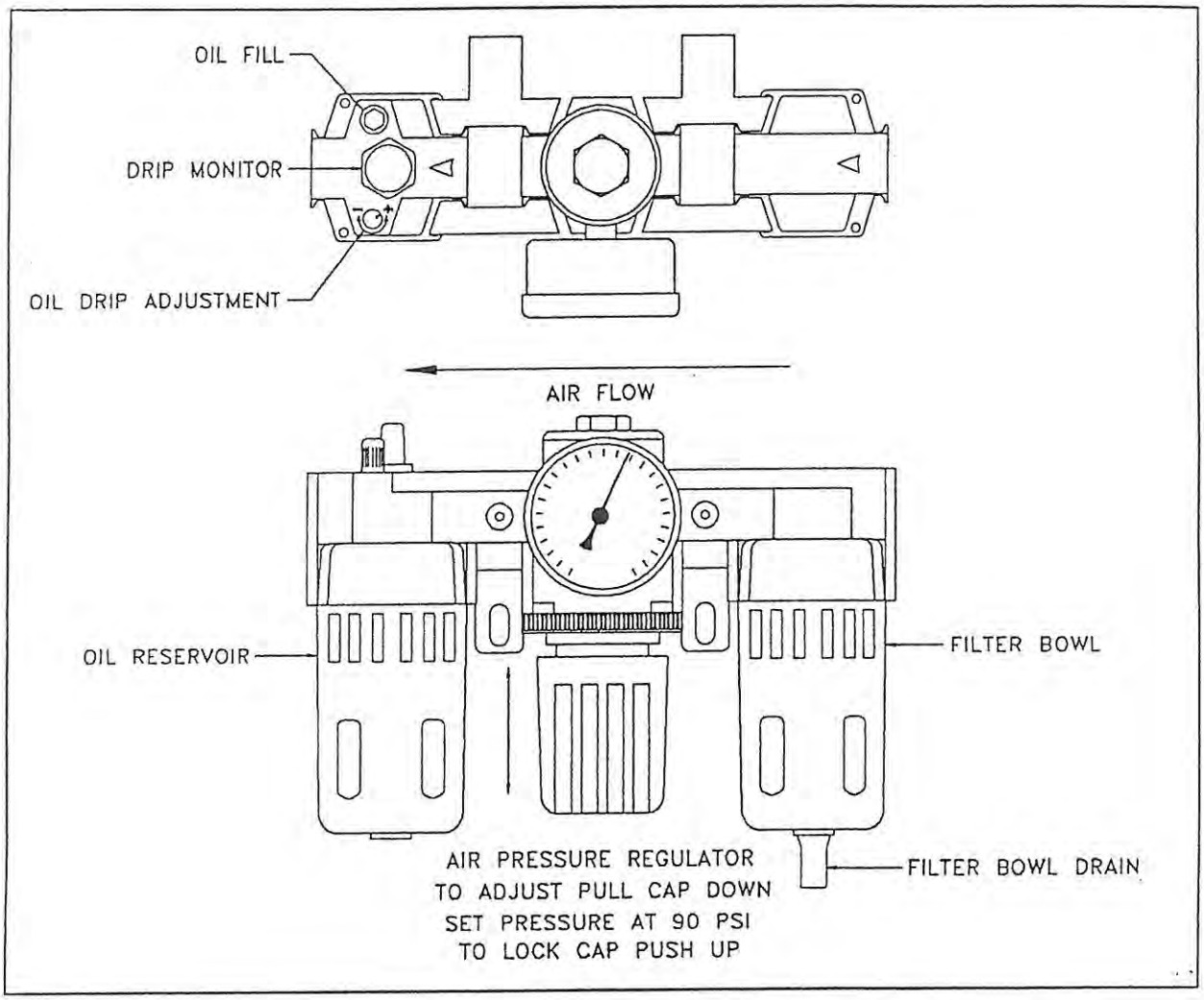
ITEM | QTY | DESCRIPTION

ITEM | QTY | DESCRIPTION

TOLERANCES UNLESS OTHERWISE SPECIFIED DIM'S ARE IN INCHES FRAC[illegible]AL ±1/16 1 PLC[illegible]EC. ±.100 2 PLC. [illegible]C. ±.010 3 PLC. [illegible] ±.005	DRN LGF DATE 08/04/04	MOTOR STARTER CONNECTION 460 VAC 3 PH 5 HP CRUSH[illegible]RS
TeeMark Corp		CAD. REF. SCHE[illegible]TICS PART NO. [illegible]

MAINTAINING THE FILTER / REGULATOR / LUBRICATOR

-FRL-



The FRL is an air preparation device. Its purpose is to supply the crushers' pneumatic system with clean, lubricated air at a consistent pressure.

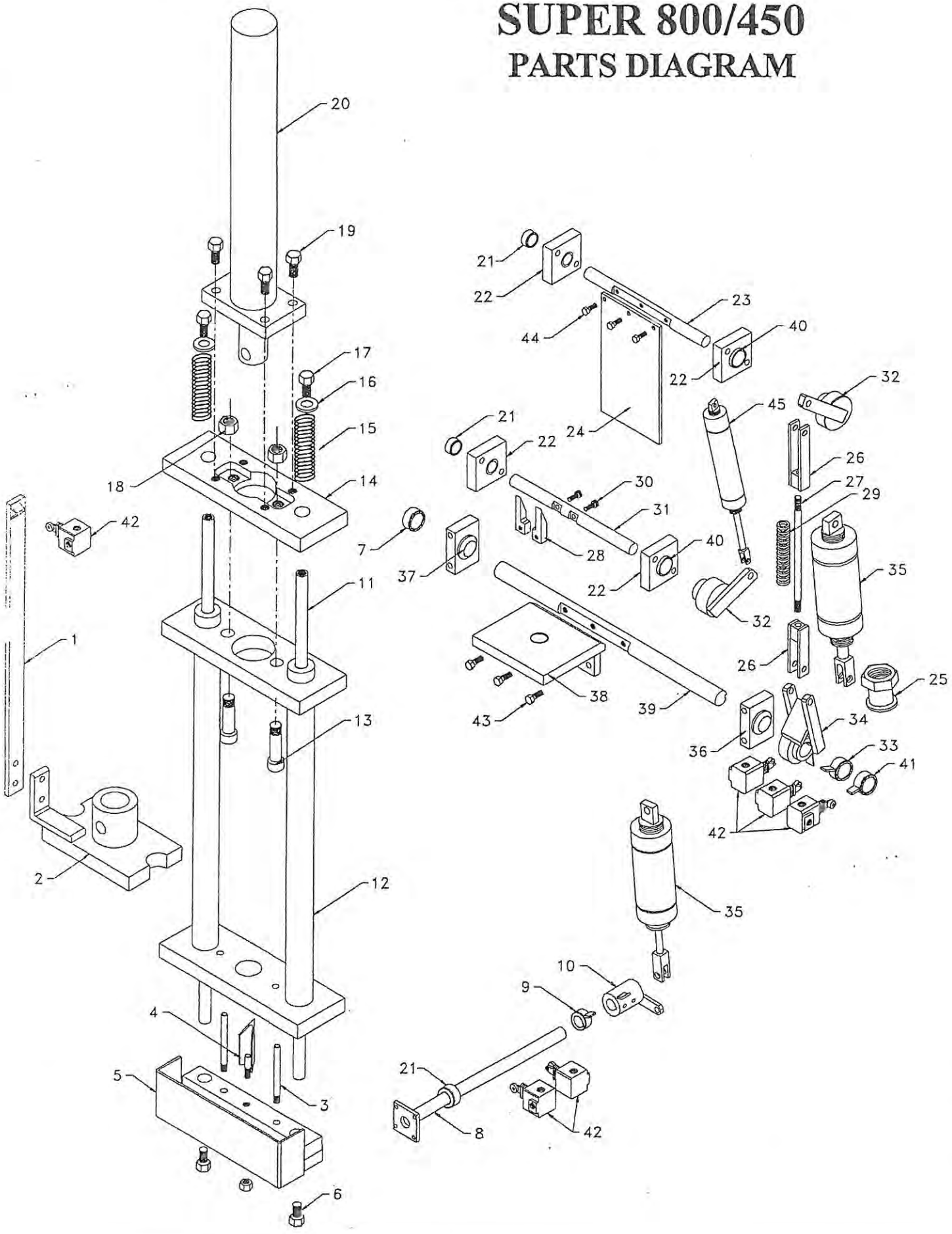
The Filter Bowl should be checked and drained regularly and cleaned periodically with warm soapy water.

DO NOT USE SOLVENT BASED PRODUCTS WHEN CLEANING THE FILTER BOWL

The air pressure is set by the Air Pressure Regulator located between the two bowls, directly below the Air Pressure Gauge. The operating pressure at the gauge should be set at **90 psi**.

The lubrication end of the FRL consists of an Oil Reservoir, Oil Fill Cap, Drip Monitor and Drip Adjustment Knob. The reservoir should be filled with an **ISO-VG-32** Air Tool Oil. The Oil Drip should be set at one drop for every 30-40 crushing cycles.

SUPER 800/450
PARTS DIAGRAM



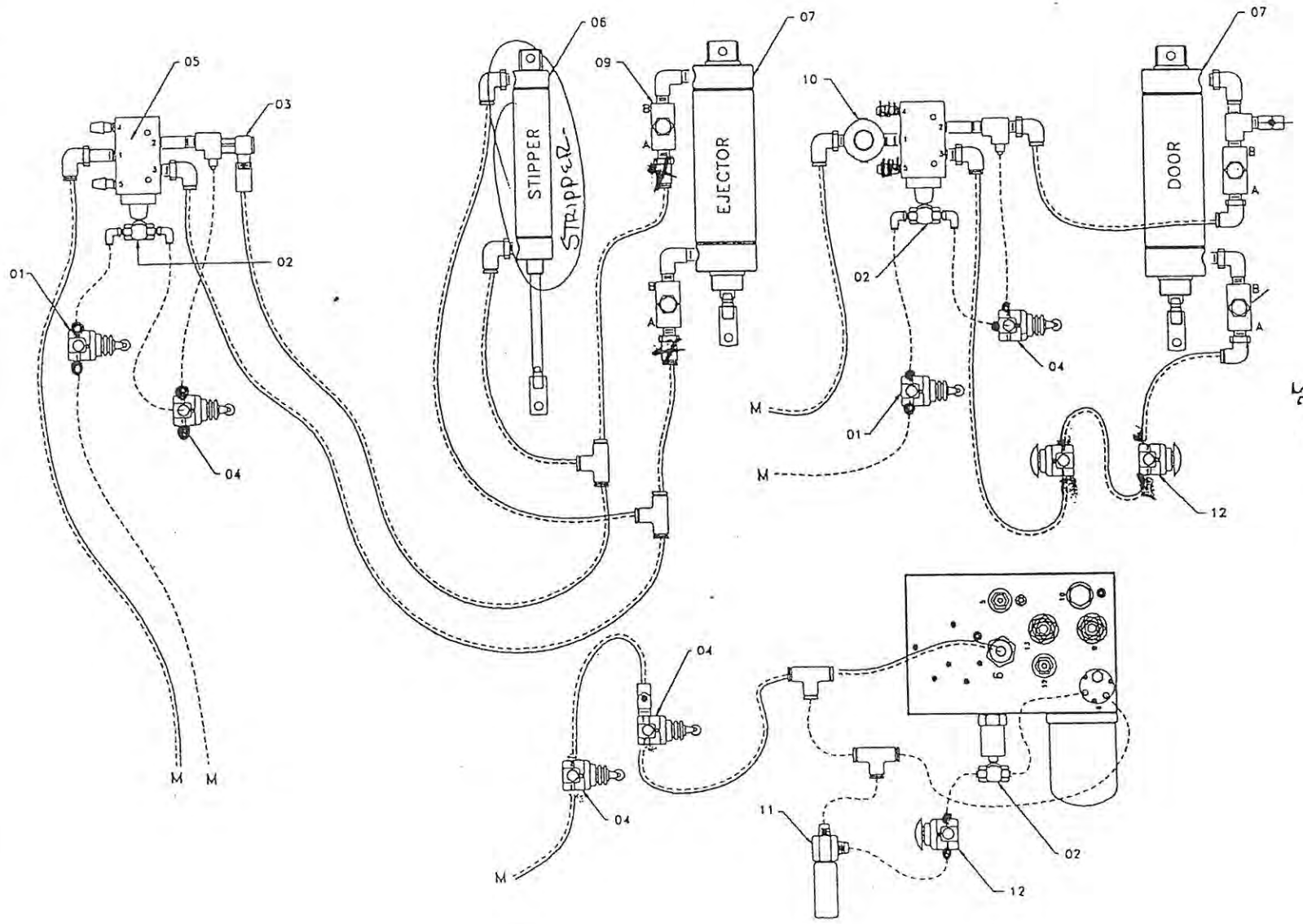
Mechanical Parts List Super 800/450 9/12/03

Item #	Quantity	Part number	Description
1	1	C070-022	Flag
2	1	C070-021	Squeeze Head
3	2	C070-023	Guide Pins
4	1	C070-024-001	Piercer (lg)
	1	C070-024-002	Piercer (sm)
5	1	C070-025	Piercer Carriage
6	2	1/2-13X1 1/2	Piercer Carriage Bolt
7	1	CLC-100	1-inch ID Stop Collar
8	1	C070-016-R1	Door Shaft
9	1	C070-026-001	Cam-Door Shaft
10	1	C051-012	Door Shaft Lever
11	2	C070-027-002	Piercer Connecting Rod
12	1	C070-027-001	Main Frame
13	2	1-14X6	Socket Head Cap Screws
14	1	C070-006	Cylinder Connecting Plate
15	2	SPR75-150	Return Spring
16	2		1/2-inch Flat Washer
17	2	1/2X1 1/2 Drilled	Connecting Rod Bolts
18	2	1-14 Nut	1/14 locking nuts
19	4	1/2X1 1/2	Cylinder Mounting Bolts
20	1	MPH4012FT	4-inch Hydraulic Cylinder
21	2	CLC-75	Stop Collar
22	2	C028-050-R1	Bearing Housing Rear Door
23	1	C070-014-001	Rear Door Shaft
24	1	C070-014-002	Rear Door
25	1	C070-032	Door Stop
26	2	C028-100B	Clevis
27	1	C070-028	Linkage Rod
28	2	C070-010-002	Stripper
29	1	9623K7	Ejector Linkage Spring
30	2	5/16X1 1/2 Bolt	Stripper Bolt
31	1	C070-010-001	Stripper Shaft
32	1	C028-046-R2	Rear Door Actuator Arm
33	1	C070-026-003	Door Actuator Cam
34	1	C028-045-R2	Ejector Actuator Arm
35	2	2500 DV5	Pneumatic Cylinder
36	2	C028-051	Bearing Housing-Ejector
37	2	GEZ 25 ES	Spherical Bearings
38	1	C070-029-001	Ejector Plate Large Hole
	1	C070-029-003	Ejector Plate Small Hole
39	1	C070-029-002	Ejector Shaft
40	4	FF1011	Flanged Bushing
41	1	C070-026-002	Ejector Interlock Cam
42		C070-050	Pneumatic Schematic
43	3	5/16X1 1/2 Bolt	Ejector Plate Bolts
44	3	5/16x3/4	Rear Door Mounting Bolts
45	1	CAR-24-4	Pneumatic Cylinder

Mechanical Parts List Super 800/450 9/12/03

Item #	Quantity	Part number	Description
46	1	10FJX-28	Cylinder Hose Top 28"
47	1	10FJX-38	Cylinder Hose Bottom 38"
48	1	20 GMV-26	Pump Suction Hose 26"
49	1	10FJX-19	Pump Pressure Line 19"
	1	B250-784	Hydraulic Pump 22 gpm (S800)
		B250-768	Hydraulic Pump 11 gpm (S450)
	1	VL5024A	1 1/2 hp Electric Motor (S450)
	1	VM7044T	5hp Electric Motor (S800)
	1	L4003A	Oil Cooler Motor
		M6002A	3ph Oil Cooler Motor
	1	VL5009A	Blower Motor
		VM7013	3ph Blower Motor
	1	440-605	Particulate Filter
	1	660552001-	4-inch Cylinder Repair Kit
	1	C070-011-001	Front Cover
	1	C070-012-001	Back Cover
	1	C070-030	Rear Chute
	1	C070-031	Front Door
	1		Manometer
	1	V-6029	Pump Adaptor (S450)
		V-1960	Pump Adaptor (S800
	1	PT2-SM	Cycle Counter

NOTES | DO NOT SCALE PLOT SCALE 1" = UNITS | ANSI Y 14.5M 1994 APPLIES



ITEM	QTY	DESCRIPTION
06	1	CDR-24-4 1 1/2 X 4 AIR CYLINDER 112.50
05	2	180001-112-0003 4-WAY PILOT OPERATED VALVE
04	4	1113A-014 3-WAY CAM OPERATED VALVE 64.50
03	1	JEV-F4M4 QUICK EXHAUST VALVE 45.00
02	3	JSV-2PFF SHUTTLE VALVE
01	2	1113A-016 3-WAY OVER-RIDING CAM VALVE 64.50

ITEM	QTY	DESCRIPTION
12	3	111A-037 PALM BUTTON VALVE 55.50
11	1	PV-1P-MAT-20 PULSE VALVE 60.50
10	1	R364-02C MINIATURE REGULATOR 41.95
09	4	RFU-446-04 FLOW CONTROL VALVE 45.95
08		
07	2	UDR-40-5 2 1/2 X 5 AIR CYLINDER @170.40

90.25

M = MANIFOLD CONNECTION
DOUBLE LINES = 3/8 TUBING
SINGLE LINES = 5/32 TUBING

TOLERANCES UNLESS OTHERWISE SPECIFIED
DIM'S ARE IN INCHES
FRACTIONAL ±1/16
1 PLC DEC ± .015
2 PLC DEC ± .010
3 PLC DEC ± .005
ANGULAR ±1°

DRN LGF
DATE 09/03/03

HOOKUP DIAGRAM
SUPER-800 W/ DOOR CLOSER

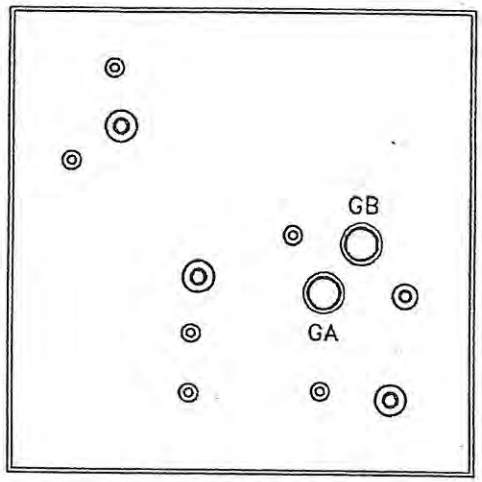
TeeMark Corp
AITKIN MINNESOTA 56431 218 927-2200

CAD REF C0070
PART NO

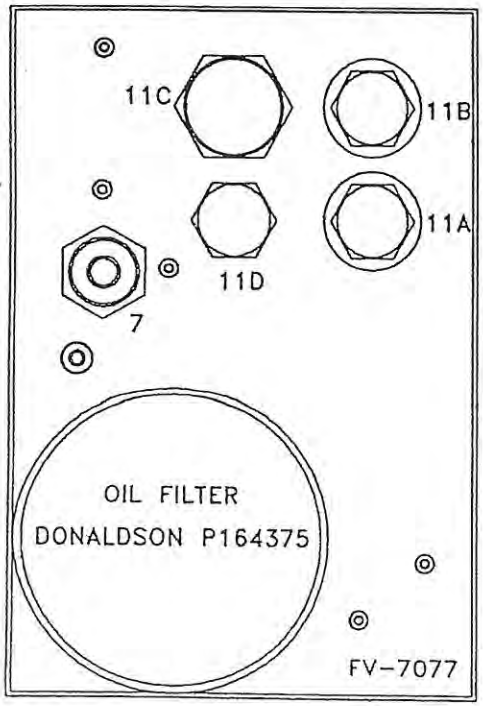
Pneumatic Parts List, Super 800, 400 9/4/03

Item #	Qty.	Part Number	Description
1	2	1113A-016	3-way Over-Riding Cam Valve
2	3	JSV-2PFF	Shuttle Valve
3	1	JEV-F4M4	Quick Exhaust Valve
4	4	113A-014	3-way Cam Operated Valve
5	2	180001-112-0003	4-way Pilot Operated Valve
6	1	CDR-24-4	1 1/2x4 Air Cylinder
7	2	UDR-40-5	2 1/2x5 Air Cylinder
8			
9	4	RFU-446-04	Flow Control Valve
10	1	R364-02C	Miniature Regulator
11	1	PV-1P-MAT-20	Pulse Valve
12	3	111A-037	Palm Button Valve
13	12	14-3/8 QDE	1/4npt-3/8 Quick Disc Elbow
14	7	C6510-06-04	1/4npt-3/8 Quick Disc
15	1	UPC3000-03CG	Combination Regulator
16	1	M20-250-4	Manifold
17	1	6GD07	3/8 Exhaust Ball Valve
18			3/8 Quick Disc Tee
19		C6540-53-00	5/32 Quick Disc Tee
20		C6463-53-04	1/4npt-5/32 Quick Disc
21		C6510-53-02	5/32 Quick Disc
22		C6520-53-02	1/8npt-5/32 Quick Disc
23		UCI-SMB-2	1/4npt Muffler
24	1	UPC3000-03-CG	FLR
25			1/4 npt Nipple
26			1/4 npt Tee
27			3/8 Poly Tube per foot
28			5/32 Poly Tube per foot

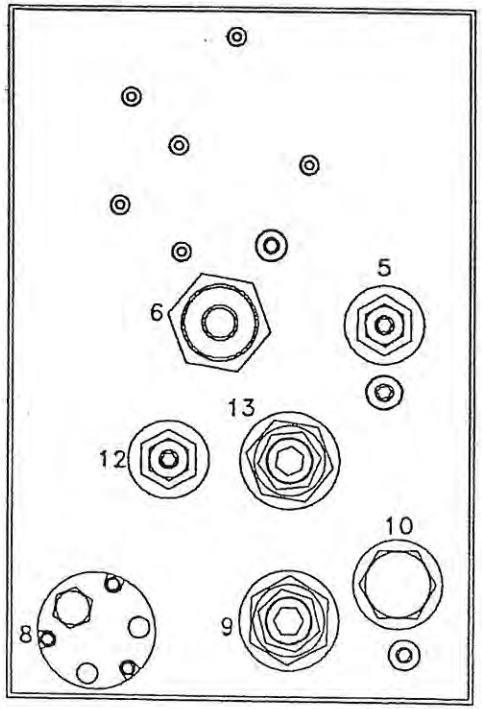
HYDRAULIC CONTROL VALVE PORT LOCATIONS



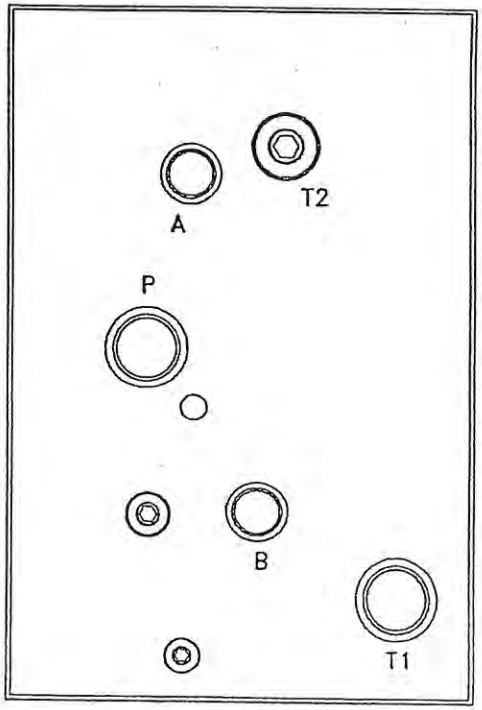
FRONT VIEW



BOTTOM VIEW



RIGHT SIDE VIEW

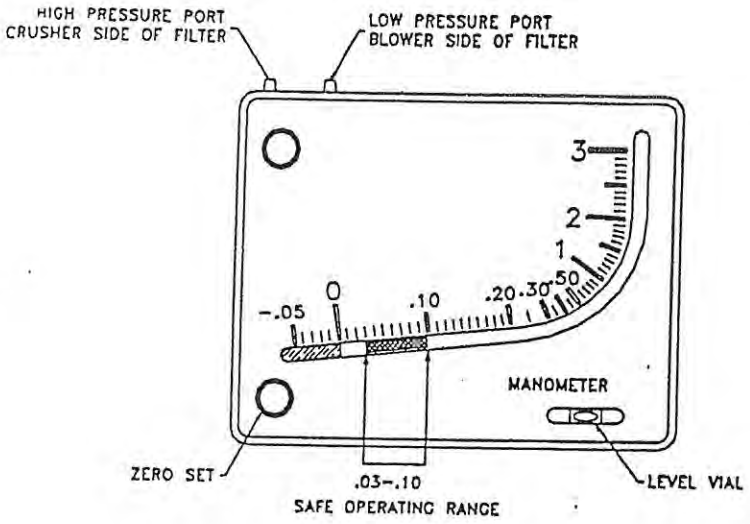


TOP VIEW

Valve Body Componets 9/4/03

Port #	Part Number	Description
5	A04B2 HZN	Relief Valve
6	AD0V-12-N-3A-0-4T	Air Operated Directional Valve
7	AD0V-10-N-4A-0-4T	Air Operated Directional Valve
8	11007531o	Hydraulic Piloted Air Valve
9	BSOS-08-N-S-30	Pressure Breaker/Seq. Valve
10	DO2B2-25.0-N	Check Valve 25.0 Bar
11A	R04D3-5.0-N	Diverter Valve
11B	R04D3-5.0-N	Diverter Valve
11C	PD12-32-0-N-110	2way Pilot Valve
11D	R04D3-5.0-N	Diverter Valve
12	A04K2 HZN	Kick-Down Relief Valve
13	CBPA-10-N-8-15	Counterbalance Valve
14	P164375	Donaldson Oil Filter
	1455A	NAPA Oil Filter
	HF 717	Hasting Oil Filter
		Hydraulic Assem Complete

MONITORING THE VAPOR CONTROL SYSTEM



The Vapor Control system consists of four major components. These are the Cyclone Separator, the Filter Cabinet, a Centrifugal Blower, and a Manometer.

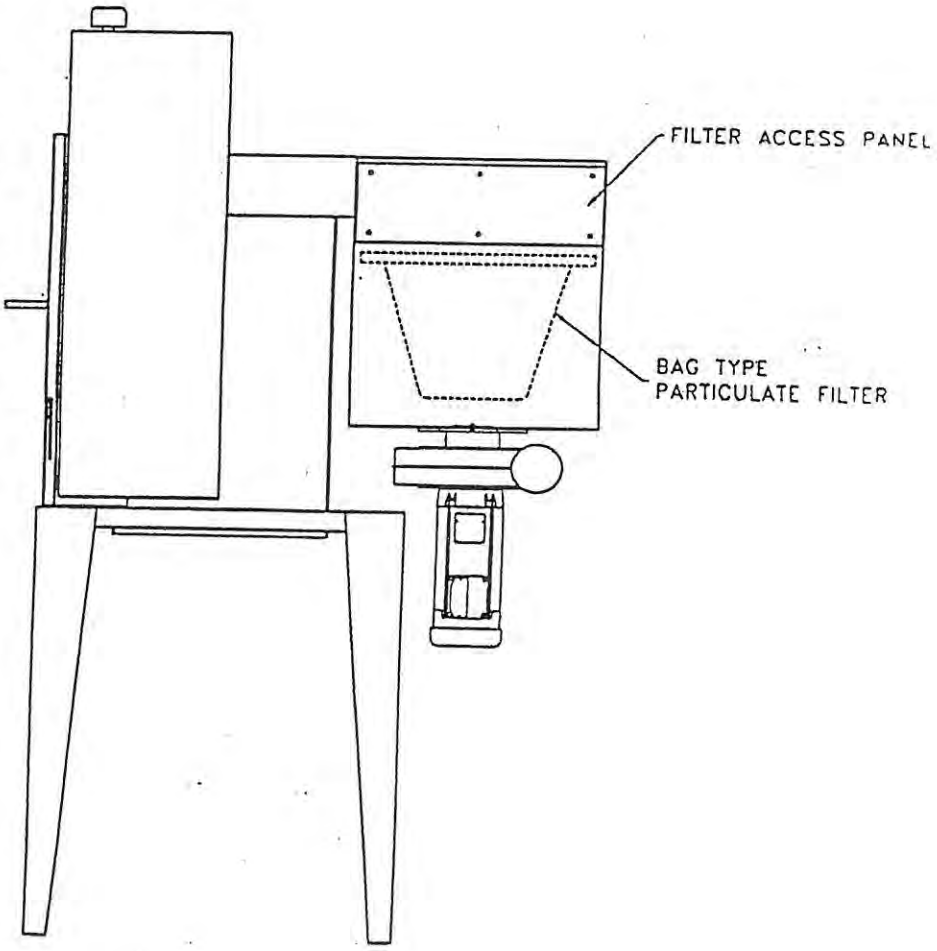
The Manometer is a system monitoring device that will indicate two important conditions.

A gauge reading below .03 indicates a blower off or blower malfunction condition.

A gauge reading above .10 indicates a dirty or clogged particulate filter.

All Vapor Control crushers are equipped with a bag type particulate filter. The filter is housed in a cabinet located just above the blower. To insure proper ventilation the filter must be changed when it becomes blocked or dirty. A manometer gauge reading above **.10**, will indicate a blocked filter condition.

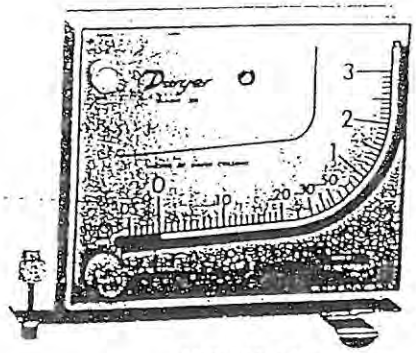
To change the air filter, remove the filter access panel and lift out old filter. Replace the dirty filter with a new clean filter making sure that the filter edges are laying flat against the filter frame.



Dwyer

Instructions For

MARK II SERIES
MOLDED PLASTIC MANOMETERS



Mark II Model No. 25
inclined-vertical manometer,
(shown with optional A-612 portable stand)

Dwyer Mark II Manometers come in a variety of ranges. Make sure the oil being used is for the correct manometer.

Mark II #25, 27, MM-80 and M-700 Pa use red gage oil (specific gravity .826).

Mark II #26, 28 and MM180 use blue gage oil (specific gravity 1.9).

If additional oil is required, call or fax nearest Dwyer office listed at bottom of page.

Installation

Position manometer on a vertical surface. Drill two 1/8" or 9/64" holes on a vertical line 3 15/16" apart. Loosely mount manometer with self-tapping screws provided. Adjust gage until level bubble is centered in level vial, then secure the manometer tightly.

For portable use, order optional A-612 Portable Stand.

Filling

Turn the zero set knob counterclockwise until it stops, then turn clockwise 3 full turns. This puts zero in approximately the middle of the travel adjustment in either direction. Remove the fill plug and fill with gage fluid until fluid reaches zero on scale. Minor adjustments can be made to adjust zero by adjusting zero knob. Replace fill plug. If gage is overfilled, remove excess by inserting pipe cleaner through the fill port to blot up excess oil.

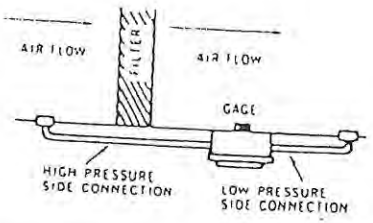
Maintenance

Check oil level regularly and adjust zero with zero adjust knob. Be sure tubing connections are disconnected and gage is open to atmosphere before adjusting zero.

Clean with mild soap and water. Avoid any cleaning fluids which may result in damaging the gage.

Accessories

Each Mark II manometer includes two tubing connectors for 1/8" pipe or sheet metal ducts, two mounting screws, 3/4 oz. bottle of indicating fluid, red and green pointer flags, 8' of double column tubing and instructions.

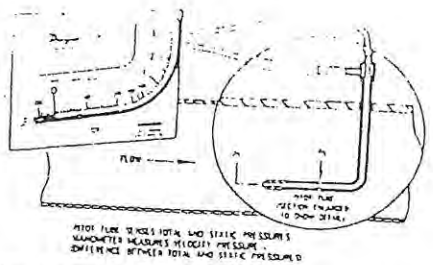


Air Filter Gage

Mount gage within 3 ft. of filter bank. Install tubing adapters on each side of filter. Run tubing from clean side of filter to positive pressure side of gage (left fitting). Run downstream side to low pressure side of gage (right fitting). Install green and red arrows adjacent to indicating tube to indicate filter condition.

Air Velocity Meter

A pitot tube should be used for air velocity readings. Install the pitot tube and gage carefully to ensure accuracy. Select a location for the pitot tube with at least four diameters of smooth straight sections of duct both upstream and downstream. Install pitot tube in the center of duct with tip directed into air stream. Connect the right angle (leg parallel to tip) to negative (right fitting) and straight pitot tube connection to positive (left connection) of gage. The velocity reading shown on the gage is the center or maximum velocity. For average velocity across the full area, multiply by a factor of 0.9.



Nos. 27 and 28 require pitot tube at additional cost. See Bulletin F-41-F.

The velocity indicated is for dry air at 70°F, 29.9" barometric pressure and a resulting density of 0.075 lb/ft³. For variation from these standard conditions, corrections may be based upon the following data.

AIR VELOCITY CALCULATIONS:

$$\text{Air Velocity} = 1096.2\sqrt{\frac{Pv}{D}}$$

where Pv = velocity pressure in inches of water
D = Air density in lb/ft³

$$\text{Air Density} = 1.325 \times \frac{PB}{T}$$

where PB = Barometric Pressure in inches of mercury
T = Absolute Temperature (indicated temperature °F plus 460)

Flow in cu. ft. per min. = Duct area in square feet × air velocity in ft. per min.

LITHO IN U.S.A. 11/96

OPERATING & MAINTENANCE INSTRUCTIONS AND PARTS LIST

for

PB - Cast Aluminum Pressure Blowers
SPB - Stamped Steel Pressure Blowers
PBS - Fabricated Steel Pressure Blowers
LM - Volume Blowers

CONTENTS

⚠ DANGER

ALL FANS AND BLOWERS SHOWN HAVE ROTATING PARTS AND PINCH POINTS. SEVERE PERSONAL INJURY CAN RESULT IF OPERATED WITHOUT GUARDS. STAY AWAY FROM ROTATING EQUIPMENT UNLESS IT IS DISCONNECTED FROM ITS POWER SOURCE AND ALL ROTATING PARTS HAVE STOPPED MOVING.

READ ALL OPERATING INSTRUCTIONS CONTAINED HEREIN BEFORE INSTALLING EQUIPMENT.

⚠ DANGER

NO GUARANTEE OF ANY LEVEL OF SPARK RESISTANCE IS IMPLIED BY SPARK RESISTANT CONSTRUCTION. IT HAS BEEN DEMONSTRATED THAT ALUMINUM IMPELLERS RUBBING ON RUSTY STEEL MAY CAUSE HIGH INTENSITY SPARKS. AIR STREAM MATERIAL AND DEBRIS OR OTHER SYSTEM FACTORS MAY ALSO CAUSE SPARKS.

cincinnati fan

PART #
CATALOG #
SUPERSEDES

GENERAL SAFETY NOTES

1. Rotating parts including shaft and V-belt drives must be properly guarded to prevent personal injury.

2. Electrical wiring must be accomplished by a qualified electrician in accordance with all applicable codes.

3. Care should be taken:
   - Not to run fan above its safe speed (See Performance Tables in Sales Catalog or call CF sales office).
   - Not to operate in excessive temperatures (See limitations in Sales Catalog or call CF sales office).
   - Not to operate in dangerous environments.
   - Read all instructions carefully.

II RECEIVING

Receiving Inspection

When unit is received, inspect immediately for damaged or missing parts. Even though all units are carefully inspected and prepared for shipment at the factory, rough handling enroute may cause concealed damage or cause nuts, set screws, bolts or locking collars to work loose. Be certain all fasteners are tightened securely. Rotate wheel by hand to verify that it rotates freely and that there are no obstructions.

Inspect all shipments carefully for damage. The receiver must note any damage on the carrier's bill of lading and file a claim immediately with the freight company in the case of damage. Keep a record of all equipment received, including inspection details and date of receipt because of the possibility of partial shipments.

III HANDLING

Handle your equipment with care. Some fans are provided with lifting lugs or holes for easy handling. Others must be handled using nylon straps or well-padded chains and cables which protect the fan's coating and housing. Spreader bars should be used when lifting large parts.

Centrifugal fans are best lifted using one strap under the fan's scroll and another strap around the bearing base.

DO NOT LIFT CENTRIFUGAL FANS BY THE FAN SHAFT, WHEEL, FLANGES, INLET SUPPORT, OR MOTOR EYE BOLT.

IV GENERAL INSTALLATION INSTRUCTIONS

Foundations

Fan foundation must be flat, level and rigid. Where foundation is not completely flat, shims must be placed under fan support at each anchor bolt as required. Bolting fan to an uneven foundation distorts alignment and causes vibration.

Structural steel foundations should be heavily cross-braced for load support.

Table #1

TORQUE VALUES FOR TAPERED BUSHINGS		
	MINIMUM RECOMMENDED TORQUE (INCH-LBS)	
Bushing Size	Steel Parts	Alum. Parts
H	95	60
P	192	80
Q	350	155
R	350	155

Table #2

SET SCREW TORQUE VALUES			
SET SCREW SIZE		MINIMUM REQUIRED TORQUE (INCH-LBS)	
Diameter & No. of Threads/Inch	Hex Size Across Flats (Allen Wrench)	Steel Set Screw Into Steel Threads	Steel Set Screw Into Aluminum Threads or Stainless Steel Set Into Stainless Steel Threads
1/4-20	1/8"	65	65
5/16-18	5/32"	165	100
3/8-16	3/16"	228	155
7/16-14	7/32"	348	230
1/2-13	1/4"	504	330
5/8-11	5/16"	1104	700

NOTE If wheel set screws are loosened and/or wheel is removed from shaft, set screws must be replaced. Set screws cannot be used more than once. Use knurled, cup point set screws with a locking patch.

V. OPERATION

Before Connecting Power

1. Inspect all fasteners and retighten if necessary:
   a. Foundation bolts.
   b. Set screws in fan wheel, bearings and V-belt drive (See Tables #1 & #2 on preceding page).
   c. Housing, bearing and motor mounting.

2. Any inspection doors should be tight and sealed.

3. Bearings should be checked for alignment and lubrication (See Fan Bearing Maintenance, page 5).

4. Turn rotating assembly by hand to insure that it does not strike housing. If the wheel strikes the housing, the wheel may have moved on the shaft or the bearings may have shifted in transit. Correction must be made prior to start up.

5. Check motor to insure proper speed and electrical characteristics.

6. Check V-belt drive for alignment and correct belt tension.

7. After wiring, energize motor for 1 second to check for proper rotation.

VI. GENERAL MAINTENANCE

CAUTION

Before any maintenance or service is performed, assure that unit is disconnected from power source to prevent accidental starting.

The key to good fan maintenance is a regular and systematic inspection of all fan parts. Severity of the application should determine frequency of inspection. The components requiring service are generally the moving parts which include bearings, fan wheel, belts, sheaves and motor.

Cast Aluminum & Metal Parts

Cast aluminum and steel parts usually do not require maintenance during the life of the unit except painted metal surfaces that may require periodic repainting. In a severe, dirty operation, the wheel should be cleaned with a wire brush to prevent an accumulation of foreign matter that could result in fan unbalance. After cleaning wheel, inspect for possible cracks or excessive wear, which can cause unbalance. DO NOT operate a wheel that is cracked, chipped, has broken blades or excessive wear. **NOTE** If wheel set screws are loosened and/or wheel is removed from shaft, set screws must be replaced. Set screws cannot be used more than once. Belts on V-belt drive units require periodic inspection and replacement when worn. For multiple belt drives, belts should be replaced with matched sets.

Motor Maintenance

1. Disconnect power to motor.

2. Removing dust and dirt: Blow out open type motor windings with low pressure air to remove dust or dirt. Air pressure above 50 P.S.I. should not be used as high pressure may damage insulation and blow dirt under loosened tape. Dust accumulation can cause excessive insulation temperatures.

3. Lubrication: The motor bearings and the fan bearings on the belt drive fans should be greased at regular intervals. Motor manufacturers' greasing instructions and recommendations should be followed closely. Avoid the use of a pressure greasing system which tends to fill the bearing chamber completely. Do not overgrease. Use only 1 or 2 shots with a hand gun in most cases. Maximum hand gun rating 40 P.S.I. Rotate bearings during lubrication where good safety practice permits. NOTE: On motors with non-regreasable sealed bearings, no lubrication is required for the life of the bearings.

To prevent rusting of bearing parts, the motor shaft must be rotated at regular intervals (30 days) to assure these parts are well covered with oil or grease.

A WORD OF CAUTION ABOUT MOTORS

Using your hand to test the running temperature of a motor can be a very painful experience:

Normal body temperature	98.6°F
Threshold of pain caused by heat	120.0°F
Average temperature of hot tap water	140.0°F
Average temperature of hot coffee	180.0°F
Normal operating temperature of a fully loaded electric motor, open type, 70°F ambient temperature	174.0°F

VII. V-BELT DRIVES

Care should be taken not to over tighten V-belt drive. Excessive belt tension overloads fan and motor bearings. It is much less expensive to replace belts worn from slippage than to replace bearings damaged from excessive loading.

Fans shipped completely assembled have had V-belt drive aligned at the factory. Alignment should be re-checked before operation as a precaution due to handling during shipment.

1. Be sure sheaves are locked in position.
2. Key should be seated firmly in keyway.
3. Place straight edge or taut cord across faces of driving and driven sheaves to check alignment. The motor and fan shafts must be parallel and V-belts must be at right angles to the shafts.
4. Start the fan. Check for proper rotation. Run fan at full speed. A slight bow should appear on slack side of belt. Disconnect power and adjust belt tension by adjusting motor on its sliding base. All belts must have some slack on one side.
5. If belts squeal at start up, they may be too loose.
6. When belts have had time to seat in the sheave grooves, then readjust belt tension (2-3 days).

Table #3 (See Fan Bearing Maintenance, page 5.)

Conditions Around Bearing	Operating Temperature of Fan	**Greasing Intervals
Fairly Clean	up to 120°F	6 -12 months
	121°-160°F	2-3 months
	161°-200°F plus*	1-2 months
Moderate to Extremely Dirty	up to 160°F	1-2 months
	161°-200°F plus*	2-4 weeks
Cold Storage Room		every defrosting period or no more than 4 months

* For fan applications over 200°F: greasing intervals should be from several days to 2 weeks, depending on the temperature.

**For vertical installations, greasing intervals should be twice as frequent as table values.

The following greases, or one that is equivalent to the general description, are recommended for the following temperatures or excessive moisture applications.

Operating Conditions	Use Grease Equivalent to these Grades
Temperatures -65°F to 0°F	Esso-Beacon # 325 (-65°F) Mobil Grease # 28 (-65°F) Shell Oil Aeroshell No. 7 (-100°F)

General Description: Versatile multipurpose microgel thickened synthetic hydrocarbon grease with corrosion inhibitors, anti-oxidant additives, water resistance tendencies and EP characteristics.

Temperature 0°F to 200°F inclusive (Also use for heavy condensation or direct splash of water)	Mobil Oil - Mobilux EP # 2 Shell Oil - Shell Alvania EP # 2 Chevron - Chevron SRI # 2

General Description: Multipurpose NLGI # 2 grease from lithium soap with EP characteristics, rust inhibitors, anti-oxidant additives and good water resistance tendencies.

Temperatures over 200°F	Dow Corning - DC44 (400°F) (Not compatible with non-silicon based greases)

General Description: Versatile multipurpose microgel thickened synthetic hydrocarbon grease with corrosion inhibitors, anti-oxidant additives, water resistance tendencies and EP characteristics.

V-belt drive assembly can be mounted as follows:

1. Clean motor and fan shafts. Be sure they are free from corrosive material. Clean bore of sheaves and coat with heavy oil for ease of shaft entry. Remove oil, grease, rust or burrs from sheaves.

2. Place fan sheave on fan shaft and motor sheave on its shaft. Do not pound sheaves on as this may damage bearings. Tighten sheaves per Table # 1 or # 2 on page 2.

3. Move motor on slide base so belts can be placed in grooves of both sheaves without forcing. Do not roll belts or use a tool to force belts over the grooves.

4. Align fan and motor shafts so they are parallel. The belts should be at right angles to the shafts. A straight edge or taut cord placed across the face of the sheaves will aid in alignment.

5. Tighten belts by adjusting motor base. Correct tension gives the best drive efficiency. Excessive tension causes undue bearing pressure.

6. Start the fan and run it at full speed. Adjust belt tension until only a slight bow appears on the slack side of the belts. If slippage occurs, a squeal will be heard at start-up. Eliminate this squeal by disconnecting power and tightening up the belts.

7. Give belts 2-3 days running time to become seated in sheave grooves, then readjust belt tension.

If the shafts become scratched or marked, carefully remove sharp edges and high spots such as burrs with fine emery cloth or honing stone. Avoid getting emery dust in the bearings.

Do not apply any belt dressing unless it is recommended by the drive manufacturer. V-belts are designed for frictional contact between the grooves and sides of the belts. Dressing will reduce this friction.

Belt tension on an adjustable pitch drive is obtained by moving the motor, not by changing the pitch diameter of the adjustable sheave.

VIII FAN BEARING MAINTENANCE

Sealed Bearings

Sealed for life bearings are pre-lubricated with the correct amount of manufacturer approved ball bearing grease, and are designed for application where relubrication is not required.

Relubricatable Bearings

The motor bearings and fan bearings on belt drive fans should be greased at regular intervals. Motor manufacturers greasing instructions and recommendations should be followed closely. Avoid the use of a pressure greasing system which tends to fill the bearing chamber completely. Do not over grease.

NOTE: On motors with non-regreasable, sealed bearings, no lubrication is required for the life of the bearing.

Table #3 (page 4) lists the time intervals between fan bearing greasing to insure proper lubrication in adverse conditions of heat and dust. Use only 1 or 2 shots with a hand gun in most cases. Maximum handgun rating 40 P.S.I.

IX WARRANTY

Cincinnati Fan & Ventilator Company warrants products of its own manufacture against defects of material and workmanship under normal use and service for a period of eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever occurs first.

This warranty does not cover ordinary wear and tear, abuse, misuse, overloading, negligence, alteration or systems and/or materials not of Seller's manufacture. Expenses incurred by Buyer(s) in repairing or replacing any defective product will not be allowed except where authorized in writing and signed by an officer of the Seller.

The obligation of Seller under this warranty shall be limited to repairing or replacing F.O.B. Seller's plant, or allowing credit at Seller's option. This warranty is expressly in lieu of all other warranties expressed or implied including the warranties of merchantability and fitness for use and of all other obligations and liabilities of the Seller. The Buyer acknowledges that no other representations were made to him or relied upon him with respect to the quality or function of the products herein sold.

On equipment furnished by the Seller, but manufactured by others, such as motors, Seller extends the same warranty as Seller receives from the manufacturer thereof. Repairs for motors should be obtained from nearest authorized motor service station for the make of motor furnished. All motors used are products of well-known manufacturers with nationwide service facilities. Check the yellow pages of your telephone directory for the location of the nearest service shop.

Cincinnati Fan & Ventilator Company assumes no responsibility for material returned to our plant without our prior written permission.

X ORDERING REPLACEMENT PARTS

Replacement or spare parts may be ordered through your local Cincinnati Fan representative. (Refer to drawings that begin on page 7.)

The following information should accompany parts orders:

1. Motor horsepower, frame size, motor speed, voltage, phase, cycle and enclosure. Motor manufacturer's model number from motor nameplate.
2. Fan Speed (If V-belt driven).
3. Fan serial and model numbers from the fan nameplate and a complete description of the part.

An adequate stock of repair parts is maintained where possible. **If your fan is vital to production or to plant operation, it is advisable to have all spare parts on hand to minimize the possibility of downtime.**

XI FAN TROUBLE SHOOTING

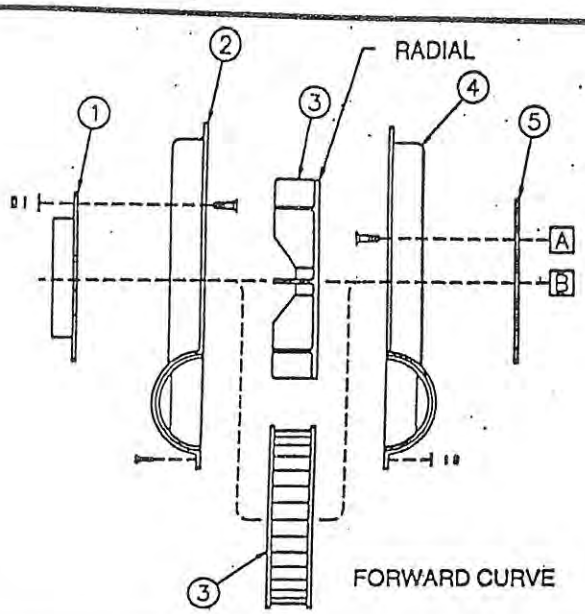
In the event that trouble is experienced in the field, the following are the most common fan difficulties. These points should be checked in order to prevent needless delay and expense.

1. CAPACITY OR PRESSURE BELOW RATING
   a. Incorrect direction of wheel rotation.
   b. Speed too slow.
   c. Dampers not properly adjusted.
   d. Poor fan inlet or outlet conditions (elbows, restrictions).
   e. Air leaks in system.
   f. Damaged wheel.
   g. Total resistance of system higher than anticipated.
   h. Wheel mounted backwards on shaft.
   i. Fan not properly selected for a high temperature and/or high altitude application.

2. VIBRATION AND NOISE
   a. Misalignment of bearings, coupling, wheel or V-belt drive.
   b. Unstable foundation or supports.
   c. Foreign material in fan causing unbalance.
   d. Worn bearings.
   e. Damaged wheel or motor.
   f. Broken or loose bolts and set screws.
   g. Bent shaft.
   h. Worn coupling.
   i. Fan wheel or drive unbalanced.
   j. 120 cycle magnetic hum due to electrical input. Check for high or unbalanced voltage.
   k. Fan delivering more than rated capacity.
   l. Loose dampers.
   m. Speed too high or fan rotating in wrong direction.
   n. Vibration transmitted to fan from some other source.

3. OVERHEATED BEARINGS
   a. Check bearing lubrication.
   b. Poor alignment.
   c. Damaged wheel or drive.
   d. Bent shaft.
   e. Abnormal end thrust.
   f. Dirt in bearings.
   g. Excessive belt tension.

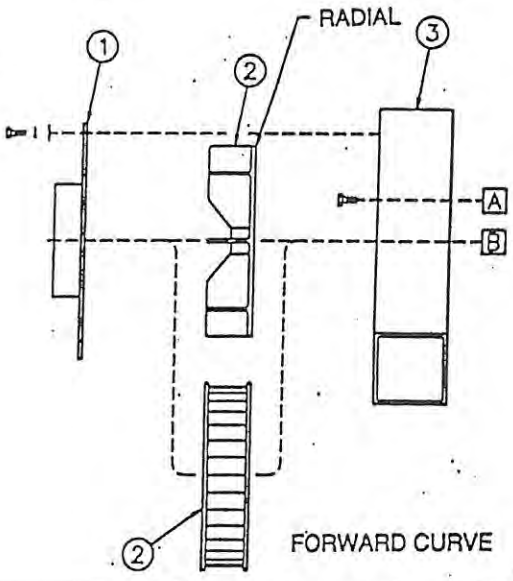
4. OVERLOAD ON MOTOR
   a. Speed too high.
   b. Fan over capacity due to existing system resistance being lower than original rating.
   c. Specific gravity or density of gas above design value.
   d. Wrong direction of wheel rotation.
   e. Shaft bent.
   f. Poor alignment.
   g. Wheel wedging or binding on fan housing.
   h. Bearings improperly lubricated.
   i. Motor improperly wired.
   j. Defective motor. Motor must be tested by motor manufacturer's authorized repair shop.



MODELS PB, SPB & LM
HOUSING/WHEEL COMPONENTS
All arrangements

*1. Inlet side plate (if required).
*2. Housing, inlet side.
*3. Wheel (Radial or Forward Curve).
4. Housing, drive side.
5. Drive side plate (if required).

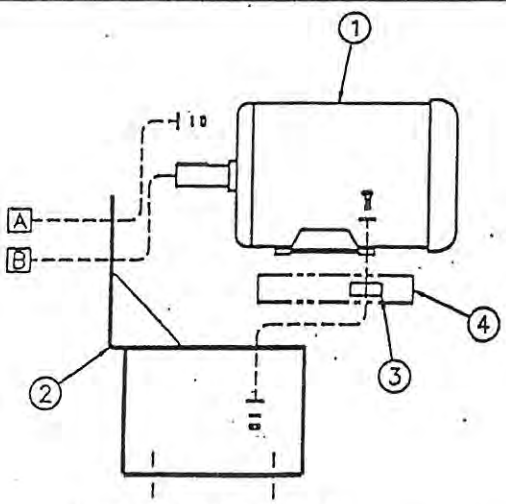
* NOTE: Rotation determined by viewing blower from drive side, **not** looking into inlet.



MODEL PBS
FABRICATED HOUSING/WHEEL COMPONENTS
All arrangements

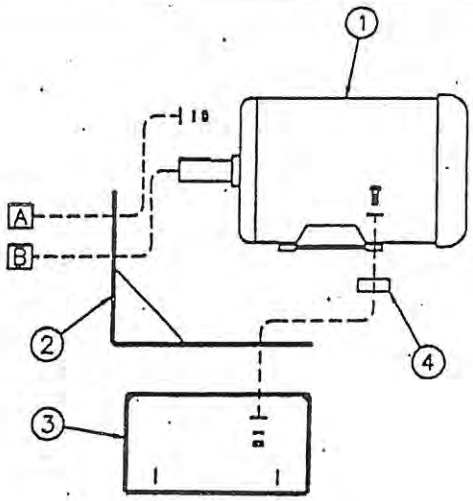
*1. Inlet side plate.
*2. Wheel (Radial or Forward Curve).
3. Housing, non-reversible (CW or CCW).

* NOTE: Rotation determined by viewing blower from drive side, **not** looking into inlet.



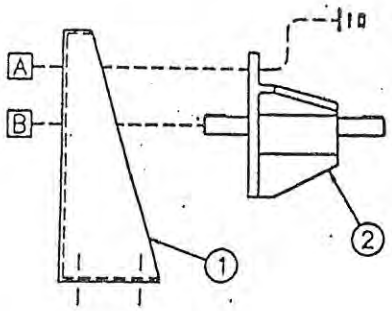
Arrangement 4 — Type 1
BASE COMPONENTS

1. Motor.
2. Combo base.
3. Riser blocks (if required).
4. Riser base, 1-3/4" (if required).



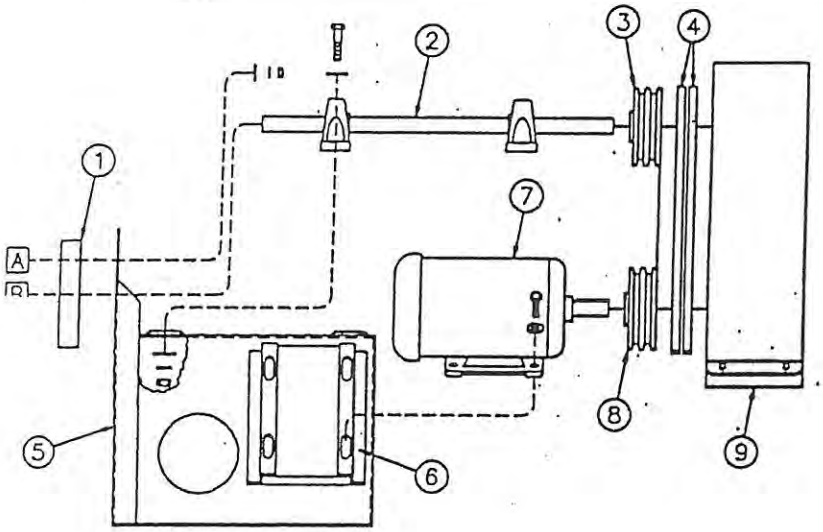
Arrangement 4 — Type 2
BASE COMPONENTS

1. Motor.
2. Angle bracket (if required).
3. Bottom base.
4. Riser blocks (if required).



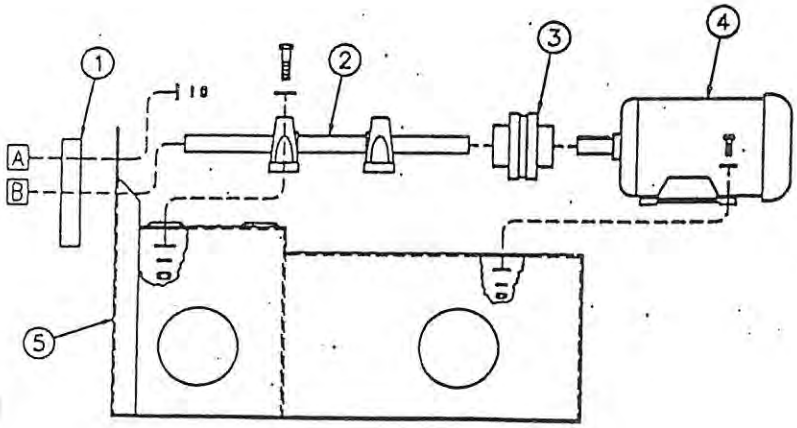
Arrangement 2
BASE COMPONENTS

1. Upright base.
2. Shaft/bearing assembly.



Arrangements 1 & 9
BASE COMPONENTS

1. Spacer ring (not required for PBS blowers).
2. Shaft/bearing assembly.
3. Fan sheave. (Arr. 9 only).
4. Belt(s). (Arr. 9 only).
5. Bearing base.
6. Motor slide base. (Arr. 9 only).
7. Motor. (Arr. 9 only).
8. Motor sheave. (Arr. 9 only).
9. Belt guard. (Arr. 9 only).



Arrangement 8
BASE COMPONENTS

1. Spacer ring (not required for PBS blowers).
2. Shaft/bearing assembly.
3. Shaft coupling.
4. Motor.
5. Base.

AIR MOVEMENT AND CONTROL
ASSOCIATION INTERNATIONAL, INC.

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RECOMMENDED SAFETY PRACTICES FOR USERS AND INSTALLERS OF INDUSTRIAL AND COMMERCIAL FANS

AIR MOVEMENT AND CONTROL
ASSOCIATION INTERNATIONAL, INC.

AMCA PUBLICATION 410-9(

FOREWORD

i. This publication has been prepared by the Air Movement Division of the Air Movement and Control Association International, Inc. (AMCA). The information contained in this publication has been derived from many sources. The suggestions made necessarily should be general in their meaning and cannot be applied literally to all specific situations or conditions.

ii. **The safe installation and operation of fans is the responsibility of the system designer, installer, maintainer, and user.** From the initial system design through the life of the equipment, safety should be a foremost consideration. Some areas which require some special attention include system design, layout and construction, fan performance specifications, foundation and installation details, storage procedures, start-up and commissioning procedures, operation, maintenance, and repair. Specific safety requirements are mandated by federal, state, and local codes. *Recommended Safety Practices for Users and Installers of Industrial and Commercial Fans* is published by AMCA for assistance. System designers, installers, maintainers, and users should consult and properly comply with all applicable codes and guidelines.

iii. The safety recommendations contained herein are intended to assist designers, installers, maintainers, or other users of air moving devices in the safe operation and use of the devices mentioned. These recommendations do not represent the only methods, procedures, or devices appropriate for the situations discussed. Caution should be used at all times when working in or around moving parts.

v. AMCA disclaims any and all warranties, expressed or implied, regarding the products sold by the manufacturer with which this booklet has been provided. Further, AMCA recommends that competent personnel be consulted in deciding what is the preferred or recommended safety procedure in a particular instance where the guidelines contained in this booklet are unclear or in any way incomplete.

AMCA has offered the information within this booklet to assist in the safe operation, maintenance, and use of the products sold by members of AMCA. In so doing, AMCA does not assume any legal duties of the designer or manufacturer to instruct or warn about their product. AMCA expressly disclaims liability for any injury or damage arising out of the operation or use of the product or the guidelines contained herein.

These recommended safety practices were adopted by the AMCA membership on April 28, 1996

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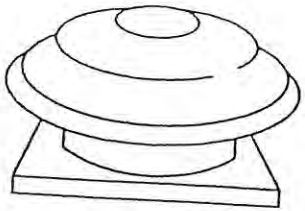
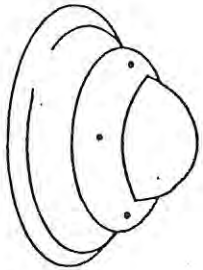
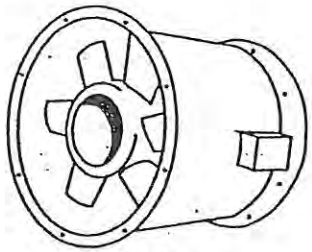


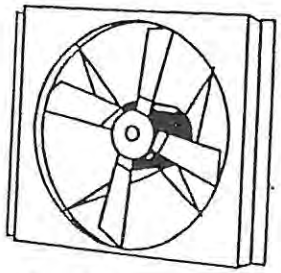
Power Roof Ventilator



Wall Exhauster

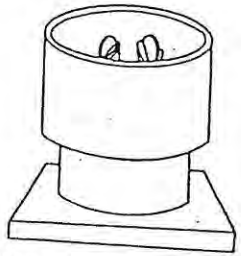


Axial Fan



Propeller Fan

1. INTRODUCTION

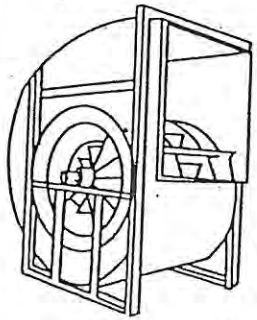


Upblast Roof Exhauster

1.1 Fans and other air moving devices are made in a wide variety of types, sizes, and arrangements. This publication addresses the proper use and installation of industrial and commercial fans. It is not intended to address residential and consumer fans.

1.2 Various "size" factors are important when assessing potential for injury; some factors are: diameter of impeller (wheel, rotor, propeller), rotational inertia, voltage, and current.

1.3 This guide is intended to assist in the safe installation of air moving equipment and to warn operating and maintenance personnel of the commonly recognized hazards associated with this equipment.



Centrifugal Fan

1.4 **Handling and installation should always be performed only by experienced and trained personnel who are aware of the hazards associated with rotating equipment. Failure to comply with these practices may result in death or serious bodily injury.** In addition to following the manufacturer's installation instructions, care should be taken to ensure compliance with specific safety requirements mandated by federal, state, and local codes. Industry safety standards and practices published by AMCA and by other recognized agencies and associations should be consulted and followed where applicable.

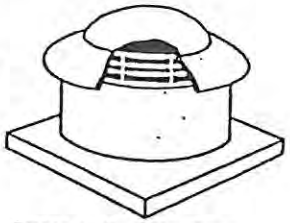
2.1 GENERAL

2.1.1 Protective devices are incorporated as standard construction on some types of fans but on many fans, these devices are offered as optional accessories. This is done because the need for the devices and the design required will frequently depend upon the type of system, fan location, and operating procedures being employed. Proper protective safety devices; company safety standards; specific safety requirements mandated by federal, state, and local codes; and industry safety standards and practices published by AMCA and by other recognized agencies and associations should be determined by the user, who should specify and obtain the appropriate devices from the fan manufacturer or others, and should not allow operation of the equipment without them. Examples of available devices include the following:

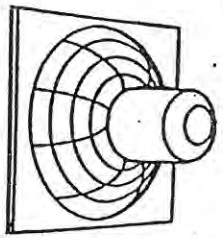
2.2 FAN GUARDS

2.2.1 All fans have moving parts which require guarding in the same way as other moving machinery. Fans located less than seven (7) feet above the floor require special consideration. Specific safety requirements should comply with mandated federal, state, and local codes; and industry safety standards and practices published by AMCA and by other recognized agencies and associations should be followed.

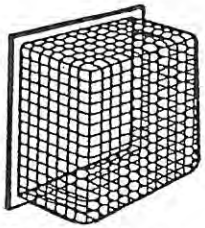
2.2.2 Roof-mounted fans and other fans which are not generally accessible may not require safety guards which might otherwise be appropriate. Where accessibility to these fans is occasional or infrequent, the expense of permanent guarding may be reduced through the use of lockout switches and suitable warnings. In such cases, maintenance personnel should engage the lockout switch before undertaking any maintenance or repairs. As is the case with other machinery involving moving parts, common sense and caution will preserve personal safety.



Screen on Roof Ventilator



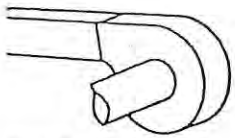
Industrial Type Guard for Propeller Fan



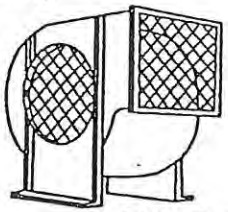
Maximum Safety Guard for Propeller Fan

2.3 INLET AND OUTLET GUARDS

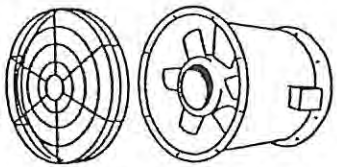
2.3.1 Axial and centrifugal fans are often connected directly to ductwork which will prevent contact with the internal moving parts; when an exposed inlet or outlet represents a hazard, a suitable guard should be installed.



Centrifugal Fan Protected by Ductwork



Inlet or Outlet Guard on Centrifugal Fan

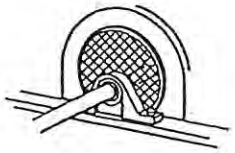


Guard for Axial Fan With Non-ducted Inlet or Outlet

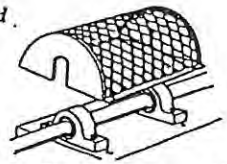
2.4 DRIVE GUARDS

2.4.1 Fans may be driven directly from the motor shaft or through a belt drive. Where the bearing assembly, rotating shaft, sheaves, or belts are exposed, a suitable guard may need to be provided. Some example guards are shown below.

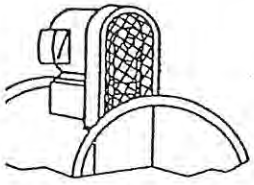
Drive Coupling Guard



Heat Slinger Guard (Shaft and bearing guard omitted for clarity)

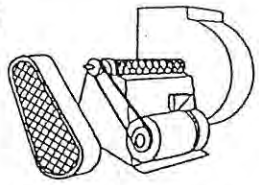


Shaft and Bearing Guard



rive Guard–Axial Fan

2.4.2 Drive guards may be required for tubular centrifugal or axial fans to cover the exposed drive sheave and belts outside the fan housing.

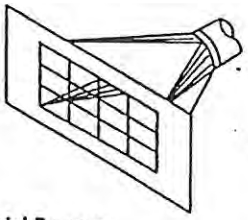


Drive Guard–Centrifugal Fan

2.4.3 A typical centrifugal fan drive guard may vary with the arrangement. Safety guards should be used when drive systems are accessible to personnel. In restricted areas, omission of the back cover may be acceptable.

2.4.4 Dampers and their linkage may operate suddenly without warning at high speeds. Dampers and their linkage contain pinch points which should be identified and guarded.

3. HIDDEN DANGERS



Special Purpose Intake Screen

3.1 GENERAL

3.1.1 In addition to the obvious hazards associated with the moving parts of rotating machinery, fans present additional potential hazards that are not so obvious and should be considered by the system designer and user for safe operation.

3.2 SUCTION AND AIR PRESSURE

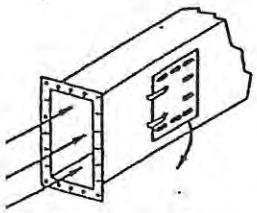
3.2.1 Fans operate by creating suction and air pressure which can be hazardous. Solid objects can be drawn into a fan's inlet and then become dangerous projectiles when they are exhausted through the fan's outlet. **Solid objects can also cause fan failure or impeller failure due to imbalance or damage to the impeller blades.** Personnel in close proximity to a fan inlet can be overcome by the suction, and drawn into the fan.

3.2.2 Whenever there is a possibility that solid objects can be drawn into a remote intake, the

intake should be guarded at all times. Before a guard is removed, the fan should be disconnected and the power supply locked out.

3.2.3 Where fans are installed over an occupied area, safety guards should be provided to prevent dropped objects from entering this area during installation and maintenance.

3.2.4 Access doors to a fan or duct system should never be opened while the fan is operating or coasting to a stop. On the downstream (or pressure) side of the system, releasing the door with the system in operation may result in an explosive opening. On the upstream (or suction) side, the inflow may be sufficient to draw in tools, clothing, and other materials. The power supply should always be locked out prior to accessing a fan or ductwork.



Bolted Access Door in Duct

3.2.5 Fan design sometimes requires access doors to be supplied with internal components such as a plug to fill a hole in the fan casing. These doors can often be heavy and difficult to handle. Care should be exercised when opening, removing, and installing these components.

3.3 WINDMILLING

3.3.1 Even when the power supply is locked out, fans may cause injury or damage if the impeller is subject to "windmilling" which is the turning of the impeller and drive components due to a draft in the system. To guard against this hazard, the impeller should be secured to physically restrict rotational movement.

Hearing Protection

3.4 TEMPERATURE

3.4.1 Many fans, fan motors, and fan components run at temperatures that could burn someone who comes in contact with the hot areas, including discharged or leaking gases. If this potential hazard is present, steps should be taken so that personnel working near the fan are aware of the danger and can exercise caution.

3.5 FAN NOISE AND ENVIRONMENT

3.5.1 Some fans can generate sound that could be hazardous to exposed personnel. Sound pressure can be measured in the field, but obtaining accurate data is difficult. The environment in which the fan operates can impact the ability to obtain accurate fan sound readings. Consult the manufacturer for fan sound data. It is the responsibility of the system designer, installer, user, and maintainer to comply with specific safety requirements mandated by federal, state, and local codes; and to follow industry safety standards and practices published by AMCA and by other recognized agencies and associations, regarding personnel safety from exposure to fan noise associated with use and exposure to the equipment.

3.6 STROBOSCOPIC EFFECT

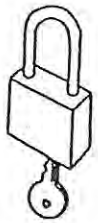
3.6.1 The stroboscopic effect of certain lights in combination with certain fan speeds may cause a rotating assembly to appear stopped. In these cases, irregular markings can be placed on the moving parts to prevent this type of effect. Personnel should be warned that the fan may be in motion even if it appears not to be.

3.7 SPECIAL PURPOSE FANS AND SYSTEMS

3.7.1 The hidden dangers associated with Special Purpose Fans used in special systems are covered in Section 6.

4. POWER ISOLATION

4.1 Every fan should be installed with a suitable device allowing it to be completely disconnected or isolated from the power supply.

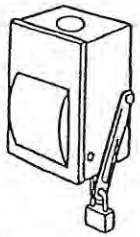


Lock Carried by Maintenance Personnel

4.2 Many fans are started by remote switches or push-buttons, by interlocks with other equipment, or by automatic controls. Before performing any maintenance, inspection, or other activity which will require removal of guards, ductwork, access doors, etc., or exposure of moving parts, the fan power supply should be locked out and the fan tagged out of service.

Remote Switch

4.3 In some installations other equipment, such as gas burners, may be interlocked with the fan so that disconnecting the fan will automatically shut off the burner or other device. Maintenance on systems of this type should be performed only under the supervision of competent engineering personnel and in accordance with applicable codes and standards.



Disconnect Switch

4.4 In cases where the fan is power driven by a source other than an electric motor, appropriate provisions should be made for the isolation or disengagement of the power supply.

5. START-UP CHECK LIST

5.1 GENERAL

5.1.1 Before putting any fan into initial operation, the manufacturer's instructions should be followed. Transportation, handling, and installation can cause fasteners to loosen, and cause misalignment of fan components. Carefully follow this check list when commissioning equipment.

5.1.2 Lock out the primary and all secondary power sources.

5.1.3 A complete inspection should be made of all of the ductwork and the interior of the fan. Make certain there is no foreign material which can be drawn into or blown through the fan or ductwork. Appropriate protective measures and safety practices should be observed when entering or working within these areas. These measures might include the use of goggles, respirators, or other personal protective devices.

5.1.4 Make sure the foundation or mounting arrangement and the duct connections are adequately designed and installed per drawings and in accordance with recognized acceptable engineering practices and with the fan manufacturer's recommendations.

5.1.5 Check and tighten all bolts, fasteners, and set screws as necessary.

5.1.6 Check the fan assembly and bearings for proper grounding to prevent static electricity discharge.

5.1.7 Ensure power and drive components such as motor starter, variable frequency drive, or hydraulic power unit are properly sized, matched, and connected to the fan.

5.1.8 Check bearings for recommended lubricant and lubrication amount.

5.1.9 Spin the rotating assembly to determine whether it rotates freely, without hitting anything, and is not grossly out of balance.

5.1.10 Inspect impeller for proper rotation for the fan design.

5.1.11 Check alignment of drives and all other components.

5.1.12 Check the belt drive for proper sheave selection and installation and make sure the sheaves are not reversed (excessive speeds could develop).

5.1.13 Check for recommended belt tension.

5.1.14 Properly secure all safety guards.

5.1.15 Assure that all appropriate warnings have been put in place.

5.1.16 Secure all access doors to the fan and ductwork.

5.1.17 Momentarily energize the fan to check the direction of rotation. Listen as the fan coasts to a stop for any unusual noise, identify the source, and take corrective action as necessary.

5.1.18 Switch on the electrical supply and allow the fan to reach full speed. Check carefully for:

(1) Excessive vibration
(2) Unusual noise
(3) Proper belt alignment
(4) Proper lubrication
(5) Proper amperage, voltage, or power values.
(6) If any problem is indicated, SWITCH OFF IMMEDIATELY.
(7) Lock out the power supply. Secure the fan impeller if there is a potential for windmilling. Check carefully for the cause of the trouble, correct as necessary, and repeat check list procedure.

5.2 Even if the fan appears to be operating satisfactorily, shut down after a brief period, lock out the power supply, and recheck items 5.1.5 through 5.1.17 as the initial start-up may have loosened the bolts, fasteners, and set screws.

5.3 The fan may now be put into operation, but during the first eight hours of running, it should be closely observed and checked for excessive vibration and noise. At this time checks should also be made of motor input current and motor and bearing temperatures to ensure that they do not exceed manufacturer's recommendations.

5.4 After eight hours of operation, the fan should be shut down and the power locked out. Check list items 5.1.5 through 5.1.17 should be inspected and adjusted, if necessary.

5.5 After twenty-four (24) hours of satisfac-

tory operation, the fan should be shut down (locked out) and the drive belt tension should be readjusted to recommended tension.

5.6 After commissioning and start-up, the fan should be operated and maintained in accordance with the manufacturer's and component manufacturer's recommendations. Some basic guidelines for WARNING SIGNS and ROUTINE MAINTENANCE are included in Sections 7 and 8 of this publication. These sections are meant as a supplement to other publications and are not intended to replace the manufacturer's instructions.

6. SPECIAL PURPOSE FANS

6.1 Most fans are designed to handle clean air at standard temperatures between 32°F and 120°F. These fans should not be placed in systems or used for other than their design intended use. **Special Purpose Fans** are designed for use in systems that may include extreme temperatures, explosive, toxic, or special gases, material handling, corrosive environments, or other special hazards which should be carefully considered. Specific safety requirements should comply with mandated federal, state, and local codes; and industry safety standards and practices published by AMCA and by other recognized agencies and associations should be followed.

6.2 Where the system will handle explosive or flammable materials (i.e., dust, fumes, vapors or gases), fans of spark-resistant construction should be used.

6.3 Fans connected by ductwork or other piping may contain gases other than air which are hazardous. In these cases, procedures should be established to prevent exposure of personnel working on or near the fan, and by maintenance personnel who may need to enter the fan. Appropriate personal protective equipment as determined by the material safety data sheet, and system operators should be utilized. Appropriate environmental protective measures should also be taken.

6.4 Fan inlet boxes, housings, ductwork, and other system components which are large enough to permit entry should be considered confined spaces. System areas may also serve as low points where heavy gases, liquids, or other substances may accumulate and present explosive, fire, health, or suffocation hazards. Appropriate protective measures and safety practices should be observed when entering or working within these areas.

6.5 Material-handling fans are specially designed to allow the fan to handle a specific type of material without excessive accumulation of material on the fan impeller. Fans handling corrosive gases or erosive materials should be checked periodically. If loss of material is evident, the fan should be shut down, power supply locked out, and tagged out of service. The manufacturer or other qualified personnel should be consulted to determine if the fan is within safety

limits for operation. To ensure satisfactory operation it is essential to observe the manufacturer's limitations concerning the type of material to be handled by the fan.

6.6 Fan ratings and maximum speed limits are typically based on the use of air at 70°F. At temperatures above the normal range (specified by the manufacturer), a reduction should be made in the maximum speed limit. Information on this reduction and on other precautions to be taken for high temperature applications should be obtained from the fan manufacturer. Personnel working near high temperature fans should be aware that coming in contact with the fan's housing, ductwork, or handled gases could result in serious burns. Where the danger of burns is not apparent, appropriate warnings should be posted. Appropriate protective apparel should be worn whenever working in close contact with heated housings or ductwork.

6.7 Corrosive contaminants can be formed when moisture combines with an active airborne chemical. Fans subjected to corrosive contaminants will corrode; however, suitable protective coatings or material, if used in the fan construction, can delay corrosion. Protected fans should be regularly inspected to ensure that the protection remains effective. Personnel working in environments with airborne chemicals may require personal protective apparel equipment.

6.8 Where liquid can accumulate within the fan, provide for the installation of adequately sized drains.

6.9 In those applications where there is a potential for chemical build-up (such as grease, creosote, etc.), periodic cleaning and proper drainage are necessary to avoid a fire hazard.

7. WARNING SIGNS

7.1 GENERAL

7.1.1 A change in the operating characteristics of a fan may indicate the need for maintenance. Sudden changes may indicate severe problems or dangerous conditions developing. Investigate any changes in the operational characteristics or unusual symptoms of the fan. Refer to AMCA Publication 202, *Troubleshooting*, for a more detailed explanation of investigating procedures. Consult your manufacturer or other qualified consultant with questions concerning changes observed.

7.2 EXCESSIVE VIBRATION

7.2.1 Operational vibration levels are one of the best indicators of the condition of the blower. Careful observation and monitoring of vibration levels can detect a minor problem in the early stages of development when correction is less costly and easier. Recommended maximum vibration levels should be obtained from the equipment manufacturer.

7.2.2 If excessive vibration is observed, stop the fan and lock it out until the cause is corrected. Check for material build-up on the impeller. Generally this will show up as material flaking off the fan impeller and causing an

8.4 When performing maintenance functions which include disassembly of the fan, careful consideration should be given to the size, weight, center of gravity, and lifting means of the fan components. It should also be noted that the outboard bearing on some fans such as arrangements 1, 8, 9, and 10 is often cap-loaded. Removal of the securing means may result in a sudden change in impeller position.

8.5 Historical data is often the best indicator for determining the operational condition of the fan. Maintenance logs which include relubrication, vibration levels, temperature levels, power requirements, inspections, and other pertinent records should be maintained and consulted as necessary when assessing the condition of the fan.

8.6 Under normal circumstances, handling clean air, the system should require cleaning only once a year. However, the fan and system should be checked at regular intervals to detect any unusual accumulation.

8.7 The fan impeller should be specially checked for build-up of material or dirt which may cause an imbalance with resulting undue wear on bearings and belt drives. A regular maintenance program should be established as needed to prevent material build-up.

8.8 Periodic inspection of the rotating assembly should be made to detect any indication of weakening of the rotor because of corrosion, erosion, or metal fatigue. Where signs of deterioration are found, lock out and tag out the impeller until the unit has been inspected and approved by a qualified consultant.

imbalance which may lead to catastrophic failure of the fan or its components. Excessive vibration can also be caused by looseness in the drive train, loose fasteners, misalignment or impeller damage. Contact the fan manufacturer or other qualified consultant to determine the maximum vibration level if it is not included in maintenance instructions.

7.3 NOISE

7.3.1 Changes to the sound level may indicate maintenance is needed. Some unusual noises often heard include: bearing noise indicating the bearings need lubricant or replacement; scraping or ticking noise indicating the rotating parts are hitting the stationary parts; squealing indicating the belt drive needs tensioning; repeated changing pitch of the blower indicating operation of the blower at too low a flow. If any of these noises or any other unusual noises are detected, their cause should be determined and corrective action taken as necessary.

7.4 HIGH MOTOR TEMPERATURES

7.4.1 Check that cooling air to the motor has not been diverted or blocked by dirty guards or similar obstacles. Check the input amperage. An increase in amperage may indicate that some major change has occurred in the system.

7.5 HIGH BEARING TEMPERATURES

7.5.1 This condition is usually caused by improper lubrication; this can be either "over," "under," or "unsuitable" lubrication. In every case, if the cause of the trouble is not easily seen, experienced personnel should examine the equipment before it is put back in operation.

7.6 POOR PERFORMANCE

7.6.1 Too much flow or pressure or too little flow or pressure is often a symptom of a change in the operating system. A fan will typically operate at the same performance in a static system. Some typical causes include: operating of the fan backwards after maintenance procedures; filters dirty or not in place; change or blockage in the ductwork; change in speed of the fan (switching the sheaves); loss or failure of the impeller. All of these causes and many others will affect the flow and pressure produced by the fan.

8. ROUTINE MAINTENANCE

8.1 A preventive maintenance program is an important aspect of an effective safety program. Consult your manufacturer or other qualified consultant with questions concerning changes observed during periodic inspections and routine maintenance.

8.2 The fan manufacturer's operating and maintenance recommendations, as well as the components manufacturer's instructions (such as motor, bearing, drives, etc.) should be strictly followed.

8.3 **Maintenance should always be performed by experienced and trained personnel who are aware of the hazards associated with rotating equipment.** Do not attempt any maintenance on a fan unless the fan power supply has been locked out and tagged out and the impeller has been secured.

INDEX

ITEM 143020 HYDRAULIC DRUM JACK OPERATION INSTRUCTIONS

For technical questions, warranty, and replacement parts, please call 1-800-556-7885.

For future reference, please complete the owner's record below.

MODEL _____ PURCHASE DATE_____

It is important you that you read the entire instruction sheet to become familiar with this product before you begin using it.

The Hydraulic Drum Jack will handle drums 22 ½-inch diameter, and up to 660-pounds.

Technical Specification

Capacity	660-pounds
Maximum Lift Height	14 ¾-inches
Minimum Height	10 ½-inches
Overall Length	42 ½-inches
Overall Width	28 ¾-inches
Net Weight	143-pounds

Assembly and Operation Instructions

1. Subassembly
   a. Handle
   b. Hydraulic Pump
   c. Truck Body
   d. Wheels
   e. Saddle

2. Assembly
   a. Put Handle onto the handle bracket of Hydraulic Pump and press the piston down and adjust to align the holes so that the axle may be inserted through the Handle and the Handle Bracket. Note one end of the Axle has a relief. This relief should be inserted on the side drilled for a spring pin. Once the axle is inserted insert the spring pin to retain the axle.
   b. Place the Soscet Pin on the end of the chain into the Discharge Rod so that the nut rides on the bottom of the discharge rod.
   c. Remove the Oil Plug Screw on the top of hydraulic pump and replace with the vented screw from the parts package.
3. Inspection
   a. Check Wheels for free rotation
   b. Transit the handle up and down to activate the grappler and lifting cylinder.
   c. Pull the finger lever to release the lifting cylinder and grappler. Be sure the lift cylinder lowers before the grappler.

4. Operation
    a. Roll the drum jack to encompass the drum with the steel saddle.
    b. Transit the handle up and down to grasp the drum with the grappler.
    c. Continue to transit the handle until the drum rises off the floor.
    d. Transport the drum to desired location.
    e. To unload, slowly grasp the finger lever, holding until drum is lowered to the floor. Continue to hold the finger lever until grappler has released.
    f. With draw drum jack from the barrel.

Maintenance

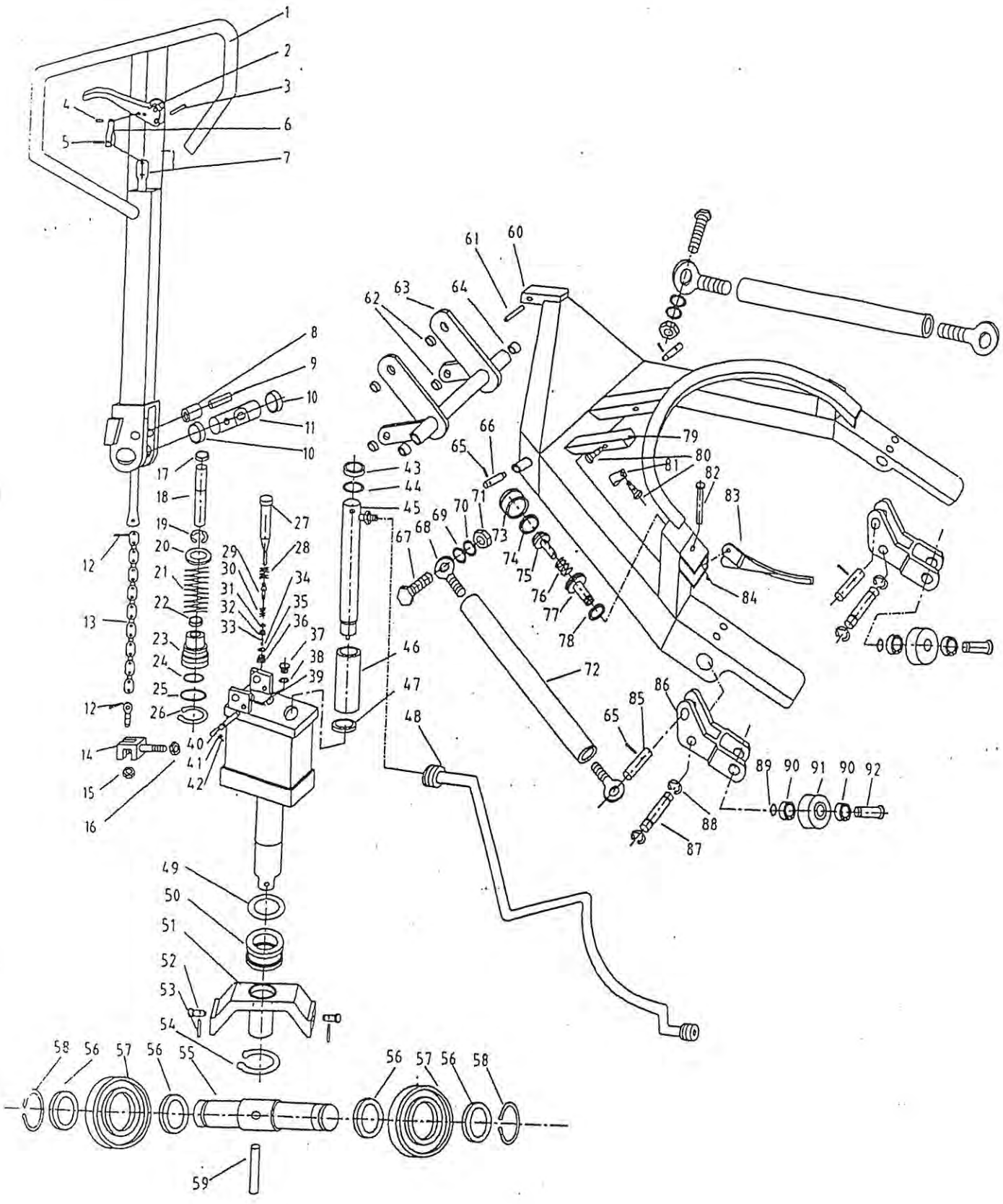
1. Hydraulic Oil and Lubricating
    a. The Hydraulic System uses an anti-wear hydraulic oil, 150-viscosity grade 32. This oil should be changed with in the first 3 months, and every 6 months there after.
    b. Lubricate the various friction points.

2. WARNING
    a. Do not over load. The load should not exceed 660 pounds
    b. Do not use the Jack on a slope
    c. Do not use the Jack over rough surfaces
    d. Never extend your foot under the Jack

3. General trouble shooting

Trouble	Reason
Drum Jack cannot be lifted	Low oil in hydraulic cylinder Unloading plate or valve spindle are out of adjustment.
Leaking Hydraulic Fluid	Worn or damage seal Oil pipefittings loose

Hydraulic Drum Jack Diagram



Hydraulic Drum Jack Parts List

No.	Description	Q'ty
1	Handle	1
2	Brake Handle	1
3	Spring Column Pin	1
4	Spring Column Pin	1
5	Spring Column Pin	1
6	Joint Slice	1
7	Brake Rod	1
8	Press Gide	1
9	Shaft	1
10	Bushing	1
11	Shaft	1
12	Soscet Pin	1
13	Chain	1
14	Discharge Rod	2
15	Nut M5	1
16	Nut M6	1
17	DH Oil Seal 20	1
18	Lift Piston	1
19	C-ring	1
20	Flat Washer	1
21	Spring	1
22	UHS20 Dust Cover	1
23	Pump Cylinder	1
24	O-ring ¢42×3.5	1
25	O-ring ¢45×3.5	1
26	C-ring	1
27	Valve Core	1
28	Spring	1
29	Valve Core	1
30	Spring	1
31	O-ring ¢36×3.5	1
32	Valve Cover	1
33	Steel Ball ¢5	1
34	Spring	1
35	O-ring ¢20×3.1	1
36	Single Spring Seat	1
37	Hex Cap Plug M10×1	1
38	Oil Seal	1
39	Spring Column Pin	1
40	Shaft	1
41	Flat Washer	1
42	Flat Screw M5	1
43	Oil Seal 30×42×7	1
44	C-ring	1
45	Lift Piston	

No.	Description	Q'ty
47	UHS30 Dust Cover	1
48	Oil Pipe	1
49	Flat Washer	1
50	Bearing	1
51	Wheel Holder	1
52	Shaft	1
53	Spring Column Pin	1
54	C-ring ¢50	1
55	C-ring ¢20	1
56	Bearing	4
57	Wheel Holder	2
58	Wheel Shaft	1
59	Spring Column Pin	1
60	Cart Holder	1
61	Spring Column Pin	1
62	Bushing	4
63	Beam Assmbly	1
64	Bushing	2
65	Spring Column Pin	4
66	Shaft	2
67	Hex Cap Bolt M12	2
68	Release ROD	4
69	Flat Washer	2
70	Spring Washer	2
71	Hex Cap Nut M12	2
72	Release Rod	2
73	Lift Piston Cylinder	1
74	DH50 Oil Seal	1
75	Piston Cover	1
76	Spring	1
77	Piston	1
78	Cir-nut M32	1
79	Support Board	1
80	Cir-screw M4	2
81	Sheet Iron	1
82	Shaft	1
83	Arc Clamp	1
84	Spring	1
85	Shaft	2
86	Wheel Holder	2
87	Shaft	2
88	C-ring	4
89	C-ring	2
90	Bearing	4

TEEMark CORPORATION

www.teemarkcorp.com

CRUSHER DIVISION

1132 Air Park Dr. Aitkin, MN 56431
218-927-2200 800-428-9900
FAX 218-927-2333
Email: teemark@aitkin.com

AEROSOL CAN CRUSHER
CARBON FILTRATION SYSTEM

The TeeMark Carbon Filtration System provides an economical method of collecting the VOCs and Propellants from the Aerosol Cans. This optional system attaches to the existing air filter cabinet, and does not require any additional floor space. Each Carbon Filtration System is equipped with two carbon filters. The first filter removes the VOC's and Propellants; the second filter will capture any vagrant gases that may escape the first filter.

A Breakthrough Detector is provided to determine when the charcoal filter has reached its saturation point. The detector is located between the two filters, and changes to a rusty brown color when the first filter has reached its saturation level. At this point, the top filter is removed; the bottom filter is placed in the top position, and a new filter is placed in the bottom location. Each time the filters are changed the Breakthrough Detector is discarded and a new detector is installed.

These filters are refillable. The side cover of the filter frame can be removed, the saturated carbon can be poured out and fresh carbon put in. Each of the filter frames require 45 pounds of carbon to refill. This carbon is available in bulk from 50-pound bags to 200-pound drums.

The saturated carbon is handled as a hazardous waste. Your local waste contractor should be able to dispose of it for you. As an alternative, the company that provided the carbon filter may accept either the saturated carbon or the complete filter for disposal or renewal. They typically prefer to have the customer collect a substantial quantity of carbon or a number of filters before shipping them back to the distributor of the filters.

For additional information and prices on the Carbon Filtration System and its components, please give us a call on our toll free number.

CARBON FILTERS

The optional Carbon Filtration System offers an economical means to capture the Hazardous Air Pollutants emitted during the processing of Aerosol Cans.

This Carbon Filtration System is equipped with two Carbon Filters that measure 8-inches thick by 24-inches square. With in the cabinet, these filters are stack one above the other. The first filter collects the VOCs and Propellants while the second filter will capture any vagrant gases.

This system is equipped with a Breakthrough Indicator located between the two filters to monitor contaminant breakthrough. If the Breakthrough Indicator becomes a rusty brown color, the first filter has reached its saturation point.

Remove the side panel and replace the top filter with the bottom filter, and replace the Breakthrough Indicator.

Place the saturated filter on the floor, locate the end attached by screws. Remove the screws and dump the saturated carbon into an appropriate container for disposal. You will need to refill the canister with natural grain coconut shell activated carbon. This carbon may be purchased locally, or contact TeeMark Corp for replacement carbon.

After replacing the carbon and securing the end cap on the canister, place this filter in the bottom position, and replace the side panel.

Located on the front of the machine is a cycle counter to help track the number of cans you can process before your filter becomes saturated, be sure to log this number, and reset the counter.

The following pages have additional information on the Filter and Breakthrough Indicator.

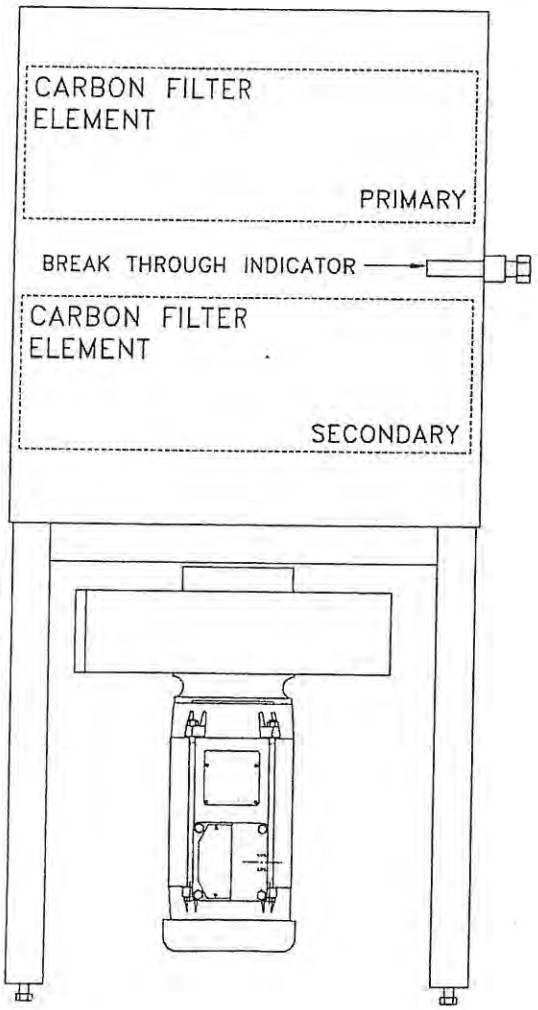
OPERATION AND MAINTAINENCE OF THE CARBON FILTRATION SYSTEM

CAUTION!

THE PRESENCE OF CERTAIN VOC'S WILL CAUSE A HEAT BUILDUP WITHIN THE FILTER ELEMENTS. UNDER THESE CONDITIONS THE BLOWER MUST BE RUN FOR A MINIMUM OF ONE HALF HOUR AFTER PROCESSING.

The Carbon Filtration System consists of two Carbon Filter elements and a Breakthrough Indicator housed within the auxiliary cabinet located directly under the main bag filter cabinet. A Cycle Counter is also provided to track the number of cans processed. A single carbon element will adsorb the vapors from approximately 20,000 full std 12 oz. aerosol cans. As throughput approaches 15,000 cans the Breakthrough Indicator should be inspected at the end of each shift to monitor filter saturation.

Once the primary filter element has become saturated and will no longer adsorb processing vapors, the breakthrough indicator media will change from its original **purple** color to a **brown** color. At this point the primary filter element should be removed, the secondary filter element moved into the primary position, and a new element installed in the secondary position.



A new breakthrough indicator should be installed and the cycle counter reset to zero.

The filter element frames may be reused by replacing the saturated carbon with fresh carbon. The carbon is replaced by removing the side panel on the filter frame, dumping out the saturated carbon and pouring in the new carbon.

Each filter frame holds 45 lbs of carbon. New carbon is available in either 50 pound bags or 200 pound drums.
Contact the TeeMark corporation to obtain replacement carbon.

From this point the saturated carbon is handled as a hazardous waste and should be disposed of in accordance with local and federal regulations. Contact your local waste contractor for disposal.

Activated Carbon

Activated carbon's capacity to absorb odors varies with the concentration in the air, with humidity and temperature, and with the actual velocity used through the filter. Some of the contaminates listed in the table are specific chemical compounds, some represent classes of compounds, and others are mixtures of variable composition. The numbers given represent typical or average conditions and might vary in specific instances. The values in the table have been assembled from sources, including laboratory tests and field experience. In cases where numerical values were not available, the probable capacity was based on general experience. The table should be used as a general rule only. The capacity index has the following meaning:

4 **HIGH** capacity for all materials in this category. One pound takes up about 20% to 50% of its own weight, average about 1/3 (33 1/3%). This category includes most odor-causing substances.

3 **SATISFACTORY** capacity for all items in this category. These constitute good applications, but the capacity is not as high as for category 4. Absorbs about 10 to 25% of its weight, average 1/6 (16.7%).

2 **SUFFICIENT** capacity. Includes substances which are not highly absorbed, but which might be taken up sufficiently to give good service under the particular conditions of operation.

1 **LOW** capacity. Activated carbon cannot be satisfactorily used to remove these under ordinary circumstances.

* Straight activated carbon does not have much capacity for some reactive gases, such as ammonia, formaldehyde, etc. In some cases, where the gas is chemically reactive, appropriate impregnated activated carbon can be recommended.

Acetaldehyde	2
Acetic acid	4
Acetic anhydrite	4
Acetone	3
Acetylene *	1
Acrolein *	3
Acrylic acid	4
Aerylonitrile	4
Adhesives	4
Air-Wick	4
Alcoholic Beverages	4
Amines	2
Ammonia	2
Amyl acetate	4
Amyl Alcohol	4
Amyl ether	4
Animal Odors	3
Anestgetucs	3
Aniline	4
Antiseptics	4
Asphalt fumes	4
Auto exhaust	3
Bathroom smells	4
Benzene	4
Bleaching solutions	3
Body ordors	4
Bromine	4
Burned Flesh	4
Burned food	4
Burning fat	4
Butadiene	3
Butane	2
Butanone	4
Butyl acetate	4
Butyl alcohol	4
Butyl cellosolve	4
Butyl chloride	4
Butyl ether	4
Butylene	2
Butyne	2
Butyraldehyde	3
Butyric acid	4
Camphor	4
Cancer odor	4
Caprylic acid	4
Carbolic acid	4
Carbon disulfide	4
Carbon dioxide	1
Carbon monoxide	1
Carbon tetrachloride	4
Cellosolve	4
Cellosolve acetate	4
Charred materials	4
Cheese	4
Chlorine	3
Chlorobenzene	4
Chlorobutadiene	4
Chloroform	4
Chloronitropropane	4
Chloropicrin	4
Cigarette smoke odor	4
Citrus & other fruit	4
Cleaning compounds	4
Coal smoke odor	3
Combustion odors	3
Cooking odors	4
Corrosive gases	3
Creosote	4
Cresol	4
Crotonaldehyde	4
Cyclohexane	4
Cyclohexanol	4
Cyclohexanone	4
Cyclohexene	4
Dead animals	4
Decane	4
Decaying substances	4
Deodorants	4
Detergents	4
Dibromoethane	4
Dichlorobenzene	4
Dichlorodifluoromethance	4
Dichloroethane	4
Dichloroethylene	4
Dichloroethyl ether	4
Dichloromonofluormethane	3
Dichloronitroethane	4
Dichloropropane	4
Dichlorotetrafluoroethane	4
Diesel fumes	4
Diethylamine	3
Diethyl ketone	4
Dimethylaniline	4
Dimethylsulfate	4
Dioxane	4
Dipropyl ketone	4
Disinfectants	4
Embalming odors	4
Ethane	1
Ether	3
Ethyl acetate	4
Ethyl acrylate	4
Ethyl alcohol	4
Ethyl amine*	3
Ethyl benzene	4
Ethyl bromide	4
Ethyl chloride	3
Ethyl ether	3
Ethyl formate	3
Ethyl mercaptan	3
Ethyl silicate	4
Ethylene*	1
Ethylene chlorohydrin	4
Ethylene dichloride	4
Ethylene oxide	3
Essential oils	4
Eucalyptole	4

BREAKTHROUGH INDICATOR

The Breakthrough Indicators are an affordable means to monitor contaminant breakthrough to determine when the saturated media needs to be replaced.

The Breakthrough Indicator is located in the Carbon Filtration Cabinet between the two Carbon Filters.

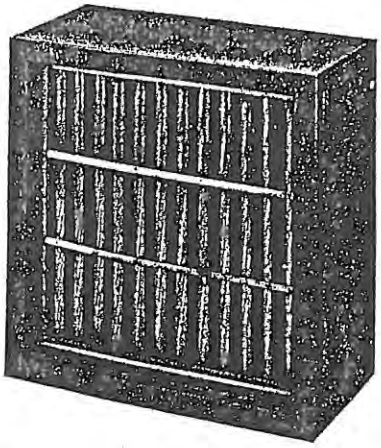
Upon installation of your Carbon Filtration System, the Breakthrough Indictor will have a purple color. When you have contaminant breakthrough, this purple color will change to a rusty brown. You will need to change the Activated Carbon in the filter and replace the Breakthrough Indicator.

Replacement Breakthrough Indicators may be purchased through TeeMark Corp.

Exhaust fumes	3
Female Odors	4
Fertilizer	4
Film Porcessing odors	3
Fish Odors	4
Floral scents	4
Fluorotrichloromethane	3
Food aromas	4
Formaldehyde*	2
Formic*	3
Fuel gases	2
Fumes	3
Gangrene	4
Gralic	4
Gasoline	4
Heptane	4
Heptylene	4
Hexane	3
Hexylene*	3
Hexyne*	3
Hospital odors	4
Household smells	4
Hydrogen	1
Hydrogen bromide*	3
Hydrogen chloride*	2
Hydrogen cyanide*	3
Hydrogen fluoride*	2
Hydrogen iodide*	3
Hydrogen selenide*	2
Hydrogen sufide*	3
Incense	4
Indole	4
Inudustrial wastes	3
Iodine	4
Iodoform	4
Irritants	4
Isophorone	4
Isoprene	3
Isopropyl acetate	4
Isopropyl alcohol	4
Isopropyl ether	4
Kerosene	4
Kitchen odors	4
Lactic acid	4
Lingering odors	4
Liquid fuels	4
Liquor odors	4
Lubricating Oils & Greases	4
Lysol	4
Masking agents	4
Medicinal odors	4
Melons	4
Menthol	4
Mercaptans	4
Mesityl oxide	4
Methane	1
Methyl acetate	3
Methyl acrylate	4
Methyl alcohol	3
Methyl bromide	3
Methyl butyl ketone	4
Methyl cellosolve	4
Methyl cellosolve acetate	4
Methyl chloride	3
Methyl chloroform	4
Methyl ether	3
Methyl ethyl ketone	4
Methyl formate	3
Methyl iodine	2
Methyl isobutyl ketone	4
Methyl mercaptan	4
Methylcyclohexane	4
Methylcyclohexanol	4
Methylcyclohexanone	4
Methylene chloride	4
Mildew	3
Mixed odors	4
Mold	3
Monochlorobenzene	4
Moth balls	4
Naphtha (coal tar)	4
Naphtha (petroleum)	4
Naphthalene	4
Nicotine	4
Nitric Acid*	3
Nitro benzenes	4
Nitroethane	4
Nitrogen dioxide*	2
Nitroglycerine	4
Nitromethane	4
Nitropropane	4
Nitrotoluene	4
Nonane	4
Noxious gases	3
Octalene	4
Octane	4
Odorants	4
Onions	4
Organic chemicals	4
Ozone	4
Packing house odors	4
Paint odors	4
Palmitic acid	4
Paper deteriorations	4
Paradichlorbenzene	4
Paste & Glue	4
Pentane	3
Pentanone	4
Pentyhlene*	3
Pentyne*	3
Perchloroethylene	4
Perfumes, cosmetics	4
Perspirations	4
Persistent odors	4
Pet odors	4
Phenol	4
Phosgene	3
Pitch	4
Plastics	4
Poison gas	3
Pollen	3
Popcorn & candy	4
Poultry odors	4
Propane	2
Propionaldehyde*	3
Propionic acid	4
Propyl acetate	4
Propyl alcohol	4
Propyl chloride	4
Propyl ether	4
Propyl mercaptan	4
Propylene*	2
Propyne*	2
Putrefying substances	3
Putrescine	4
Pyridine	4
Radiation products	2
Rancid oils	4
Resins	4
Reodorants	4
Ripening fruits	4
Rubber	4
Sauerkraut	4
Sewer odors	4
Skatole	4
Slaughtering odors	3
Smog	4
Soaps	4
Smoke	4
Solvents	3
Sour milk	4
Spilled beverages	4
Spoiled food stuffs	4
Stale odors	4
Stoddard solvent	4
Stuffiness	4
Styrene monomer	4
Sulfur dioxide*	2
Sulfur trioxide*	3
Sulfuric acid	4
Tar	4
Tarnishing gases*	3
Tetrachloroethane	4
Tetrachloroethylene	4
Theatrical makeup odors	4
Tobacco smoke odor	4
Toilet odors	4
Toluene	4
Toluidine	4
Trichlorethylene	4
Trichloroethane	4
Turpentine	4
Urea	4
Uric acid	4
Valeric acid	4
Valericaldehyde	4
Varnish fumes	4
Vinegar	4
Vinyl chloride	3
Volatile materials	3
Waste products	4
Wood alcohol	3
Xylene	4

Smokemaster® M69
CARBON MODULE

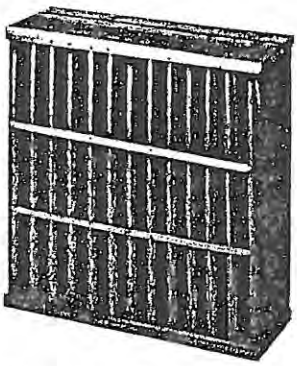
DESIGNED FOR A VARIETY OF GASEOUS/NON-PARTICULATE CONTAMINANTS/ODORS



Designed for induct placement or use with SMOKEMASTER F66/M68 air cleaners.

Specifications:

Module Dimensions:	14"L x 27⅛"H x 26¼"W
Weight:	141 lbs (carbon filter loaded)
Cabinet:	16 gauge welded steel cabinet with baked enamel textured coated finish.
Filter:	45 lbs of natural grain,coconut shell activated carbon in a galvanized refillable canister.
Filter Dimensions:	7⅞"L x 23⅝"H x 23⅝"W
Filled Filter Weight:	86 lbs (carbon loaded)
Filter Capacity:	1000 CFM
Filter Resistance:	.22" WG
Filter Adsorption Capacity:	35-45% carbon tetrachloride ASTM D-3467.



45 lbs of activated carbon provided in a refillable canister for use in the SMOKEMASTER M66 air cleaner and M69 Carbon Module.

MODULE INCLUDES:

- REFILLABLE CARBON FILTER
- HINGED MODULE ACCESS DOOR
- COMPACT DESIGN ADDING ONLY 14 INCHES TO THE LENGTH OF THE SMOKEMASTER F66 OR M68 AIR CLEANERS

Air Quality Engineering Inc. has a policy of continuing product improvement and reserves the right to make changes in design and specification without notice.

METRIC CONVERSION	FORMULA
Ins. to mm	Ins. x 25.4
Lbs. to kgs.	Lbs x .455
Ins. w.g. to kPa	Inc. w.g. x .2488
CFM to M^3/h	CFM X 1.6992
Ft^2 to m^2	Ft^2 x .0929

SMOKEMASTER®

Air Quality Engineering, Inc.
3340 Winpark Drive, Minneapolis, Minnesota 55427-2083 USA
Telephone: (612) 544-4426, FAX: (612) 544-4013
Toll Free: 1-800-328-0787

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cincinnati fan — OEM and Industrial Air Handling Specialist

FAN SELECTION And PERFORMANCE

Your Cincinnati Fan Representative:
Tom Ringgenberg
Air & Powder Products, LLC
6248 Lakeland Ave. N. Suite 208
Brooklyn Park MN 55428
763 533 5854 Phone
763 533 5291 Fax
tomringg@air-powder-prod.com

Thursday, March 14, 2002

Job Name:
Reference:

Operating Requirements

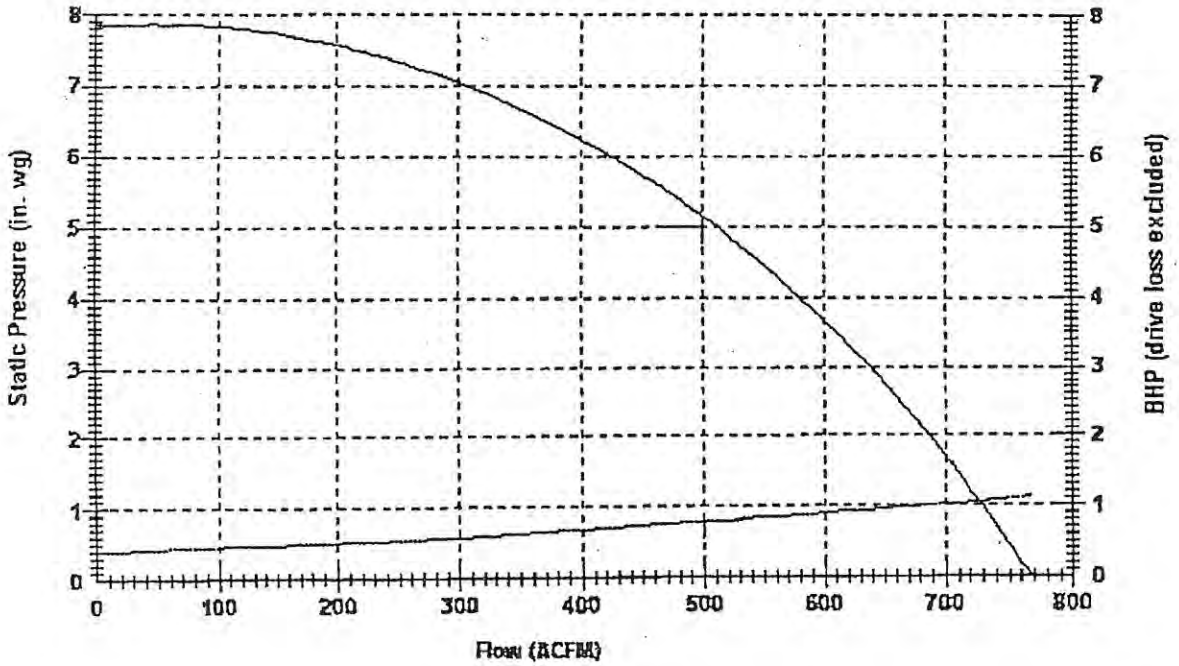
Volume, ACFM	500
Static Pressure, in. W.G	5.0
Density, lb./ft.³	0.0750
Operating Temperature, °F	70
Site Altitude, ft. ASL	0
Relative Humidity, %	0
Specific Gravity	1.000
Inlet Pressure, in. W.G.	0.0
AMCA Arrangement No.	#4 (Direct)
Motor Frequency, Hz	60
Start-Up Temperature, °F	70

Fan Selection and Specifications

Model	PB-10A
Fan RPM	3,450
Wheel Description	Cast Alum. 11 X 3 BC
Wheel Width, %	100%
Wheel Diameter, in.	11.00
Inlet Diameter, in.	6.00
Outlet Velocity, ft./min.	3,666
Fan BHP	0.80
Static Efficiency, %	49.3%
Cold Start BHP	0.80
Construction Class	N/A

Performance Graph

Cincinnati Fan PB-10A Cast Alum. 11 X 3 BC Wheel (Full Width) @ 3,450 RPM
Rating Point: 500 ACFM @ 5.0 in. WG SP, 0.0750 lb./ft.³ Density, 0.80 BHP, 6.0 in. Inlet



CFSWin Version: 3.0.21 Database Version: 3.0.17

CAMERON CARBON INC

P.O. Box 18810 Baltimore MD 21206 U.S.A.
Tel: +1(410) 931-0305 Fax: +1(410) 931-0307

ACTIVATED CARBON & RELATED TECHNOLOGY

Facsimile Transmission

Date: Friday, February 06, 2004
Time: 2:40 PM
To: TeeMark Corporation
Attn: Gerry Delaney
Phone: 800-428-9900
Fax: 218-927-2333

Pages (incl cover): 1
From: David A. Ainsworth

Subject: Carbon Filter efficiency

Good afternoon Gerry:

Further to our recent phone conversations .....

The efficiency of a carbon filter is essentially a function of EBCT (Empty Bed Contact Time). Whereas, saturation capacity is fixed and dictated by quantitative chemistry, specific to each individual contaminant component. Thus, a carbon filter has a finite saturation capacity for specific compounds ..... how quickly that capacity is realized is a function of efficiency. A poorly designed filter will have low efficiency (short EBCT) and thus will not reach saturation capacity as quickly as would a filter operating with a longer EBCT. Essentially, contaminants must have time to allow the kinetics of adsorption to take place.

Most HVAC-style carbon filters, such as the type your company employs in your systems typically show a minimum of 80% efficiency ..... quite often mid-90's % efficiency on a single-pass basis. Whereas, so-called "deep bed" carbon filters typically operate at 99% efficiency or better. Deep-bed filters have significantly more mass of carbon per unit air flow than HVAC-style filters (i.e. deep-beds provide significantly higher EBCT). The overall efficiency of HVAC-style filters can be increased by operating with multiple passes of the air or using two or more filters in series.

I trust that the above is of assistance, please give me a call if I can be of further assistance.

Best regards,

David

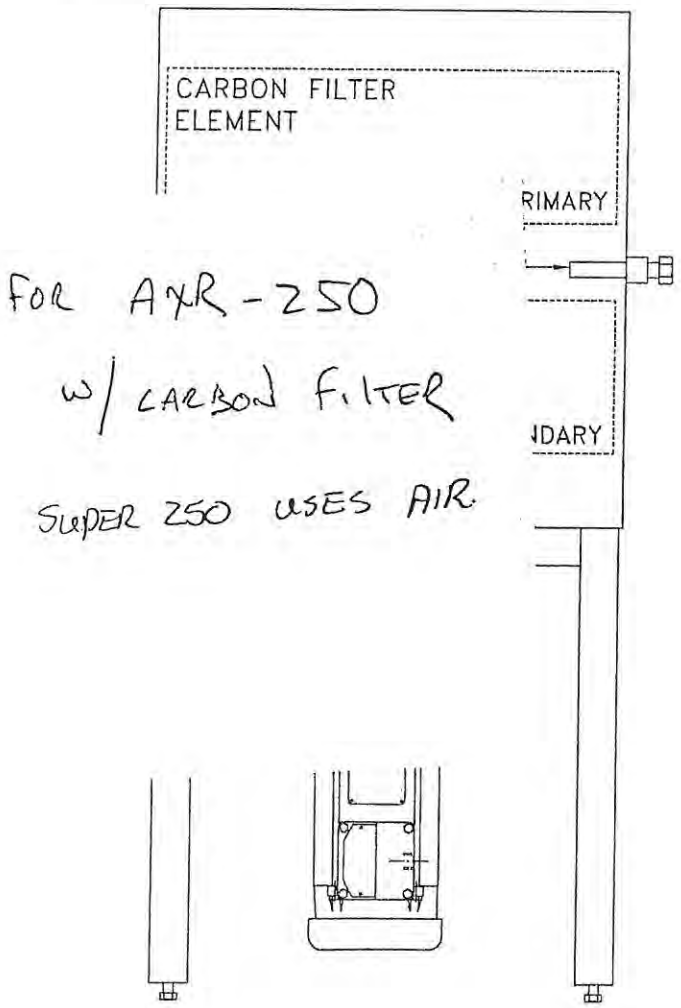
OPERATION AND MAINTAINENCE OF THE CARBON FILTRATION SYSTEM

CAUTION!

THE PRESENCE OF CERTAIN VOC'S WILL CAUSE A HEAT BUILDUP WITHIN THE FILTER ELEMENTS. UNDER THESE CONDITIONS THE BLOWER MUST BE RUN FOR A MINIMUM OF ONE HALF HOUR AFTER PROCESSING.

The Carbon Filtration System consists of two Carbon Filter elements and a Breakthrough Indicator housed within the auxiliary cabinet located directly under the main bag filter cabinet. A single carbon element will adsorb the vapors from approximately 20,000 full standard 12 oz. aerosol cans. As throughput approaches 15,000 cans the Breakthrough Indicator should be inspected at the end of each shift to monitor filter saturation.

Once the primary filter element has become saturated and will no longer adsorb processing vapors, the breakthrough indicator media will change from its original **purple** color to a **brown** color. At this point the primary filter element should be removed, the secondary filter element moved into the primary position, and a new element installed in the secondary position. A new breakthrough indicator should also be installed.



The filter element frames may be reused by replacing the saturated carbon with fresh carbon. The carbon is replaced by removing the side panel on the filter frame, dumping out the saturated carbon and pouring in the new carbon.

Each filter frame holds 45 lbs of carbon. New carbon is available in either 50 pound bags or 200 pound drums.
Contact the TeeMark corporation to obtain replacement carbon.

From this point the saturated carbon is handled as a hazardous waste and should be disposed of in accordance with local and federal regulations. Contact your local waste contractor for disposal.

CRUSHING/RECYCLING EQUIPMENT

TEEMARK CORPORATION manufactures explosion proof paint can, pail and drum crushers with up to 150,000 pounds of crushing force. Our can, pail and aerosol crushers open and empty full containers and capture the contents for recycling or disposal. Self contained and portable packages are available. For more information about any of our crushers, please use the above **toll free telephone** number or visit our **web site** which is also listed above.

Explosion Proof Paint Can Processors with 30,000 pounds of crushing force

The **Super 6PJ-VC** is the flagship of our Can Crusher Line. This model offers versatility, productivity, and safety. The Super 6PJ-VC opens, empties, crushes, and ejects containers from ½-pint to 6-gallon and aerosol cans. VOCs and propellants are collected and delivered to a five inch duct for handling in accordance with local codes.

The **Super 6PJ** offers the same features as the Super 6PJ-VC, but is not equipped with a Vapor Control Package so it does not process Aerosol Cans.

Our **Super 6P** opens, empties, and crushes ½-pint to 6-gallon containers.

The **Super 6** crushes open ½-pint to 6-gallon containers.

The **PCC1** opens, empties and crushes one-gallon paint cans for recycling or disposal.

The **PCC1J** is like a PCC1 that ***automatically ejects*** the crushed can into a collection container.

Explosion Proof Super Aerosol Can Crushers

Our **250**, **450**, and **800** Super Aerosol Can Crushers open, empty, and crush aerosol cans while collecting can content to keep VOC's, propellants, and vapors out of the work area and the environment. Their names reflect their hourly throughput.

TeeMark Drum Crushers and Packer/Crushers

The **DC55** uses 37,000 lbs. of force to flatten standard 55-gallon drums down to 5".
The **DPC60**, crushes drums and packs waste into drums with 60,000 pounds of force.
Our **DPC85** crushes drums and compacts waste into drums with 85,000 pounds of force.
The **DPC150** has 150,000 pounds of force for those really tough crushing jobs.

12/19/03

TEEMark CORPORATION

TEEMARK CORPORATION

Model PCC1J-X

EXPLOSION PROOF ELECTRIC PRODUCTION CAN CRUSHER

With Can Ejector Option

CARE & USE INSTRUCTIONS

SERIAL NO. 10283

DATE MFG. 7/99

HC7 Box 14-T • Aitkin, MN 56431
218-927-2200 • 800-428-9900 • FAX 218-927-2333

TEEMark PCC1J PAINT CAN CRUSHER WITH CAN EJECTOR

Pierces, drains, crushes and ejects one-gallon cans!

Typically empty by EPA definition.

No need to remove lids from one-gallon cans.

HYDRAULICS
d hydraulic pump
ovides 30,000 pounds of
ushing force.

RECYCLE CHECK
OW AVAILABLE!
is option sorts out crushed
ns that retain too much
int for recycling.

PCC1J *AUTOMATICALLY EJECTS* CRUSHED CANS & PAILS
One-gallon cans are crushed and ejected by the PCC1J. Ejection system *proven on millions of cans.*

SAFE, EXPLOSION PROOF
Units will not operate with door open. These crushers are completely explosion proof and are suitable for use with solvent based paints and other flammable liquids.

RESULTS!
With no need to remove lids, PCC1J crushers can process 300 cans per hour. Leaving the lids on also reduces labor costs and the risk of personal injury.

TeeMark PCC1J SPECIFICATIONS

RUSHING FORCE: 30,000 pounds
RUSHING CHAMBER: one gallon
YCLE TIME: 10 seconds or less
OWER SYSTEM ALTERNATIVES:
- 1-1/2 hp* 115/230V 1 Ph 20/10A w/starter, 10 sec cycle
- 3 hp* 208-230/460V 3ph 11-10/5A w/o starter, 6 sec cycle
  *Explosion Proof Class 1, Group D
- 1-1/2 hp 80 psi Air @ 40 SCFM, 10 sec cycle

EJECTION SYSTEM: Requires 80 psi air from 1/4 inch air line or a one-horse compressor
DIMENSIONS: 37"w x 37"d x 90"h
CLEARANCE UNDER STAND: 41"
APPROXIMATE SHIPPING WEIGHT: 1160 lbs.
WARRANTY: 1 year on all materials and workmanship

pints to 110 gallons, TeeMark Crushers help prepare containers and their contents for recyling or disposal.

TeeMark Corporation • Aitkin, MN 56431 • **1-800-428-9900** • FAX 218-927-2333 • e-mail teemark@aitkin.com
Crusher Homepage: www. aitkin.com/teemark

EXPLOSION PROOF ELECTRIC PRODUCTION CAN CRUSHER

Model PCC1J-X
With Can Ejector Option

INITIAL START UP

Congratulations on choosing a **TeeMark PCC1J-X Production One Gallon Can Crusher**. Your crusher has been thoroughly tested before leaving the factory.

ASSEMBLY

Follow the instructions on the assembly diagram to mount the crusher, drip pan, and stand. The crusher can be lifted by the lifting eye on the top of the cylinder. It weighs about 900 pounds.

The assembled unit is somewhat top heavy so we recommend that the stand legs be properly anchored to the floor using 3/8" anchor bolts. There is enough clearance under the stand for a 55 gallon drum on a standard 2 inch roller conveyor or drum dolly.

ELECTRICAL CONNECTION

The explosion proof motor, motor controls, and connections on your PCC1X-J are UL listed and CSA certified for Class 1, Group D, Hazardous locations. Forty feet of rubber electrical cord is supplied without an end connector. It is up to the purchaser to install the equipment to comply with the appropriate local and national electrical codes.

The motor is 1-1/2 hp, 115/230 VAC 16/8 FLA single phase. Thermal protection is built into the motor and resets automatically.

***** CAUTION *****
THE MOTOR HAS AUTOMATIC THERMAL PROTECTION.
AFTER A TRIP IT WILL RESTART WITHOUT WARNING.
DO NOT PERFORM MAINTENANCE WITH THE POWER ON.

The motor is connected for use with 115 volts from the factory unless arrangements were made prior to shipping. A minimum 20 amp service should be used to avoid nuisance tripping of the circuit breaker.

See wiring diagram for conversion to 230 VAC.

INITIAL START UP - continued

HYDRAULIC FLUID

The hydraulic reservoir should be kept full to within 1 inch of the top of the tank when the ram is fully raised. Use a premium grade antiwear hydraulic iol, 150 viscosity grade 32 (e.g. Mobile #DTE24 or equal). This is the same antiwear hydraulic fluid that is typically used in farm tractors and dump trucks. It should be available in auto supply stores. Total fluid capacity is 3-1/2 gallons. Oil should be at a level that is visible in the temperature sight gauge throughout the complete ram cycle.

OIL FILTER

A standard 20 GPM 10 micron cellulose oil filter is used to filter the hydraulic oil. It should be changed after the first 100 hours of operation or 2 months, whichever comes first, then every 500 hours of operation thereafter.

VALVE SETTINGS

The pressure relief valve and squeeze (detent) pressure have been preset at the factory for optimum performance. **DO NOT INCREASE THESE SETTINGS** as this will exceed the capacity of the equipment and cause damage. Lowering the squeeze valve detent pressure below the factory setting of 3000 psi is permissible. See **DETENT ADJUSTMENT** instructions.

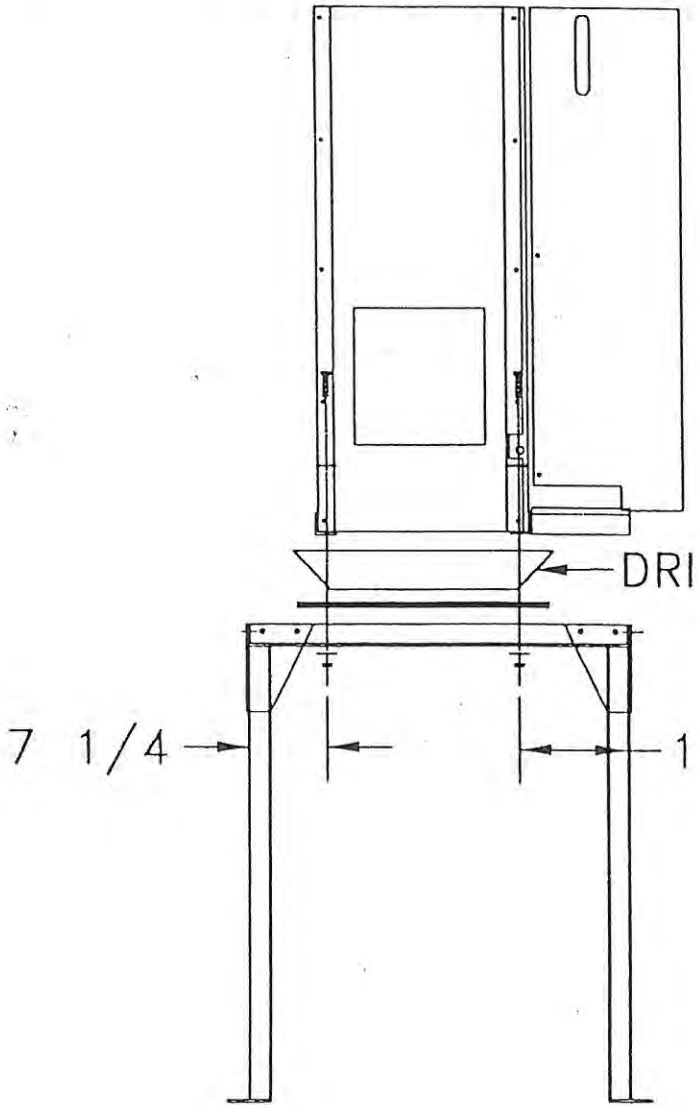
NOTES

1. THE DRIP PAN BRACKETS GET BOLTED BETWEEN THE STAND AND THE CRUSHER
2. THE DRIP PAN IS TO BE INSTALLED AFTER ASSEMBLY AND CAN BE REMOVED FOR CLEANING

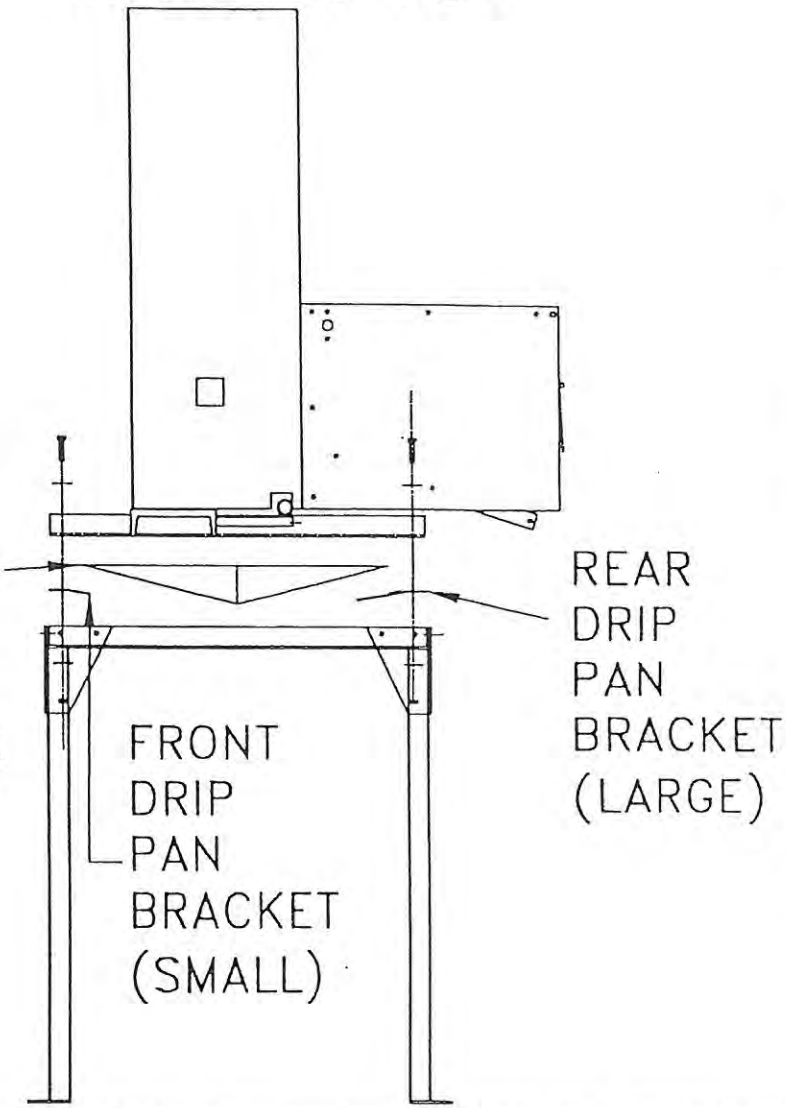
NOT SCALE

ANSI Y 14.5M – 1994 APPLIES

FRONT VIEW



RIGHT SIDE VIEW



ITEM	QTY	DESCRIPTION

REV	DESCRIPTION	AUTH	DATE

TOLERANCES UNLESS OTHERWISE SPECIFIED.
DIM'S ARE IN INCHES

FRACTIONAL	±1/32
1 PLC. DEC.	±.015
2 PLC. DEC.	±.010
3 PLC. DEC.	±.005
ANGULAR	±1°

DRN KKN

DATE 9/11/97

CUSTOMER ASSEMBLY
PCC1-J

TeeMark Corp
AITKIN MINNESOTA 56431 218-927-2200

CAD. REF. C028-085

PART NO. C028-085

OPERATING INSTRUCTIONS

ONE GALLON CAN CRUSHING

Pull the **"STOP"** button to start the motor of the PCC1X Production Can Crusher. As a safety feature, the hydraulic power will not run when the door is open.

> ***** CAUTION *****
> ALWAYS TURN THE POWER OFF WHEN SERVICING
> THE CRUSHER OR WHEN NOT IN USE.

Place an open topped 55 gallon drum or other container under the crusher to collect the liquid extracted from the cans. There is enough clearance to position the drum on a 2 inch roller conveyor.

Place the can to be crushed into the crushing chamber until it contacts both locating stop pins. This centers the can for proper piercing and crushing.

Swing the door shut and pull the two hydraulic valve handles toward you until they reach the detent position and lock in place. The crushing cycle will begin. The PCC1 has two piercers that slit the sidewall of the can as it is crushed.

At the bottom of the stroke the ram automatically stops and returns to the up position. If the door is opened at any time during the cycle, the ram will stop. The ram can be manually retracted by throwing the left valve handle to the neutral position.

If the valve handles are not returning automatically or if they return too soon, see the **DETENT ADJUSTMENT** instructions.

SMALLER CANS

Cans smaller than one gallon may also be crushed in the PCC1 but they will not be pierced. To crush smaller cans, place the can in the center of the chamber and proceed as above. Since small cans are not pierced they may rupture with a popping sound. The cabinet is designed to contain the spray when this happens.

CANS WITH SEMI-SOLID CONTENTS

The PCC1 is designed to handle the nastiest of contents. All but the driest, hardest material will be squeezed from the can.

PIERCER SHARPENING AND ADJUSTMENT

Each piercer is attached with two bolts. They can be removed and sharpened with a power grinder or sander.

CAN EJECTOR OPTION

INTRODUCTION - The Can Ejector option on the PCC1J-X is an air powered system that interlocks with the operating system of the crusher. The primary features of the ejector are a pneumatic cylinder, a can "tosser", and a door in the rear of the unit that opens to allow the crushed can to be ejected. Compressed air is used to dislodge the can from the ram after crushing is completed. This blast of air prevents the can from sticking to the crusher face.

AIR REQUIREMENTS - Electric PCC1 units with the ejector option need a ¼ inch air line for the ejector. Air volume requirements are minimal and can be provided by a ¾ hp compressor. The air line should be equipped with a dryer and oiler that is set to provide one drop of oil every ten crusher operating cycles.

OPERATION - The ejector must be connected to a supply of compressed air and the air valve must be opened to provide power to the ejector air cylinder.

If a can is not crushed completely, or gets hung up inside the machine, the operator may need to remove the can by hand. Air pressure to the ejector system is cut off and vented when the operator opens the main door of the crusher. With the main door open, the ejector arm and the ejector door at the rear of the crusher can easily be moved by hand to free a stuck can.

SMALLER CONTAINERS - The ejector is designed for one gallon cans. The crusher is also very effective on smaller cans and oil filters but the ejector should be turned off when they are crushed. When crushing of small containers is finished, the ejector air supply should be turned back on and the crusher should be cycled 2 or 3 times to clear wet paint from the air jet holes in the crusher face.

*** ***CAUTION*** ***

KEEP HANDS FREE OF THE CRUSHING CHAMBER AND
REAR EJECTION CHUTE WHENEVER THE MACHINE IS CYCLING.
In the event of a jam or malfunction, be certain all power is off before clearing.

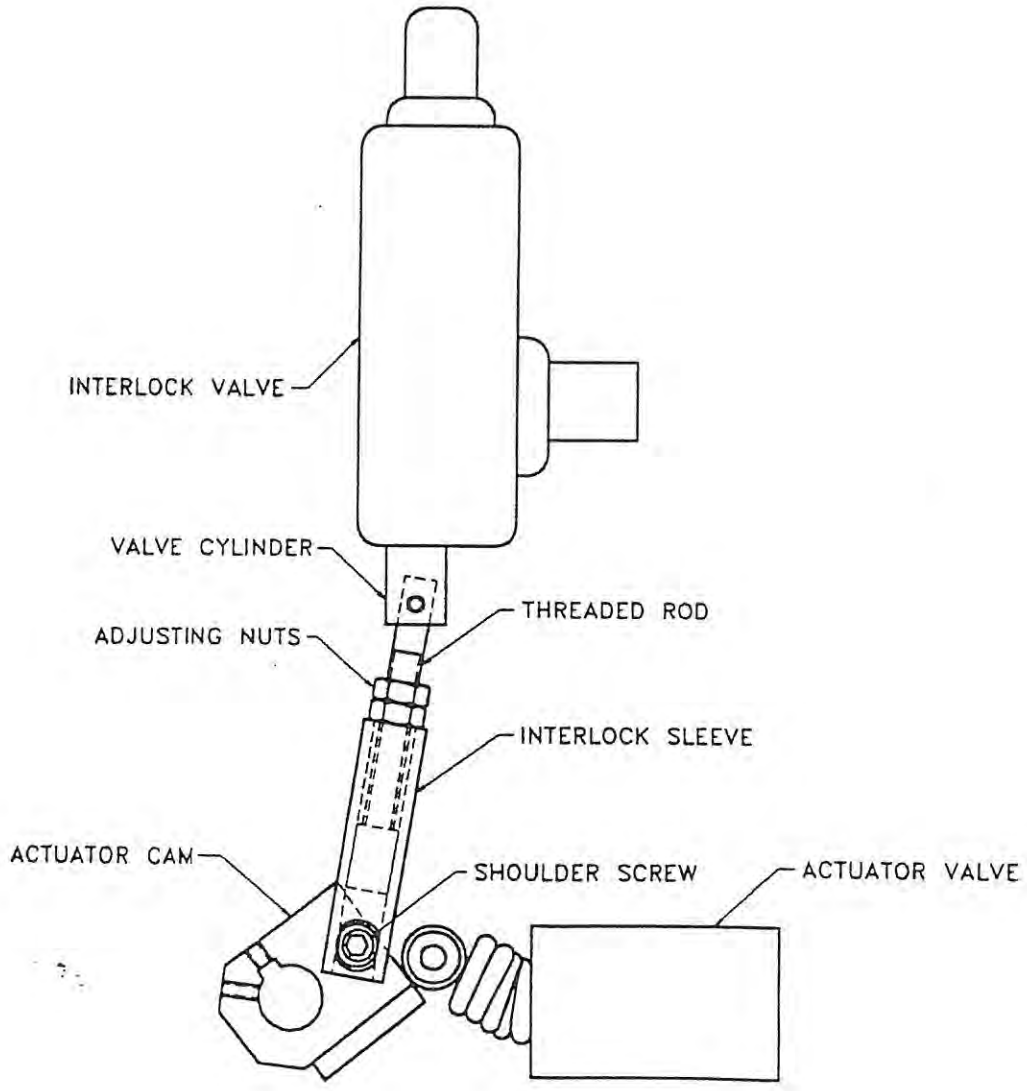
THE PROTECTIVE SHIELD ON THE EJECTION CHUTE MUST BE IN PLACE
WHEN THE CRUSHER IS OPERATING.

DO NOT RAISE THE SHIELD OR LOOK INTO THE EJECTION CHUTE
WHEN THE CRUSHER IS OPERATING.
Cans are ejected from the crusher with considerable force and speed.

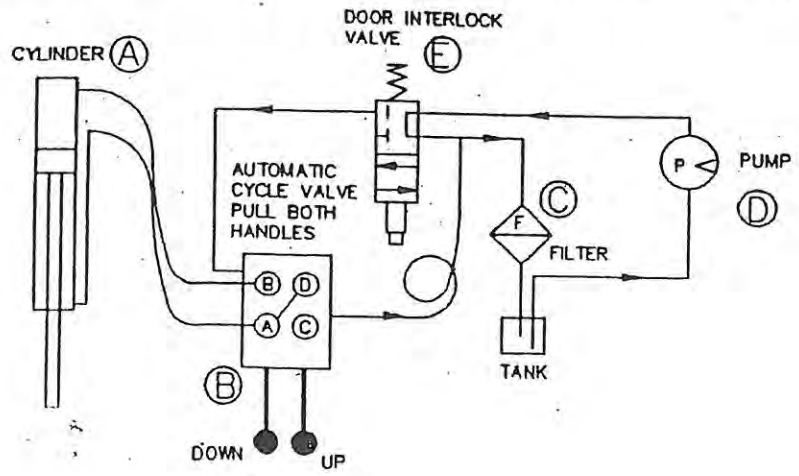
DOOR INTERLOCK VALVE AND LINKAGE

The safety door interlock valve is a hydraulic valve installed so the crusher cannot operate when the door is open. This interlock valve is adjusted at the factory. This valve can come out of adjustment after a lot of use. If this valve comes out of adjustment then your crusher will not cycle.

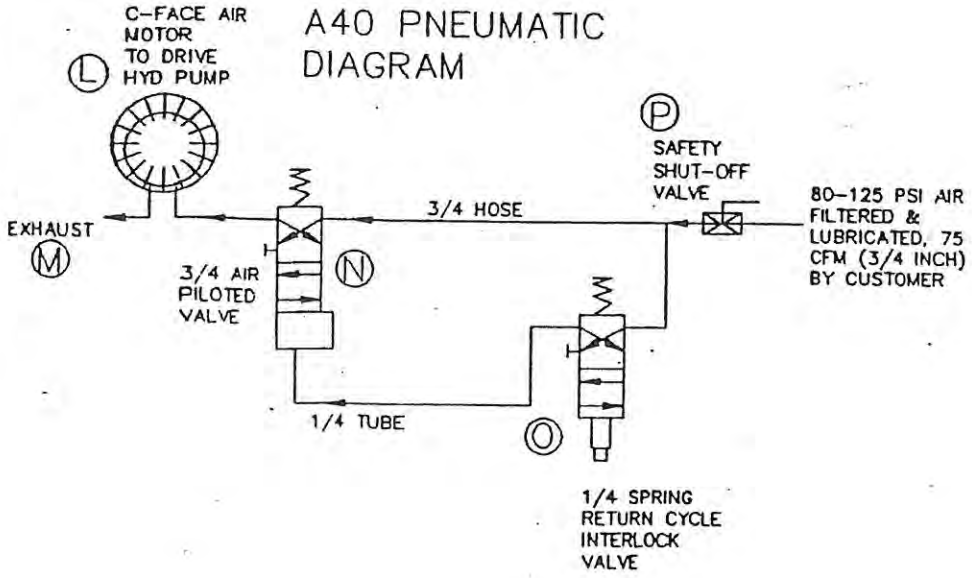
To adjust the door interlock valve you must adjust the door interlock linkage. You adjust the linkage with the two adjustable nuts on the threaded rod. (See drawing below.) Use two 9/16" wrenches to break the nuts apart. Now adjust the adjusting nuts down so when you close the door the valve cylinder moves up a ¼". The valve cylinder is the silver part connected to the top of the threaded rod. Start the machine and try cycling it. If the machine cycles tighten the nuts together. If the machine doesn't cycle move the bottom nut down 2-3 turns and try cycling it again. If the machine still won't cycle call TeeMark at 800-428-9900 for help.



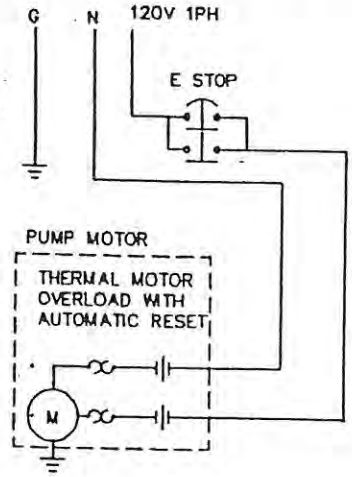
HYDRAULIC POWER SUPPLY WITH HYDRAULIC DOOR INTERLOCK VALVE



A40 PNEUMATIC DIAGRAM

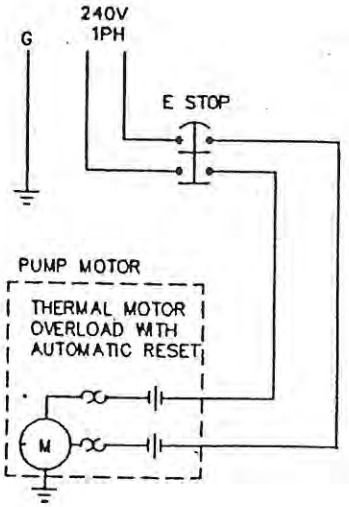


1 PH ELECTRICAL DIAGRAM CLASS 1 GROUP D EXPLOISION PROOF



WIRING DIAGRAM
120 V 1 PH
MODELS W/ HYD
DOOR INTERLOCK
MODELS SUPER 6-X,
SUPER 6P-X, PCC1-X

NOTE:
THE MOTOR IS WIRED FOR 120V FROM THE FACTORY UNLESS NOTED OTHERWISE. MOTOR WIREING MUST BE CHANGED TO RUN ON 240VAC 1 PH



WIRING DIAGRAM
240 V 1 PH
MODELS W/ HYD
DOOR INTERLOCK
MODELS SUPER 6-X,
SUPER 6P-X, PCC1-X

NOTE:
THE MOTOR IS WIRED FOR 120V FROM THE FACTORY UNLESS NOTED OTHERWISE. MOTOR WIREING MUST BE CHANGED PER MOTOR PLATE AND AS SHOWN FOR 240VAC OPERATION.

TeeMark Corp
AITKIN MINNESOTA 56431 218-927-2200

AIR, HYDRAULIC, ELECTRIC SCHEMATICS
MODELS SUPER 6, 6P, & PCC1 CanDoo!

DESIGNED	DATE	SCALE	PLOT SCALE
TEE			
CAD REF	DWG NO		
CXRSCHEM	SK5030601		

TEEMARK CORPORATION

WARRANTY

TeeMark manufactured products are warranted free of original defects in material and workmanship for a period of one year from the date of shipment to first user.

TeeMark's obligation is to repair or replace free of charge any part that its inspection shows to be defective. Except as it may otherwise specifically agree in writing, TeeMark shall not be liable for transportation, labor or other charges for adjustments, repairs, replacement parts, or other work which may be done upon or in connection with such products. TeeMark shall not be liable for loss of time, manufacturing costs, removal and installation costs, loss of profits, consequential damages, direct or indirect, because of defective products, whether due to rights arising under the contract of sale or independently thereof, and whether or not such claim is based on contract, tort or warranty.

Written permission for any warranty claim repair or return must be first obtained from authorized TeeMark personnel. Any part or parts of a product to be repaired or replaced under this warranty must be returned to the factory f.o.b.

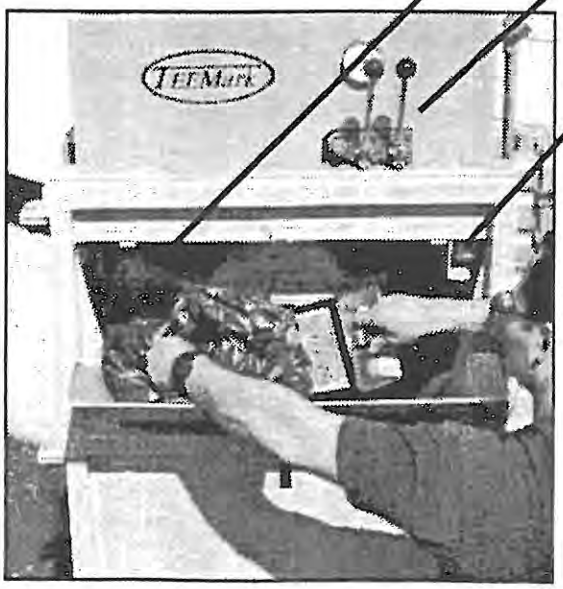
Any modification to any TeeMark product without TeeMark's prior approval and consent, is at the user's sole risk and responsibility. TeeMark disclaims any and all liability, obligation, or responsibility for the modified product and for any claims, demands, or causes of action for damage or for personal injuries resulting from the modification and/or use of such a modified TeeMark product.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(This warranty voids all previous issues.)
(Effective Date: January 1, 1996)

DRUM CRUSHERS, WASTE COMPACTORS

Disposal of one drum of hazardous waste can cost up to $1,000!
Compaction can reduce disposal volume and cost by 30-80%.



TeeMark manufactures a variety of drum crushers and drum packer/crushers. Our packer/crushers use up to 150,000 pounds of adjustable hydraulic force to crush drums as large as 110 gallons. They also pack waste material into drums. Special waste management features and/or options on these units include:

DRUM HOLD DOWN
Holds drum in place while compaction head is withdrawn from drum.

COMPACTION HEAD
Reaches into drum, forcing materials to the bottom.

REMOVABLE PALLET
Fork lift pockets in pallet allow easy handling of full drums.

LOCKABLE DOOR CHUTE
Allows material to be added to the collection drum without opening main door.

EXPLOSION-PROOF CONTROLS
Explosion-proof controls are standard and explosion-proof motors and motor controls are available.

INTERLOCK SAFETY
Door chute and main door are both equipped with safety interlocks. Unit will not operate while either door is open.

With the easily-attached crushing head in place, and up to 150,000 pounds of crushing force, these units can turn those drum liabilities into assets. Clean crushed drums are recyclable, and are a valuable commodity in the scrap market.

For more information, call us:

TOLL FREE 800/428-9900

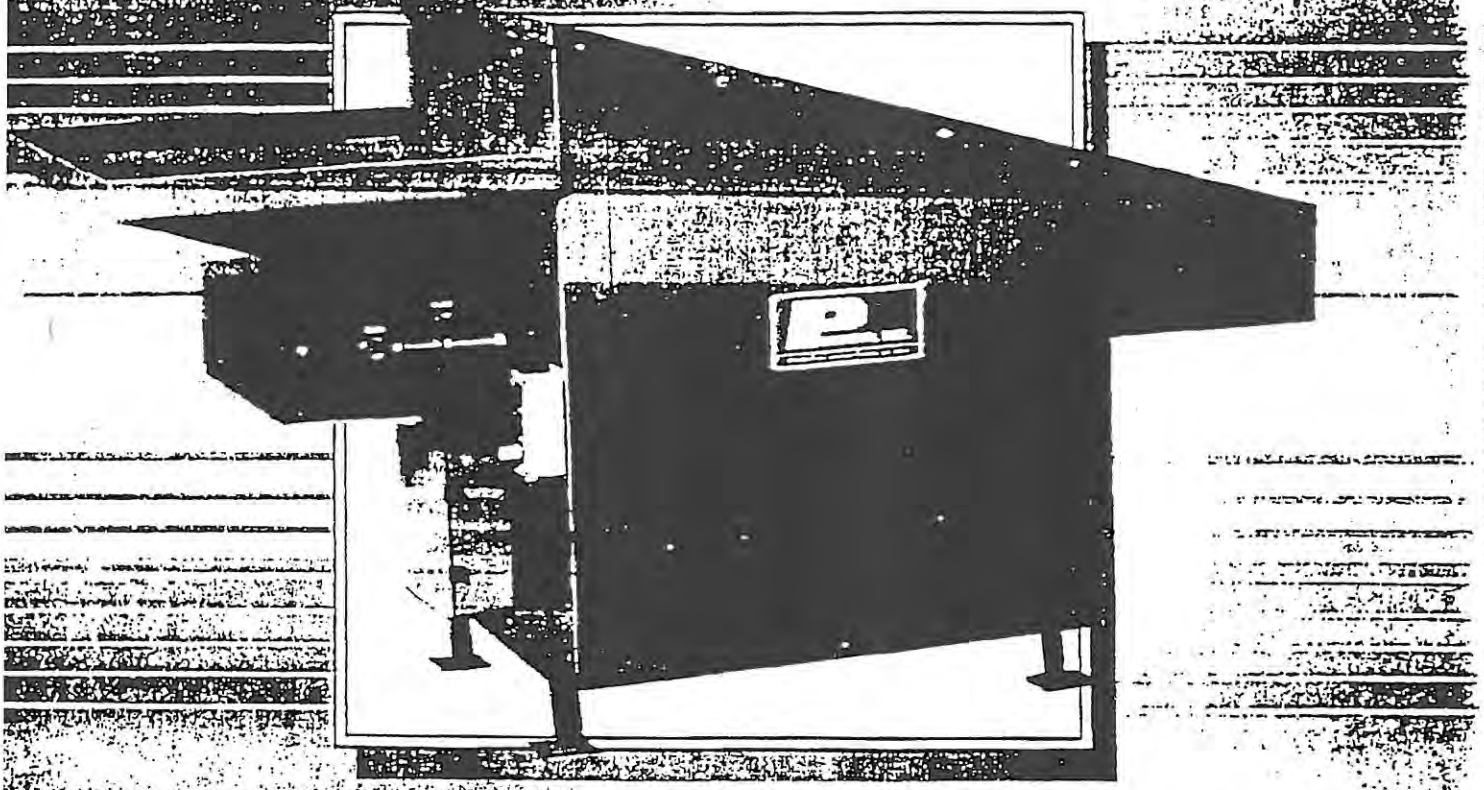
TEEMark CORPORATION
Aitkin, Minnesota 56431
1-800/428-9900
home page: http://aitkin.com/teemark
FAX 218/927-2333 • e-mail: teemark@aitkin.com

From half pints to 110 gallons, TeeMark Crushers help prepare containers and their contents for recycling or disposal. See other side for **can crushing** information.

PRODEVA

CAN & GLASS CRUSHER

MODEL 270

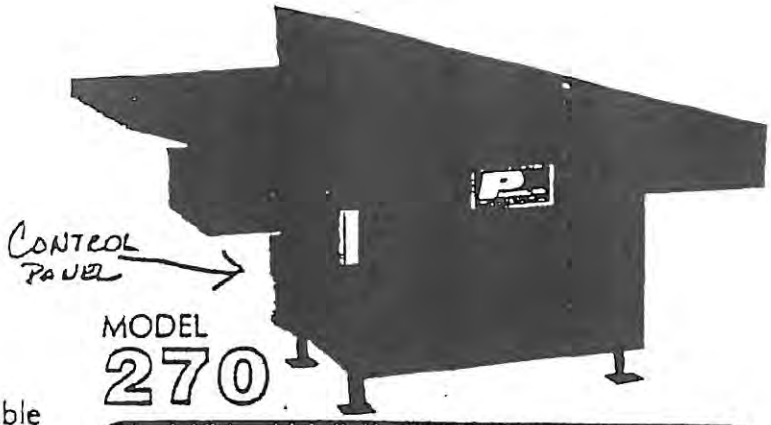


- Rated capacities of Model 270:
  2500 lbs. of Aluminum cans per hour
  5000 lbs. of Steel cans per hour
  1.5 ton of Glass per hour
- Safety engineered throughout.
- Factory direct parts and service.
- Overload compression springs to prevent jamming.
- Model 270 will crush cans and glass up to and including 5 gallon.

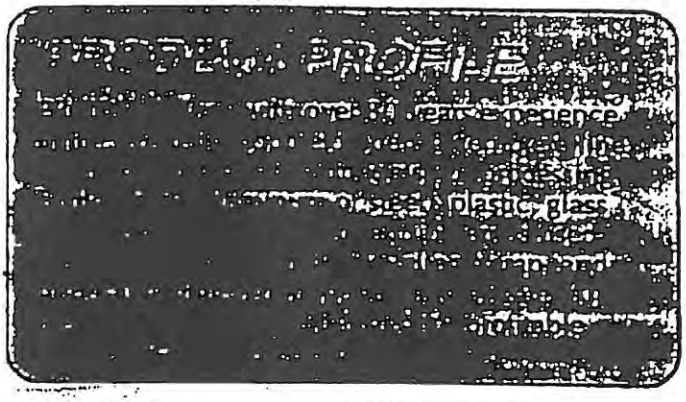
A proven PRODEVA performer in our line for over 34 years. Unit is ideal for can manufacturers, recycling centers, bottlers and breweries. In fact anywhere glass containers, beverage cans or food containers are a problem. Model 270 is user friendly; easy to maintain and requires no change in machine set-up to crush cans or glass. Built for hard use and trouble-free operation with minimal maintenance or up-keep. Backed by PRODEVA's proven experience in manufacturing quality size-reduction equipment.

PRODEVA

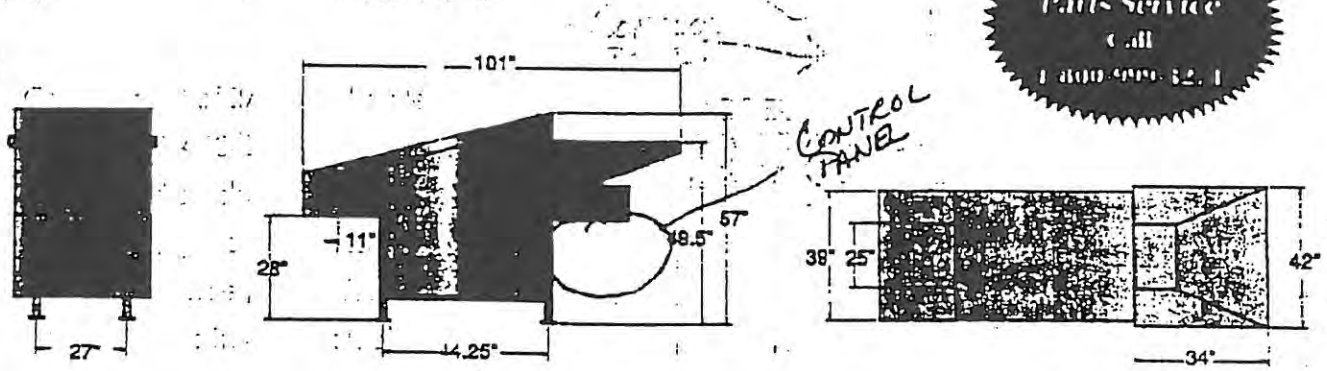
Crusher MODEL 270



- Constructed of 3/8" steel plate
- 10 HP 230/460/60/3
- Infeed and discharge conveyors are available
- All moving parts enclosed
- Removable side panels for easy maintenance
- Crushes glass into recyclable cullet
- Flattens cans, and crushes plastic bottles
- Available with casters
- Available with blowers for aluminum and bi-metal cans



STANDARD SPECIFICATIONS



END VIEW SIDE VIEW TOP VIEW

Overnight Parts Service Call 1-800-999-32[illegible]

1 Year Written Warranty

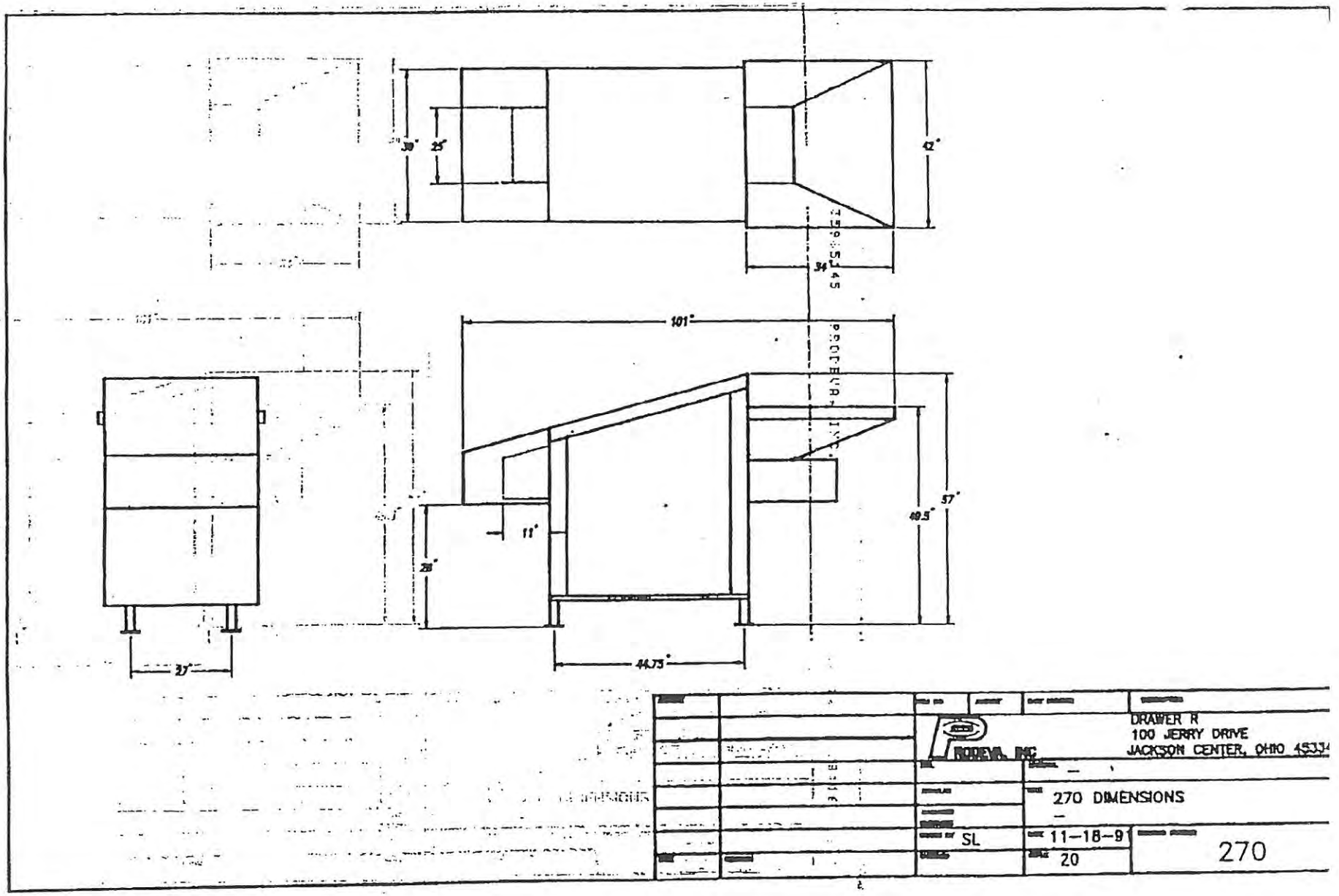
All Prodeva brand equipment carries a warranty on workmanship and materials, provided equipment is used for its intended use and maintained properly.

We reserve the right to repair or replace parts at our option. Ask for further details. Prodeva, Inc., also, reserves the right to improve or alter products without prior notice.

Call Prodeva for help or further information

Should you have any questions about the above Model's operating features and its suitability for your needs.

PRODEVA
100 Jerry Drive, Jackson Center, Ohio 45334
Phones: 1-800-999-3271 FAX 513-596-5145
513-596-6713



			RODEVA, INC.	DRAWER R 100 JERRY DRIVE JACKSON CENTER, OHIO 4533
				270 DIMENSIONS
			SL	11-18-9
				20
				270

MANUAL OF INSTRUCTIONS FOR MODELS 250 & 270 PRODEVA CRUSHERS

"Prodeva" Model 250 or 270 Crusher has been thoroughly tested to the rigid
cification of all "Prodeva" products. By following these simple
ons, you will have a trouble free unit for many years to come.

ICAL:

Make the electrical connections to the magnetic starter with the proper sized wire for the full load current of the motor. Be sure the voltage supplied to the machine is the same voltage that is indicated on the nameplate. If the conveyor runs backward, when the Forward button is depressed, reverse any two leads in the starter.

ABLE RESTRICTOR:

Set the opening above the conveyor (on the hopper end) high enough to permit an even flow of material through the crushing area of the machine. Too much material going through the machine at one time will jam the unit.

ABLE CRUSHER PLATE:

All Model 250's & 270's are equipped with an adjustable crusher plate. This new feature permits you to set the discharge opening to the desired height. To adjust the discharge opening remove the bolts that hold the shaft to the crusher plate and add shims for less opening. Do not flatten material any more than necessary, as this puts an undue load on the machine.

OR CLUTCH:

The conveyor clutch located at the discharge end of the conveyor should be tightened just tight enough to carry the load through the machine. The conveyor chain MUST BE ABLE TO STOP WHEN UNDER LOAD, and the crusher plate is in the down position. This means there will be intermittent stop-start of the conveyor chain when the clutch has the proper tension.

OR CHAIN:

The conveyor chain should have approximately 1-1/2" of SAG on the bottom side. To adjust the conveyor, loosen the lock nut on the adjusting screw on the conveyor take-up unit. The take-up units are located at the hopper end of the crusher.

ATION:

Remove the side covers of the machine and grease the bearings at least once a month. The bearings in the drive arms should be greased at least every ten (10) hours. The oil in the Gear Reducer should be changed every six (6) to eight (8) months or (2500) operational hours. Fill with SAE 140 Gear Oil.

L OVERLOAD PROTECTION:

When the machine is overloaded or jammed the motor will automatically shut off. The motor and controls are protected by Thermal Overload Heater Coils, located in the Magnetic Starter. In the event the motor does shut off, correct the cause of the overload and wait a few minutes until the starter has cooled, then the starter can be re-set by depressing the reset button located in the cover of the Magnetic Control.

ING:

When liquids are to be run through the crusher, leveling bolts should be used. The hopper end of the crusher should be slightly higher than the discharge end to insure proper drainage of the liquid.

CTIVE HINGED COVER:

When crushing glass, filled cans and aerosols, the hinged cover located at the discharge end of the crusher MUST be in the closed or down position for protection against splashing of liquids and flying fragments of glass.

ING:

When crushing cans or bottles with the contents the crusher should be cleaned at the end of the day with hot water, steam or a commercial solvent. The crusher chamber is sealed so that the machine can be cleaned in this manner. Care should be taken - DO NOT DIRECT A WATER SPRAY AT THE ELECTRICAL CONTROLS!

NG: No solid material such as blocks of wood, iron bars, etc., should be fed into the crusher. This may cause damage to the crusher.

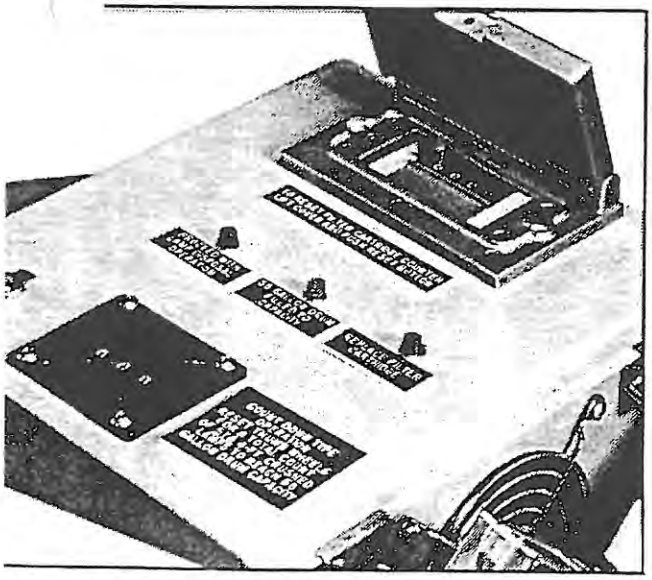
EXTRITE®

Fluorescent
...mp Disposer
...ith MERCURY
...APOR CONTROL

...r a safer, faster and more efficient ...y in lamp disposal maintenance.

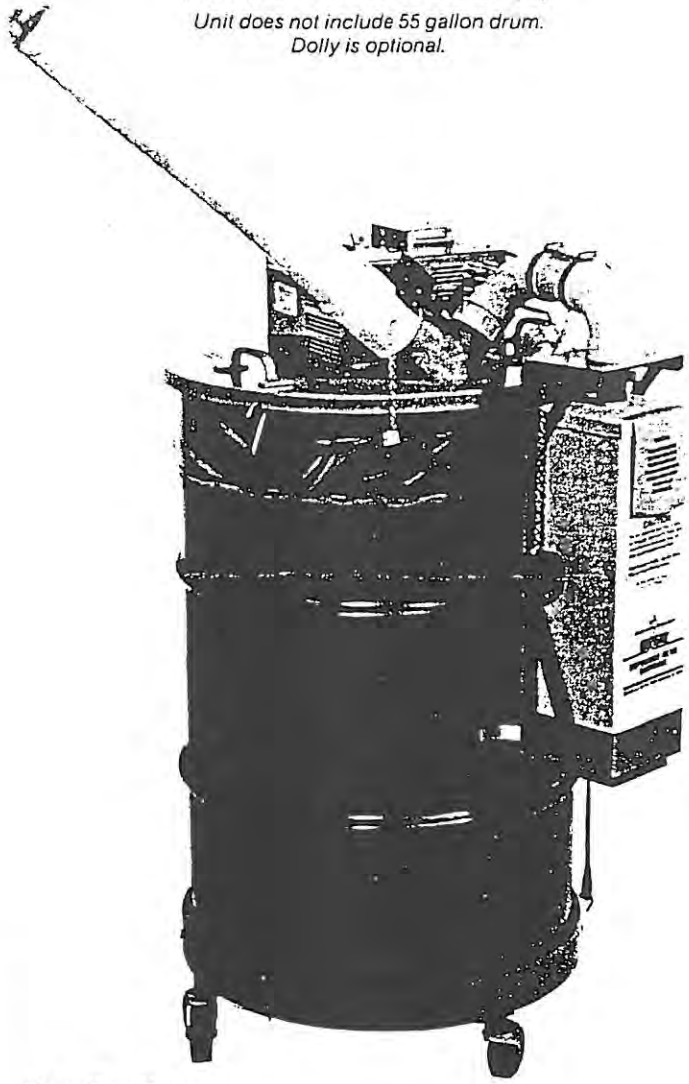
...TURING...a new exclusive, patented filter system that ...s toxic mercury vapor gases In a disposable filter cartridge.

- ***...sposes of 4 & 8-ft. lamps*** *...T-12, 40 and 90 watt sizes.*
- ***...eds 25, 4-ft. lamps per minute.***
- ***...lescoping feed tube*** *...tally houses a 4-ft. lamp before it is crushed.*
- ***...gh filter cartridge efficiency rate.*** *...andles up to 2400 mixed 4 & 8-ft. lamps before ...anging filter cartridge.*
- ***...ilt to withstand impact and abrasion,*** *...signed for heavy-duty use.*
- ***...andling weight 40 pounds*** *...thout filter carriage.*
- ***...L & CSA approved electrical components.***



...Dextrite LC-55FDA Disposer includes a Predetermined ...er) Counter featuring automatic motor shut-off when a ...ory preset count of 2400 mixed 4 & 8-ft. lamps have been ...osed of. A push button reactivates motor, resets counter ... new count-up operation. A red and green Neon Lamp, ... a Buzzer Alarm, alerts operator to change filter cartridge ...when to proceed with lamp disposal operation. A Fan ...aust is controlled by ON/OFF Toggle Switch. ...mined (Drum) Counter features Thumb Wheel ...n-down operation, with amber Neon Lamp and ...zer Alarm to alert operator when 55 gallon drum is filled to ...acity.

Fits over 55 gallon drum
(Holds 576 4-ft. Crushed Lamps).
Unit does not include 55 gallon drum.
Dolly is optional.



Specifications

Model	*LC-55FDA*
Feed Tube Opening	*2½" dia.; Feed Tube Insert 1⅝" dia.*
(Filter) Counter	*Predetermined, Push Button Reset. (Count-Up Operation)*
(Drum) Counter	*Predetermined, Thumb Wheel Reset. (Count-Down Operation)*
Dimensions	*24" x 24" dia. x 4"H*
Weight	*40 Lbs. Handling Weight (Without Filter Carriage)*
Power Requirements	*115V, 60 Hz*

Accessories:	***Part No.:***
Disposable Filter Cartridge (Filters 2400 mixed 4 & 8-ft. lamps)	*F-55*
Disposable Poly-Sleeve (Traps mercury vapor in the drum during drum change)	PS-55
Dolly (For 55 Gallon Drum).	*D-55*

Specifications subject to change without notice.

DISTRIBUTED BY

EXTRITE Dextrite, Inc.
P.O. Box 18426, Rochester, N.Y. 14618 • (716) 436-7015

...n 55FDA

Printed In U.S.A.

KEELER & LONG INC

WESTERN OFFICE:
P. O. Box 964
Solana Beach, CA 92075
Tel (619) 481-3777
Fax (619) 481-3236

HEADQUARTERS:
P. O. Box 460
856 Echo Lake Road
Watertown, CT 06795
Tel (203) 274-6701
Fax (203) 274-5857

KOLOR-POXY PRIMER/SEALER

No. 5129

GENERIC TYPE: EPOXY/AMIDO-AMINE

PRODUCT DESCRIPTION: A 100% solids, two component, non-pigmented epoxy primer/sealer.

RECOMMENDED USES: Designed to seal rough, etched, or blasted concrete surfaces.

NOT RECOMMENDED FOR: Patching holes or cracks.

COMPATIBLE TOPCOATS:
Kolor-Poxy Self-Leveling Floor Coating
Kolor-Poxy Self-Priming Surfacing Enamel
Kolor-Poxy Primers and Enamels
Hydro-Poxy Primers and Enamels
Vinyl-Latex
Kolormastic
Tri-Polar Silicone Enamels
Kolor-Sil Enamels
Poly-Silicone Enamels

PRODUCT CHARACTERISTICS:

Solids by Volume:	100%
Solids by Weight:	100%
Recommended Dry Film Thickness:	1.5 - 2.5 mils
Theoretical Coverage:	800 Sq. Ft./Gallon @ 2.0 mils dft
Finish:	NA
Available Colors:	Clear Amber
Drying Time @ 72°F	
To Touch:	12 Hours
To Handle:	12 Hours
To Recoat:	12-24 Hours
VOC Content:	0.0 Pounds/Gallon
	0.0 Grams/Liter

January, 1991

TECHNICAL BULLETIN

5129

TECHNICAL DATA

PHYSICAL DATA:	Weight per gallon:	8.8 ± 0.2 (pounds)
	Flash Point (Pensky-Martens):	>200°F
	Shelf Life:	2 Years
	Pot Life @ 72°F:	45 Minutes
	Temperature Resistance:	200°F
	Viscosity @ 77°F:	66 ± 5 (Krebs Units)
	Gloss (60° meter)	NA
	Storage Temperature:	50 - 85°F
	Mixing Ratio (Approx. by Volume):	3:2
APPLICATION DATA:	Application Procedure Guide:	APG-6
	Wet Film Thickness Range:	1.5 - 2.5 mils
	Dry Film Thickness Range:	1.5 - 2.5 mils
	Temperature Range:	50 - 85°F
	Relative Humidity:	80% Maximum
	Substrate Temperature:	Dew Point + 5°F
	Minimum Surface Preparation:	Clean, Dry, No Contaminants with surface profile of 80 grit sandpaper
	Induction Time @ 72°F:	None
	Recommended Solvent:	None Normally Required

Application Methods

Airless Spray		
	Tip Size:	.009" - .015"
	Pressure:	1500 - 2500 PSIG
	Thin:	Not Recommended
Brush or Roller		
	Thin:	Not Recommended

KEELER & LONG INC.

P. O. Box 460, 856 Echo Lake Road
Watertown, CT 06795
Tel: (203) 274-6701 Fax: (203) 274-5857

KOLORS

WESTERN OFFICE:
P. O. Box 964
Solana Beach, CA 92075
Tel (619) 481-3777
Fax (619) 481-3236

HEADQUARTERS:
P. O. Box 460
856 Echo Lake Road
Watertown, CT 06795
Tel (203) 274-6701
Fax (203) 274-5857

KOLOR-POXY SELF-LEVELING FLOOR COATING

No. 5500 SERIES

GENERIC TYPE: EPOXY/AMINE

PRODUCT DESCRIPTION: A high solids, two component epoxy enamel floor coating for interior use in a multitude of industrial applications.

RECOMMENDED USES: As a floor coating where a smooth, high gloss, durable and/or decontaminable surface is required. May be used on concrete floors, steel decking or embeds.

NOT RECOMMENDED FOR: Exterior service; splash and spillage of strong acids; patching of holes.

COMPATIBLE UNDERCOATS:
Kolor-Poxy Primer/Sealer
Kolor-Poxy Clear Sealer
Kolor-Poxy Primers and Enamels

PRODUCT CHARACTERISTICS:

Solids by Volume:	98 ± 1%
Solids by Weight:	99 ± 1%
Recommended Dry Film Thickness:	15 - 125 mils
Theoretical Coverage:	63 Sq. Ft./Gallon @ 25 mils DFT
Finish:	Gloss
Available Colors:	White, Gray, Beige, Russet, Red Oxide (Special colors available on request)
Drying Time @ 72°F	
To Touch:	5 Hours
To Recoat:	12 Hours
Light Traffic:	24 Hours
Heavy Traffic:	72 Hours
VOC Content:	<0.35 Pounds/Gallon <42 Grams/Liter

April, 1991

TECHNICAL BULLETIN

TECHNICAL DATA

PHYSICAL DATA:	Weight per gallon:	11.8 ± 0.5 (pounds)
	Flash Point (Pensky-Martens):	>110°F
	Shelf Life:	1 Year
	Pot Life @ 72°F:	20 Minutes
	Temperature Resistance:	200°F
	Viscosity @ 77°F:	116 ± 5 (Krebs Units)
	Gloss (60° meter):	90 ± 5
	Storage Temperature:	50 - 85°F
	Mixing Ratio (Approx. by Volume):	2.1:1

APPLICATION DATA:	Application Procedure Guide:	APG-6
	Wet Film Thickness Range:	35 - 125 mils
	Dry Film Thickness Range:	34 - 122 mils
	Temperature Range:	59 - 85°F
	Relative Humidity:	85% Maximum
	Substrate Temperature:	Dew Point + 5°F
	Minimum Surface Preparation:	Sealed; Clean, Dry, No Contaminants
	Induction Time @ 72°F:	None
	Recommended Solvent:	None Required

Application Methods:

For detailed application method, see APG-6.

KEELER & LONG INC.

P. O. Box 460, 856 Echo Lake Road
Watertown, CT. 06795
Tel: (203) 274-6701 Fax: (203) 274-5857

KOLORS

5500-SERIES
KOLOR-POXY SELF-LEVELING FLOOR COATING

MSDS Number	065
Revision Number	07
Revision Date	01/26/93

Please note that this product is covered by three (3) Material Safety Data Sheets. The first sheet (distinguished by the MSDS Number followed by the letter A) identifies Part A of this two (2) component product. Similarly, the second sheet covers Part B, and the third sheet covers the product as it would be used for application.

This MSDS has been prepared in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200). Pursuant with section G(xii)(4) of this Standard, a "family" MSDS has been prepared where the mixtures have similar hazards and contents, even though the specific compositions vary.

Chemicals which are subject to SARA Title III Section 313 Annual Release Reporting have been listed and identified as required.

Keeler & Long
Regulatory Compliance

MATERIAL SAFETY DATA SHEET

KEELER & LONG, INC.
356 ECHO LAKE ROAD
P. O. BOX 460
WATERTOWN, CT 06795

Information Phone
(203) 274-6701

MSDS Number 065-A
Revision Number 07
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: 5500 KOLOR-POXY SELF-LEVELING FLOOR COATING (Part A only)

CHEMICAL FAMILY: Epoxy

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Hazardous Ingredients				
Modified Diglycidyl Ether of Bisphenol A	NE	NE	25068-38-6	50 - 60
Silicon Dioxide (1)(4)	0.1 mg/m^3 (3)	0.1 mg/m^3 (3)	7631-86-9 and/or 14808-60-7	10 - 20
Magnesium Silicate (Talc) (1)	2 mg/m^3 (3)	2 mg/m^3 (3)	14807-96-6	10 - 20
Titanium Dioxide (1)	10 mg/m^3	10 mg/m^3	13463-67-7	10 - 20
Barium Sulfate (1)(2)	0.5 mg/m^3 as Ba	0.5 mg/m^3 as Ba	7727-43-7	1 - 5
This product may contain (depending on color):				
Xylene (2)	100 ppm	100 ppm	1330-20-7	<2

SECTION 3 PHYSICAL DATA

BOILING POINT:	(solvent) NA
VAPOR PRESSURE:	(solvent) NA
VAPOR DENSITY: (air = 1)	(solvent) NA
SOLUBILITY IN WATER:	Negligible
APPEARANCE / ODOR:	Ester-like odor Semi-Paste Limited Colors
WEIGHT/GAL.	13.5 ± 0.5 lbs.
PERCENT VOLATILE: (by weight)	1 ± 1%
EVAPORATION RATE: (BuAce=1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: Combustible Liquid
FLASH POINT PMCC °F): >110°F

FLAMMABLE LIMITS:
(solvent) LEL: NE UEL: NE

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES:
Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Fire hazard in the form of vapor when exposed to extreme heat or open flame.

Footnotes

(C) = Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1) = Regulated as dust hazards. No exposure expected ce dusts are "wetted-up" in the product.
(2) = Subject to SARA Section 313 Reporting.
(3) = Respirable dust.
(4) = See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5) = Depending on color and/or gloss.
(6) = Susceptible to spontaneous Combustion.
(7) = Exposure limits have not been established for this chemical. A close related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10) = RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

.D LIMIT VALUE: See Section 2

)F OVEREXPOSURE:

May cause skin or eye irritation, contact dermatitis. May ° ›sorbed through skin. Inhalation of high vapor ‹ ıtrations may have results ranging from headaches an‹ dizziness to unconsciousness, may cause CNS Depression, may irritate respiratory system. Can be fatal if ingested in large quantities. May be sensitizer.

IC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the pulmonary system.

CONDITIONS PRONE TO AGGRAVATION BY)OSURE: Preexisting skin and eye disorders may be d.

/ ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion, ct.

:NCY AND FIRST AID PROCEDURES:

n: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

on: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

NOGENICITY: None of the chemicals used in this product have sted by either ACGIH, IARC, OSHA, or NTP as cancer causing ls.

SECTION 6 REACTIVITY DATA

LITY: STABLE

)/ TO AVOID: Keep away from heat, sparks, open flame. / ds or bases in bulk.

MPATIBILITY: Strong oxidants. May dissolve some plastics and r.

ARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, on Monoxide, Aldehydes

ARDOUS POLYMERIZATION: Will *not* occur under normal itions of use.

SECTION 7 SPILL OR LEAK PROCEDURES

PS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all ces of ignition. Dike large spills and pump into salvage tank. orb with suitable material. Keep unnecessary personnel away, d breathing vapors. Ventilate enclosed areas - open windows.

STE DISPOSAL METHOD: Dispose in accordance with local, state, federal regulations. For further information, contact your state or al solid waste agency or the U.S. EPA RCRA Hotline 00-424-9346)

SECTION 8 SPECIAL PROTECTION IN[illegible]

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:
*May be absorbed through the skin.

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: Local exhaust. Explosion proof equipment - *No Smoking.*
PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.
EYE PROTECTION: Safety glasses recommended.
OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.
HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

MATERIAL SAFETY DATA SHEET

KEELER & LONG, INC.
356 ECHO LAKE ROAD
P. O. BOX 460
TERRYTOWN, CT 06795

Information Phone
(203) 274-6701

MSDS Number 065-B
Revision Number 07
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: 5500 KOLOR-POXY SELF-LEVELING FLOOR COATING (Part B only)

CHEMICAL FAMILY: Amine

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Modified Amines	NE	NE	Proprietary	70 - 80
Benzyl Alcohol	NE	NE	100-51-6	20-30
Phenol (2)	5 ppm (skin)	5 ppm (skin)	108-95-2	<2.0

SECTION 3 PHYSICAL DATA

BOILING POINT:	>200°C
VAPOR PRESSURE:	NA
VAPOR DENSITY: (air = 1)	NA
SOLUBILITY IN WATER:	Miscible
APPEARANCE / ODOR:	Mild Amine Odor Clear Liquid
WEIGHT/GAL.	8.3 lbs.
PERCENT VOLATILE: (by weight)	nil
EVAPORATION RATE: (BuAce=1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: Paint, 8, UN 1760 (eye/skin corrosive only) PG-III Corrosive Liquid

FLASH POINT (PMCC °F): >200°F

FLAMMABLE LIMITS: (solvent) LEL: UEL: NA

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Fire hazard in the form of vapor when exposed to extreme heat or flame.

Footnotes

(C) = Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1) = Regulated as dust hazards. No exposure expected since dusts are "wetted-up" in the product.
(2) = Subject to SARA Section 313 Reporting.
(3) = Respirable dust.
(4) = See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5) = Depending on color and/or gloss.
(6) = Susceptible to spontaneous Combustion.
(7) = Exposure limits have not been established for this chemical. A closely related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10) = RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

;HOLD LIMIT VALUE: See Section 2

:TS OF OVEREXPOSURE:

May be corrosive to skin and eyes, may be absorbed hrough the skin. May cause reversible eye damage. halation of high vapor concentrations may have results anging from headaches and dizziness to unconsciousness, may cause CNS Depression, may irritate respiratory system. Can be fatal if ingested in large quantities. May be sensitizer.

RONIC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the pulmonary system May be sensitizer.

CAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Preexisting skin and eye disorders may be vated.

ARY ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion, ontact

RGENCY AND FIRST AID PROCEDURES:

ation: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

: Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

stion: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

CINOGENICITY: None of the chemicals used in this product have listed by either ACGIH, IARC, OSHA, or NTP as cancer causing rials.

SECTION 6 REACTIVITY DATA

ITY: STABLE

TO AVOID: Keep away from extreme heat, sparks, open e.

OMPATIBILITY: Strong oxidants. May dissolve some plastics and ber. Avoid epoxy resins under uncontrolled conditions

ZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, bon Monoxide, Aldehydes, Nitrogen Oxides

ZARDOUS POLYMERIZATION: Will *not* occur under normal ditions of use.

SECTION 7 SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all rces of ignition. Dike large spills and pump into salvage tank. sorb with suitable material. Keep unnecessary personnel away, id breathing vapors. Ventilate enclosed areas - open windows.

STE DISPOSAL METHOD: Dispose in accordance with local, state, federal regulations. For further information, contact your state or al solid waste agency or the U.S. EPA RCRA Hotline 800-424-9346)

SECTION 8 SPECIAL PROTECTION INFORMATION

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: As necessary to keep exposure levels to a minimum. *No Smoking.*
PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.

EYE PROTECTION: Safety glasses recommended.
OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.
HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from extreme heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	2 corrosive to skin/eyes
FLAMMABILITY:	1
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

MATERIAL SAFETY DATA SHEET

KEELER & LONG, INC.
856 ECHO LAKE ROAD
P. O. BOX 460
TORRINGTON, CT 06795

Information Phone
(203) 274-6701

MSDS Number 065-AB
Revision Number 07
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: 5500 KOLOR-POXY SELF-LEVELING FLOOR COATING (Parts A + B)

CHEMICAL FAMILY: Epoxy/Amine

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Hazardous Ingredients				
Modified Diglycidyl Ether of Bisphenol A	NE	NE	25068-38-6	40 - 50
Silicon Dioxide (1)(4)	0.1 mg/m^3 (3)	0.1 mg/m^3 (3)	7631-86-9 and/or 14808-60-7	10 - 20
Modified Amines	NE	NE	Proprietary	10 - 20
Magnesium Silicate (Talc) (1)	2 mg/m^3 (3)	2 mg/m^3 (3)	14807-96-6	5 - 10
Titanium Dioxide (1)	10 mg/m^3	10 mg/m^3	13463-67-7	5 - 10
Barium Sulfate (1)(2)	0.5 mg/m^3 as Ba	0.5 mg/m^3 as Ba	7727-43-7	1 - 5
Benzyl Alcohol	NE	NE	100-51-6	5 - 10
This product may contain (depending on color):				
ne (2)	100 ppm	100 ppm	1330-20-7	<2.0

SECTION 3 PHYSICAL DATA

BOILING POINT:	(solvent) NA
VAPOR PRESSURE:	(solvent) NA
VAPOR DENSITY: (air = 1)	(solvent) NA
SOLUBILITY IN WATER:	Negligible
APPEARANCE / ODOR:	Ester-like odor Liquid Paint Limited Colors
WEIGHT/GAL.	11.8 ± 0.5 lbs.
PERCENT VOLATILE: (by weight)	1 ± 1%
EVAPORATION RATE: (BuAce=1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: Combustible Liquid

FLASH POINT (PMCC °): >110°F

FLAMMABLE LIMITS: (solvent) LEL: NA UEL: NE

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Fire hazard in the form of vapor when exposed to extreme heat or open flame.

Footnotes

(C) = Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1) = Regulated as dust hazards. No exposure expected since dusts are "wetted-up" in the product.
(2) = Subject to SARA Section 313 Reporting.
(3) = Respirable dust.
(4) = See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5) = Depending on color and/or gloss.
(6) = Susceptible to spontaneous Combustion.
(7) = Exposure limits have not been established for this chemical. A closely related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10) = RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

OLD LIMIT VALUE: See Section 2

S OF OVEREXPOSURE:

: May be corrosive to skin and eyes, may be absorbed through skin. Inhalation of high vapor concentrations have results ranging from headaches and dizziness nconsciousness, may cause CNS Depression, may ritate respiratory system. Can be fatal if ingested in large quantities. May be sensitizer.

NIC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the mucous membranes and/or pulmonary system.

AL CONDITIONS PRONE TO AGGRAVATION BY XPOSURE: Preexisting skin and eye disorders may be ted.

RY ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion, tact.

IENCY AND FIRST AID PROCEDURES:

on: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

ion: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

INOGENICITY: None of the chemicals used in this product have isted by either ACGIH, IARC, OSHA, or NTP as cancer causing als.

SECTION 6 REACTIVITY DATA

ILITY: STABLE

TIONS TO AVOID: Keep away from heat, sparks, open flame.

LITY: Strong oxidants. May dissolve some plastics and

ARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, on Monoxide, Aldehydes, Nitrogen Oxides and compounds

ARDOUS POLYMERIZATION: Will *not* occur under normal tions of use.

NING: The curing process is an exothermic reaction. When nixed product is close to the end of its pot life, heat may be rated.

SECTION 7 SPILL OR LEAK PROCEDURES

PS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all ces of ignition. Dike large spills and pump into salvage tank. rb with suitable material. Keep unnecessary personnel away, d breathing vapors. Ventilate enclosed areas - open windows.

STE DISPOSAL METHOD: Dispose in accordance with local, state, federal regulations. For further information, contact your state or l solid waste agency or the U.S. EPA RCRA Hotline 00-424-9346)

SECTION 8 SPECIAL PROTECTION INFORMATION

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: Local exhaust. Explosion proof equipment - *No Smoking*.
PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.
EYE PROTECTION: Safety glasses recommended.
OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.
HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	3 (corrosive to skin & eyes)
FLAMMABILITY:	1
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

5129
KOLOR-POXY PRIMER/SEALER

MSDS Number	070
Revision Number	04
Revision Date	01/26/93

Please note that this product is covered by three (3) Material Safety Data Sheets. The first sheet (distinguished by the MSDS Number followed by the letter A) identifies Part A of this two (2) component product. Similarly, the second sheet covers Part B, and the third sheet covers the product as it would be used for application.

This MSDS has been prepared in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200). Pursuant with section G(xii)(4) of this Standard, a "family" MSDS has been prepared where the mixtures have similar hazards and contents, even though the specific compositions vary.

Chemicals which are subject to SARA Title III Section 313 Annual Release Reporting have been listed and identified as required.

Keeler & Long
Regulatory Compliance

MATERIAL SAFETY DATA SHEET

KEELER & LONG, INC.
356 ECHO LAKE ROAD
P. O. BOX 460
TERTOWN, CT 06795

Information Phone
(203) 274-6701

MSDS Number 070-A
Revision Number 04
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: #5129 KOLOR-POXY PRIMER/SEALER Part A only **CHEMICAL FAMILY:** Epoxy

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Alkyd Glycidyl Ethers	NE	NE	686909-97-2	15 - 25
Bisphenol A Diglycidyl Ether Resin	NE	NE	25068-38-6	75 - 85

SECTION 3 PHYSICAL DATA

BOILING POINT:	(solvent) NA
VAPOR PRESSURE:	(solvent) NA
VAPOR DENSITY: (air = 1)	(solvent) NA
SOLUBILITY IN WATER:	Negligible
APPEARANCE / ODOR:	Ester-like odor Clear Pale Yellow
WEIGHT/GAL.	9.2 ± 0.5 lbs.
PERCENT VOLATILE: (by weight)	Nil
EVAPORATION RATE: (BuAce=1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: NA
FLASH POINT (PMCC °F: >200°
FLAMMABLE LIMITS:
(solvent) LEL: NE UEL: NE

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Decomposition and combustion products may be toxic.

Footnotes

(C)= Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1)= Regulated as dust hazards. No exposure expected since dusts are "wetted-up" in the product.
(2)= Subject to SARA Section 313 Reporting.
(3)= Respirable dust.
(4)= See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5)= Depending on color and/or gloss.
(6)= Susceptible to spontaneous Combustion.
(7)= Exposure limits have not been established for this chemical. A closely related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10)= RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

IESHOLD LIMIT VALUE: See Section 2

ECTS OF OVEREXPOSURE:

CUTE: May be skin and eye irritant. May cause reversible eye damage. May be sensitizer. Inhalation of high vapor concentrations may have results ranging from headaches and dizziness to unconsciousness, may cause CNS Depression, may irritate respiratory system. Can be fatal if ingested in large quantities.

HRONIC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the skin,and/or pulmonary system. Chronic overexposure to Xylenes have been shown to cause adverse effects to the liver, kidneys, and or blood. May be sensitizer.

DICAL CONDITIONS PRONE TO AGGRAVATION BY EREXPOSURE: Preexisting liver, kidney, skin and eye disorders y be aggravated.

IMARY ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion.

ERGENCY AND FIRST AID PROCEDURES:

alation: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

es: Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

in: Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

iestion: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

)TICE: Reports have associated repeated and prolonged cupational overexposure to solvents with permanent brain and rvous system damage and possible liver and kidney damage. entional misuse by deliberately concentrating and inhaling the ntents may be *HARMFUL* or *FATAL*.

ARCINOGENICITY:

icon Dioxide: The IARC determined that there is sufficient evidence carcinogenicity of crystalline silica to experimental animals and that is limited evidence of the carcinogenicity of crystalline silica to This health risk is from prolonged excessive exposure to the ust. No exposure to crystalline silica is expected since the st is ..ed-up" in the product.

SECTION 6 REACTIVITY DATA

TABILITY: STABLE

ONDITIONS TO AVOID: Keep away from extreme heat, sparks, open me.

COMPATIBILITY: Strong oxidants. May dissolve some plastics and bber.

AZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, arbon Monoxide

AZARDOUS POLYMERIZATION: Will *not* occur.

SECTION 7 SPILL OR LEAK PROCEDURES

TEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all ources of ignition. Dike large spills and pump into salvage tank. bsorb with suitable material. Keep unnecessary personnel away, void breathing vapors. Ventilate enclosed areas - open windows.

ASTE DISPOSAL METHOD: Dispose in accordance with local, state, nd federal regulations. For further information, contact your state or cal solid waste agency or the U.S. EPA RCRA Hotline -800-424-9346)

SECTION 8 SPECIAL PROTECTION INFORMATION

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: As necessary to keep exposure levels to a minimum. *No Smoking.*
PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.

EYE PROTECTION: Safety glasses recommended.
OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.
HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from extreme heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	2
FLAMMABILITY:	2
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

MATERIAL SAFETY DATA SHEET

(EELER & LONG, INC.
356 ECHO LAKE ROAD
P. O. BOX 460
'ATERTOWN, CT 06795

Information Phone
(203) 274-6701

MSDS Number 070-B
Revision Number 04
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: #5129 KOLOR-POXY PRIMER/SEALER Part B only

CHEMICAL FAMILY: Amido-Amine

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Amido-Amine Resin	NE	NE	Proprietary	55 - 65
Benzyl Alcohol	NE	NE	100-51-6	35 - 45

SECTION 3 PHYSICAL DATA

BOILING POINT:	(solvent) > 200°F
VAPOR PRESSURE:	(solvent) NA
VAPOR DENSITY: (air = 1)	(solvent) NA
SOLUBILITY IN WATER:	Nil
APPEARANCE / ODOR:	Mild Amine Odor Clear Amber Liquid
WEIGHT/GAL.	8.0 ± 0.2 lbs.
PERCENT VOLATILE: (by weight)	Nil
EVAPORATION RATE: (BuAce = 1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: NA
FLASH POINT (PMCC °F: > 200°
FLAMMABLE LIMITS:
(solvent) LEL: NE UEL: NE

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Decomposition and combustion products may be toxic.

Footnotes

(C) = Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1) = Regulated as dust hazards. No exposure expected since dusts are "wetted-up" in the product.
(_) = Subject to SARA Section 313 Reporting.
(3) = Respirable dust.
(4) = See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5) = Depending on color and/or gloss.
(6) = Susceptible to spontaneous Combustion.
(7) = Exposure limits have not been established for this chemical. A closely related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10) = RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

)LD LIMIT VALUE: See Section 2

OF OVEREXPOSURE:

May be corrosive to skin and eyes, may be absorbed ...ough the skin. Inhalation of high vapor concentrations have results ranging from headaches and dizziness ...nconsciousness, may cause CNS Depression, may irritate respiratory system. Can be fatal if ingested in large quantities. May be sensitizer.

NIC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the mucous membranesand/or pulmonary system.

.L CONDITIONS PRONE TO AGGRAVATION BY (POSURE: Preexisting skin and eye disorders may be ted.

3Y ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion.

iENCY AND FIRST AID PROCEDURES:

on: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

ion: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

:INOGENICITY: None of the chemicals used in this product have listed by either ACGIH, IARC, OSHA, or NTP as cancer causing ials.

SECTION 6 REACTIVITY DATA

3ILITY: STABLE

"TIONS TO AVOID: Keep away from heat, sparks, open flame.

?ILITY: Strong oxidants. May dissolve some plastics and ...

ARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide,)on Monoxide, Aldehydes, Nitrogen Oxides and compounds.

'ARDOUS POLYMERIZATION: Will *not* occur.

SECTION 7 SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all ırces of ignition. Dike large spills and pump into salvage tank. sorb with suitable material. Keep unnecessary personnel away,)id breathing vapors. Ventilate enclosed areas - open windows.

ASTE DISPOSAL METHOD: Dispose in accordance with local, state, d federal regulations. For further information, contact your state or :al solid waste agency or the U.S. EPA RCRA Hotline 800-424-9346)

SECTION 8 SPECIAL PROTECTION ...

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: Local exhaust. Explosion proof equipment - *No Smoking.*

PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.

EYE PROTECTION: Safety glasses recommended.

OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	3 (corrosive to skin & eyes)
FLAMMABILITY:	1
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

MATERIAL SAFETY DATA SHEET

KEELER & LONG, INC.
356 ECHO LAKE ROAD
P. O. BOX 460
WATERTOWN, CT 06795

Information Phone
(203) 274-6701

MSDS Number 070-AB
Revision Number 04
Revision Date 01/26/93

24 HOUR EMERGENCY CONTACT: CHEMTREC (800-424-9300)

SECTION 1 IDENTIFICATION OF PRODUCT

TRADE NAME: #5129 KOLOR-POXY PRIMER/SEALER Parts A + B

CHEMICAL FAMILY: Epoxy/Amido-Amine

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENT	OSHA TWA	ACGIH TLV*	CAS NUMBER	PERCENTAGE RANGE (wt)
Alkyd Glycidyl Ethers	NE	NE	686909-97-2	10 - 15
Bisphenol A Diglycidyl Ether Resin	NE	NE	25068-38-6	45 - 55
Amido-Amine Resin	NE	NE	Proprietary	20 - 30
Benzyl Alcohol	NE	NE	100-51-6	10 - 20

SECTION 3 PHYSICAL DATA

BOILING POINT:	(solvent) NA
VAPOR PRESSURE:	(solvent) NA
VAPOR DENSITY: (air = 1)	(solvent) NA
SOLUBILITY IN WATER:	Negligible
APPEARANCE / ODOR:	Ester-like odor Clear Amber Liquid
WEIGHT/GAL.	8.8 ± 0.2 lbs.
PERCENT VOLATILE: (by weight)	Nil
EVAPORATION RATE: (BuAce = 1) (Solvent)	NA

SECTION 4 FIRE AND EXPLOSION DATA

DOT CLASS: NA
FLASH POINT (PMCC °F: > 200°
FLAMMABLE LIMITS:
(solvent) LEL: NE UEL: NE

EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: Treat as gasoline or oil fire; water in solid hose stream will tend to scatter liquid and spread fire. Cool exposed equipment and containers with water. Use air supplied equipment for enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Decomposition and combustion products may be toxic.

Footnotes

(C) = Ceiling Value
NA = Not Applicable
NE = Not Evaluated
* = 92-93 Revision
(1) = Regulated as dust hazards. No exposure expected since dusts are "wetted-up" in the product.
(2) = Subject to SARA Section 313 Reporting.
(3) = Respirable dust.
(4) = See "Carcinogenicity" in Section 5 (Health Hazard Data)
(5) = Depending on color and/or gloss.
(6) = Susceptible to spontaneous Combustion.
(7) = Exposure limits have not been established for this chemical. A closely related compound, Propylene Glycol Monomethyl Ether (CAS# 107-98-2) has an OSHA TWA of 100 ppm and an ACGIH TLV of 100 ppm.
(10) = RCRA listed waste (TCLP Metals)

SECTION 5 HEALTH HAZARD DATA

SHOLD LIMIT VALUE: See Section 2

CTS OF OVEREXPOSURE:

ITE: May be corrosive to skin and eyes, may be absorbed through the skin. May cause reversible eye damage. Inhalation of high vapor concentrations may have results nging from headaches and dizziness to nconsciousness, may cause CNS Depression, may irritate respiratory system. Can be fatal if ingested in large quantities. May be sensitizer.

RONIC: Long term exposure may lead to dermatitis. Long term exposure may cause adverse effects to the pulmonary system May be sensitizer.

CAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Preexisting skin and eye disorders may be ivated. Preexisting lung allergies may be aggravated. Preexisting or lung allergies may increase the chance of developing increased ic symptoms.

IARY ROUTES OF ENTRY: Skin exposure, Inhalation, Ingestion, ontact

RGENCY AND FIRST AID PROCEDURES:

ation: Remove to fresh air immediately. Call Physician. If breathing has stopped, start resuscitation and administer oxygen.

: Flush exposed eyes with water for at least 15 minutes. An ophthalmic exam should be performed if irritation or pain persists after 15 minute irrigation.

: Wash the exposed area twice with soap and water. Physician should examine the exposed area if irritation or pain persists.

stion: Dilute with large amounts of water or milk. DO NOT INDUCE VOMITING.

ICE: Reports have associated repeated and prolonged ipational overexposure to solvents with permanent brain and ous system damage and possible liver and kidney damage. ntional misuse by deliberately concentrating and inhaling the ents may be *HARMFUL* or *FATAL*.

ICINOGENICITY:

Dioxide: The IARC determined that there is sufficient evidence icity of crystalline silica to experimental animals and that d evidence of the carcinogenicity of crystalline silica to ans. s health risk is from prolonged excessive exposure to the irable dust. No exposure to crystalline silica is expected since the t is "wetted-up" in the product.

SECTION 6 REACTIVITY DATA

ABILITY: STABLE

NDITIONS TO AVOID: Keep away from extreme heat, sparks, open ne.

COMPATIBILITY: Strong oxidants. May dissolve some plastics and ber.

ZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, bon Monoxide, Aldehydes, Nitrogen Oxides

ZARDOUS POLYMERIZATION: Will *not* occur under normal ditions of use.

RNING: The curing process is an exothermic reaction. When mixed product is close to the end of its pot life, heat may be erated.

SECTION 7 SPILL OR LEAK PROCEDURES

EPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate all rces of ignition. Dike large spills and pump into salvage tank. sorb with suitable material. Keep unnecessary personnel away, oid breathing vapors. Ventilate enclosed areas - open windows.

STE DISPOSAL METHOD: Dispose in accordance with local, state, d federal regulations. For further information, contact your state or al solid waste agency or the U.S. EPA RCRA otline 800-424-9346)

SECTION 8 SPECIAL PROTECTION INFORMATION

Personal Protective Equipment requirements depend upon the conditions of use. The following are general recommendations:

RESPIRATORY:

1. In outdoor or open areas with unrestricted ventilation - Approved mechanical filter respirator to remove solid airborne particulates of overspray during spray application.
2. In restricted ventilation areas - Approved chemical/mechanical filters designed to remove vapors and particulates.
3. In confined areas - Approved air-supplied type respirators.

VENTILATION: As necessary to keep exposure levels to a minimum. *No Smoking.*
PROTECTIVE GLOVES: Insoluble type (Neoprene) recommended.

EYE PROTECTION: Safety glasses recommended.
OTHER PROTECTIVE EQUIPMENT: Clean, long legged, long sleeved work clothes.
HYGIENIC PRACTICES: Wash hands before eating, smoking, or using washroom.

SECTION 9 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed. Keep away from extreme heat, sparks, and open flame. Use adequate ventilation. Prevent spontaneous combustion.

OTHER PRECAUTIONS: Avoid prolonged or repeated skin contact or breathing of vapors and mists. Prohibit eating or smoking. Use spark resistant tools. *Do Not Work Alone! Keep Away From Children!*

SECTION 10 HAZARDOUS MATERIALS IDENTIFICATION

Communication of physical properties, health and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product under normal use conditions.

HMIS CLASSIFICATION CODE

HEALTH:	2 corrosive to skin/eyes
FLAMMABILITY:	2
REACTIVITY:	0

0: Minimal 1: Slight 2: Moderate 3: Serious 4: Severe

An asterisk (*) indicates the presence of chronic health effects (See Section 5).

Proposition 65 Statement:
Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, expressed or implied, and assume no liability in connection with any use of this information. As these are proprietary formulations, the actual percentage of ingredients have been omitted pursuant to OSHA Federal Hazard Communication Standard.

ARMAG®
CORPORATION

24' x 8' x 8' Type 2 magazine with 2 sets of double doors

Standard Type 2 Magazines

All Armag Corporation type 2 magazines have been manufactured since 1969 to meet or exceed ATF specs. The exterior is 1/4" ASTM A-36 prime steel and the interior is lined with 3" of hardwood. Two lock staples are shrouded by 1/4" steel hoods. We include hinge side door protection to prevent the door from being opened in the event the hinges are defeated and each door has an attached grounding strap to transfer static electricity back to the main structure. The magazine is properly vented and is mounted on 6" wide flange beams to keep the bottom off the ground. The unit is commercially sandblasted and painted with 8 mils of high solids urethane to protect the structure from the elements.

5' x 4' x 7' Type 2 magazine with attached 24" x 24" x 24" Type 4 cap box

Interior view of 24' x 8' x 8' Type 2 magazine

4' x 4' x 4' Type 2 ATF spec magazine

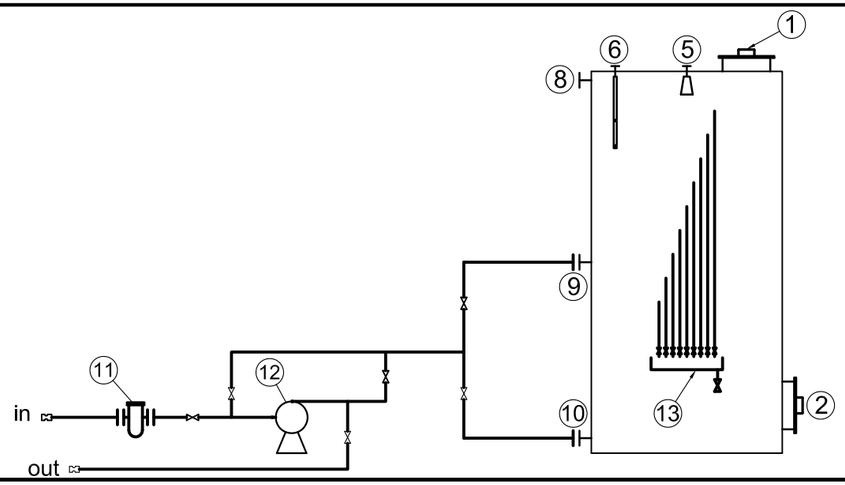
Numerous options are available including explosion proof lights and heat/AC, attached cap boxes and attached magazines, interior divider walls, and double doors. Standard size magazines range from 3' x 3' x 3' (LWH) to 40' x 8' x 10'.

Call us to discuss your storage needs or visit our website for a complete listing of standard sizes.

WWW.ARMAGCORP.COM • (502) 348-3987 • TOLL FREE: 1 (800)443-9994 • FAX: (502) 348-4801

PROCESS

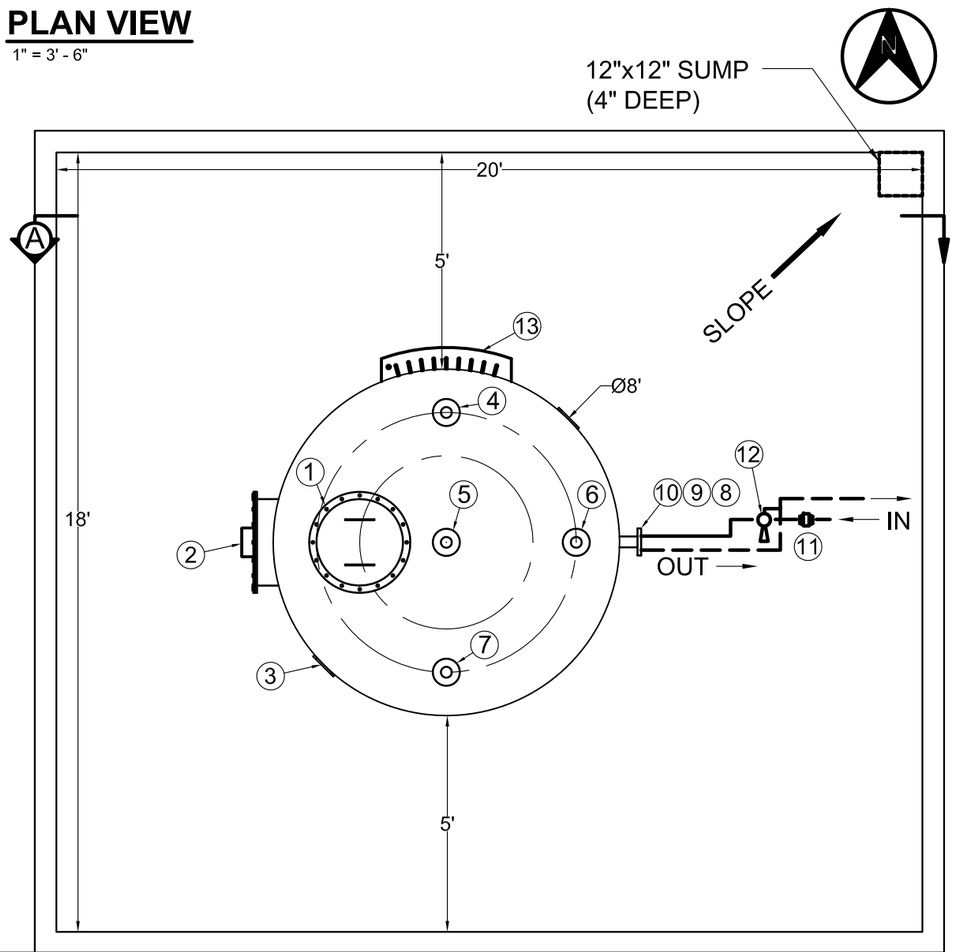
NOT TO SCALE



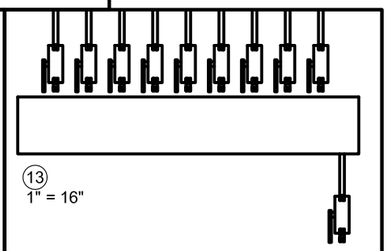
1. TOP 24" MAN-WAY
2. SIDE 24" MAN-WAY
3. LIFT LUG (2)
4. 3" FLANGE FOR SPARE
5. 3" FLANGE FOR LIT (LEVEL INDICATOR TRANSMITTER/ULTRASONIC)
6. 3" FLANGE FOR LSH/LSHH (LEVEL SWITCH HIGH/HIGH HIGH)
7. 3" FLANGE FOR CONSERVATION VENT
8. 3" FLANGE FOR OVERFLOW
9. 3" FLANGE FOR MIDDLE FILL/DRAIN
10. 3" FLANGE FOR BOTTOM FILL/DRAIN
11. FILTER
12. PUMP
13. CATCH BASIN AND VALVES (SEE BELOW FOR DETAIL)

PLAN VIEW

1" = 3' - 6"



EXISTING SOLIDIFICATION BUILDING



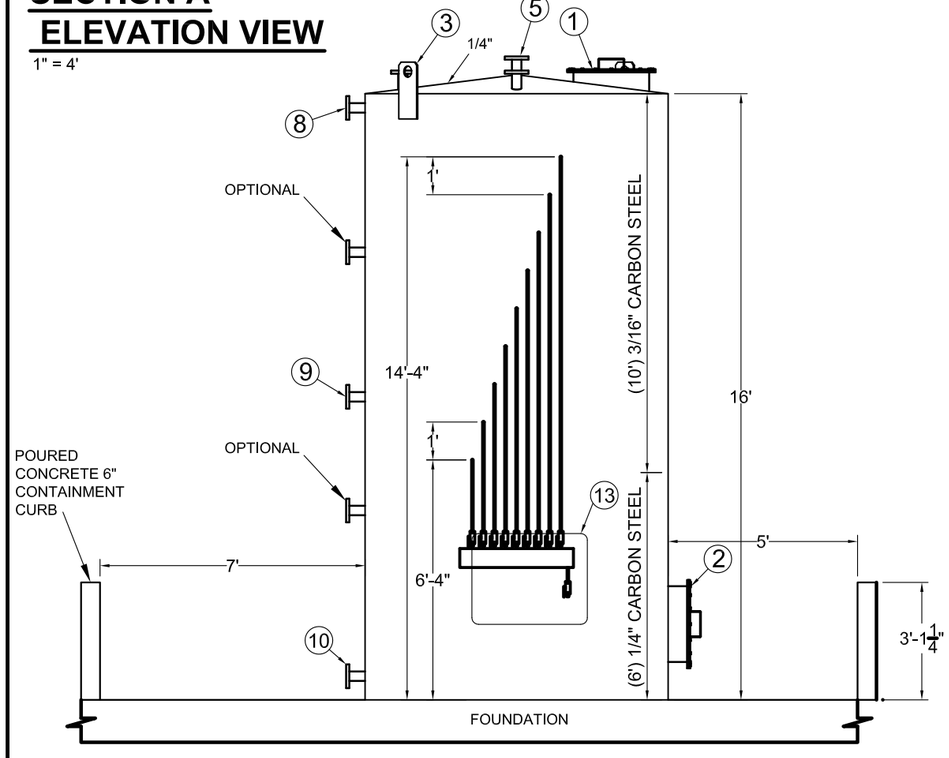
CONTAINMENT CALCULATIONS:

CONTAINMENT PLAN SIZE L x W	AVERAGE DEPTH (FEET)	AVAILABLE CONTAINMENT VOLUME (GALLONS)	LARGEST VESSEL (GALLONS)	25 YEAR RAINFALL VOLUME* (GALLONS)	REQUIRED LARGEST VESSEL PLUS RAINFALL (GALLONS)
18ft x 20ft	3.1	8348	6000	2132	8132

*RAINFALL IS BASED ON A 25 YEAR, 24 HOUR EVENT OF 9.5 INCHES

SECTION A
ELEVATION VIEW

1" = 4'



THE
ENVIRONMENTAL QUALITY
COMPANY
[redacted]

EQ - FLORIDA
7202 EAST EIGHTH AVE
TAMPA, FL 33619
PHONE: (813) 623-5302

DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	
DRAWN	AJR
CHECKED	
APPROVED	

PRIVILEGED AND CONFIDENTIAL

OIL/WATER SEPERATION TANK

JOB NO..	SCALE: AS NOTED
DATE: 6/27/2013	SHEET NO.: 1 OF:

STRUCTURAL NOTES

I. GOVERNING CODES:

This design is based on the following codes:

A. 40 CFR Part 264, Subpart J - Tank Systems
B. Florida Building Code, 2010 EDITION.
C. Specification for the Design, Fabrication, and Erection of Structural Steel for Building, ASD Design method.
D. Structural Welding Code D1.1

II. DISCREPANCIES BETWEEN DRAWINGS & EXISTING CONDITIONS:

These drawings were prepared based on field data gathered during the design process. However, as the demolition of the existing structure allows for better views of the existing structure, there may be discrepancies between the drawings & the actual conditions. These discrepancies should be brought to the attention of the engineer immediately. Please confirm all dimensions to the existing structure before ordering, purchasing, or installing any new work.

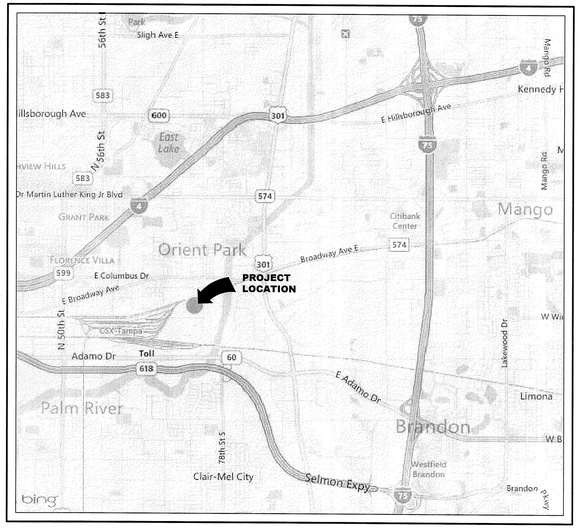
III. DRAWINGS AND SPECIFICATIONS:

A. Do not scale these drawings for dimensions not given. Verify all field conditions and confirm column locations in respect to building wall alignment prior to the start of work.
B. These construction documents have been prepared from the most complete information available to the engineer. All data on existing construction conditions are approximate & shall be verified prior to commencing work.
C. The contractor shall comply with the manufacturer's instructions & recommendations to the extent-printed information are more detailed or stringent than the requirements contained in the plans.
D. The plans show the location of all fixtures & equipment & are intended to convey the general intent of the work in scope & layout. They are not intended to show in minute detail every & all of the accessories intended for the purpose of execution of the work, but it is understood that such details are part of this work.
E. The Contractor shall perform no portion of the work at any time without Contract Documents or, where required, approved shop drawings, product data or supplemental details for such portion of the work.
F. The Contractor is responsible for means and methods of construction to ensure the safety of the building until the structural system is completed. The structural system is unstable until all connections have been made and all concrete has reached the minimum design strength as specified in these drawings.

IV. STRUCTURAL STEEL:

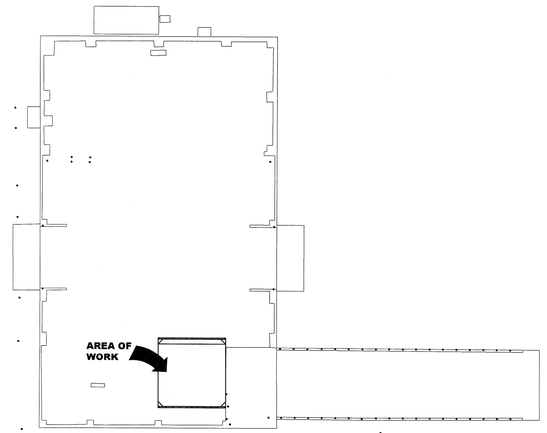
A. Fabrication and erection of structural steel shall be in accordance with AISC "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings" (latest edition).
B. Structural steel shapes (used as beams and columns) shall conform to ASTM A572 Grade 50 KSI unless otherwise noted on the contract drawings.
C. Plates, channels, rods, anchor bolts and angles shall conform to ASTM A36 unless otherwise noted of the contract drawings.
D. Steel pipe shall conform to ASTM A53 Grade B or ASTM A501.
E. Structural tubing shall conform to ASTM A500 Grade B (46 KSI minimum).
F. All bolts (except anchor bolts) shall be high strength (HSB) shall conform to ASTM A325, 3/4" diameter unless noted otherwise. High strength bolts shall be used unless specifically noted on the drawings.
G. All welding shall be performed by certified welders in accordance with AWS "Code for Arc and Gas Welding in Building Construction" (latest edition). The minimum electrode used shall be E70xx Low Hydrogen electrodes unless otherwise specified.
H. All beams shall be fabricated and erected natural camber up
I. Splicing of structural steel where not detailed is not permitted with out prior written approval of the structural engineer.

VICINITY MAP



ABBREVIATIONS (NOT ALL ARE USED)

AB	ANCHOR BOLT	LL	LIVE LOAD
AFF	ABOVE FINISH FLOOR	LLBB	LONG LEG BACK-TO-BACK
ARCH	ARCHITECT(URAL)	LLH	LONG LEG HORIZONTAL
BLDG	BUILDING	LLV	LONG LEG VERTICAL
BRDG	BRIDGING		
BRG	BEARING	OC	ON CENTER
CJ	CONSTRUCTION JOINT (OR CONTROL JOINT)		
CL	CENTERLINE	PAF	POWDER-ACTUATED FASTENER(S)
CMU	CONCRETE MASONRY UNIT	PL	PLATE
CONC	CONCRETE	PLF	POUNDS PER LINEAR FOOT
CONN	CONNECTION	PNL	PANEL
CONT	CONTINUOUS	PSF	POUNDS PER SQUARE FOOT
COORD	COORDINATE	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	REQD	REQUIRED
DL	DEAD LOAD		
DWG	DRAWING	SDI	STEEL DECK INSTITUTE
		SIM	SIMILAR
EA	EACH	SJI	STEEL JOIST INSTITUTE
ENG	ENGINEER	SOG	SLAB ON GRADE
EL	ELEVATION	SPECS	SPECIFICATIONS
EQ	EQUAL	SQ	SQUARE
EW	EACH WAY	STD	STANDARD
EXT	EXTERIOR	STL	STEEL
FBC	FLORIDA BUILDING CODE	T&B	TOP AND BOTTOM
FF	FINISHED FLOOR	TRANS	TRANSVERSE
FS	FAR SIDE	TYP	TYPICAL
FTG	FOOTING		
		UNO	UNLESS NOTED OTHERWISE
ga	GAUGE		
GC	GENERAL CONTRACTOR	VIF	VERIFY IN FIELD
		VERT	VERTICAL
HC	HOLLOW-CORE		
HORIZ	HORIZONTAL	WWF	WELDED WIRE FABRIC
HS	HEADED STUD	W/	WITH
HSS	HOLLOW STRUCTURAL SECTION		
INT	INTERIOR		



BUILDING KEY PLAN

SCALE: NTS

N

STRUCTURAL NOTES

REVISIONS

1	2	3	4	5

THE AVANTI GROUP INC
consulting engineers
1095 E. Brandon Blvd.
Brandon, Florida 33511
P (813) 655-2884
F (813) 655-2886
www.avantitampa.com
FLORIDA CERTIFICATE OF AUTHORIZATION No. 26537

CLIENT:
KCI TECHNOLOGIES, INC
10401 HIGHLAND MANOR DR SUITE 120
TAMPA, FL 33610

PROPOSED TANK SYSTEM FOR:
EQ FLORIDA
7202 EAST 8TH AVE
TAMPA FL 33619

DAVID W. SCHOMACKER LICENSE No. 63131 STATE OF FLORIDA PROFESSIONAL ENGINEER REGISTERED JULY 4, 2013 (SEAL)

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE DRAWINGS & SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

SCALE: AS SHOWN
DRAWN BY: ALH
CHECKED BY: DMS
ISSUE DATE 07-24-13
PROJECT: 13-098

SHEET NUMBER
S001

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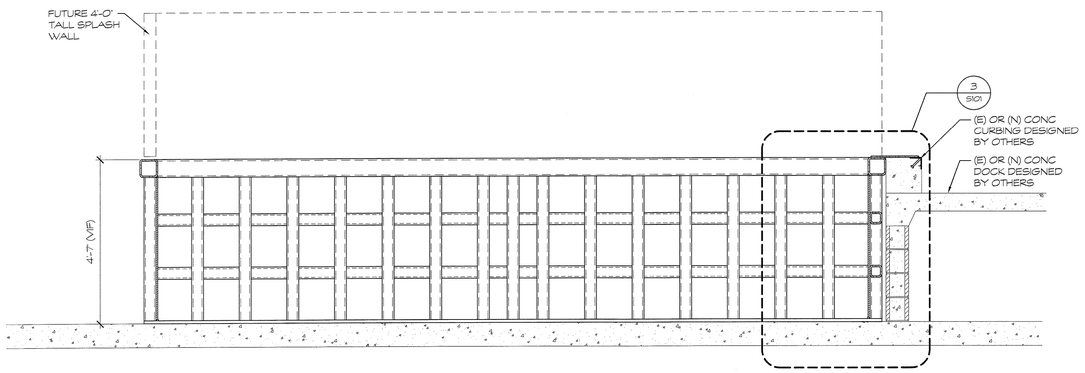
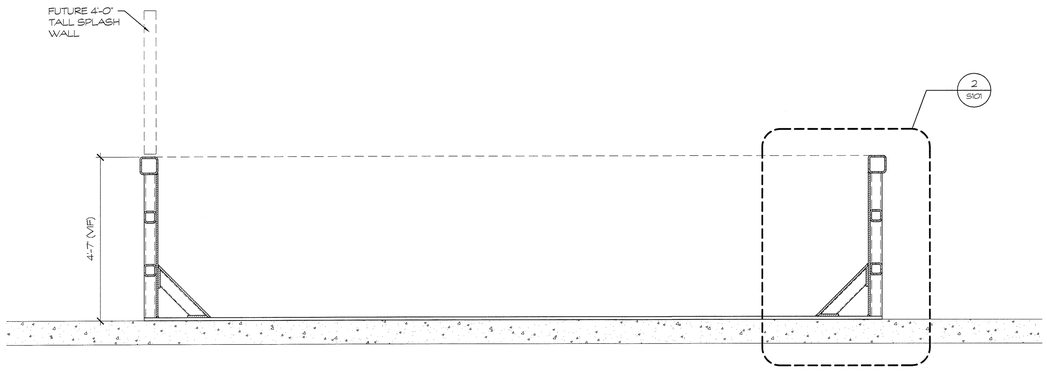


TANK SOUTH ELEVATION

SCALE: 1/2" = 1'-0"

FILE_NAME

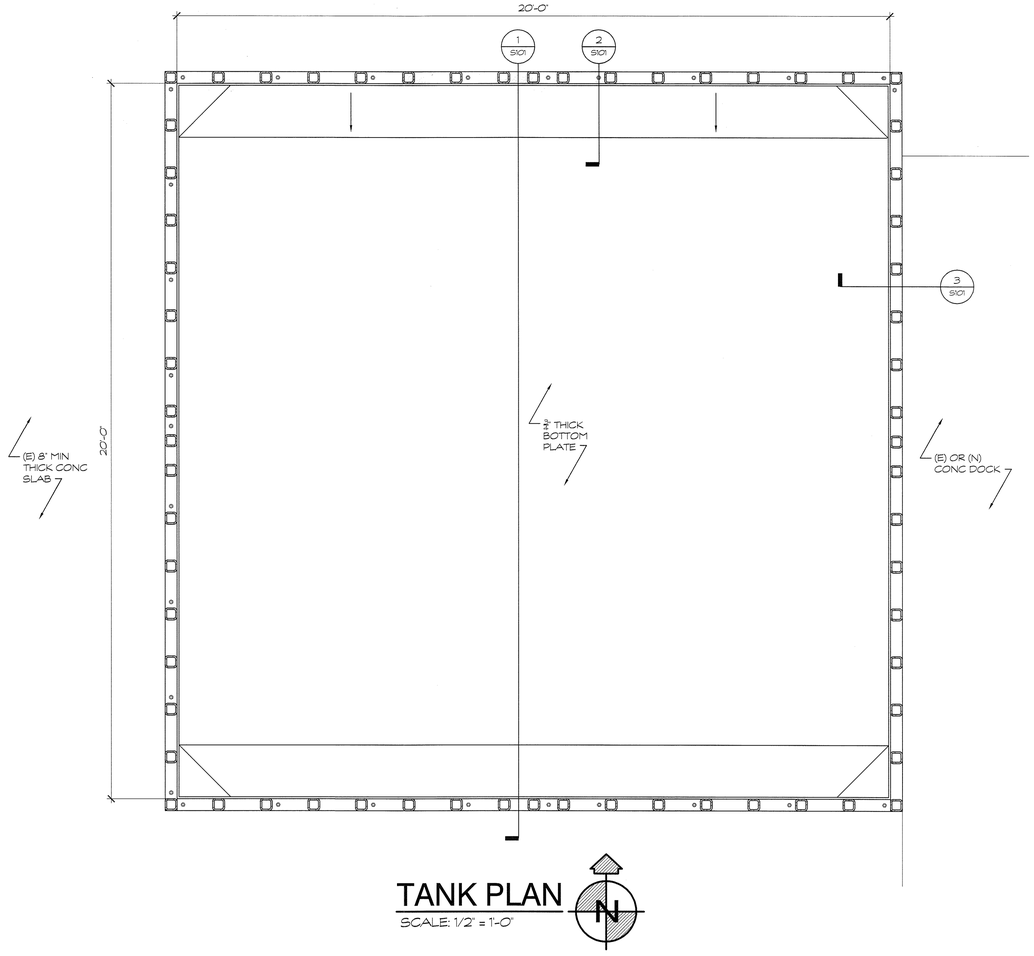


1 S101 TANK SECTION

SCALE: 1/2" = 1'-0"

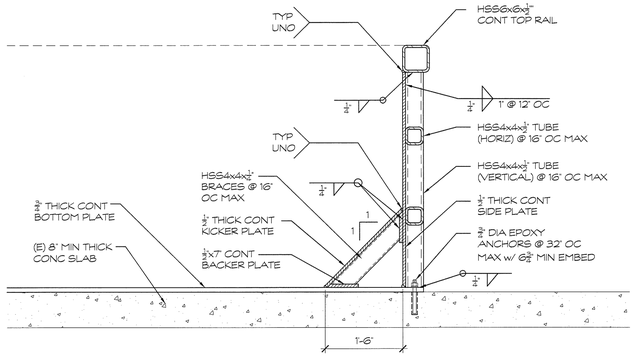
NOTE:

I HAVE REVIEWED THE REQUIREMENTS IN 40 CFR PART 264, SUBPART J-TANK SYSTEMS AND THE TREATMENT TANK DESIGN WAS BASED ON CONSIDERATION OF THESE REQUIREMENTS AS WELL AS THE APPLICABLE GOVERNING CODES AND STRUCTURAL STEEL NOTES PROVIDED IN THE STRUCTURAL NOTES SECTION ON SHEET S001. IN MY PROFESSIONAL OPINION, THE TANK SYSTEM HAS SUFFICIENT STRUCTURAL INTEGRITY AND IS ACCEPTABLE FOR STORING AND TREATING HAZARDOUS WASTE. FURTHER, THE FOUNDATION, STRUCTURAL SUPPORT, BEAMS AND CONNECTIONS ARE ADEQUATELY DESIGNED AND THE TANK HAS SUFFICIENT STRUCTURAL STRENGTH, COMPATIBILITY WITH THE WASTES TO BE STORED OR TREATED, AND CORROSION PROTECTION TO ASSURE THAT IT WILL NOT COLLAPSE, RUPTURE, OR FAIL.



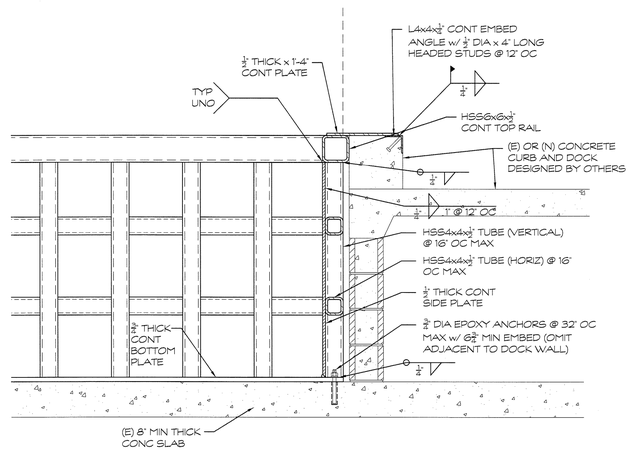
TANK PLAN

SCALE: 1/2" = 1'-0"



2 S101 SECTION AT NORTH WALL (PULL)

SCALE: 3/4" = 1'-0"



3 S101 SECTION AT EAST WALL (DOCK)

SCALE: 3/4" = 1'-0"

REVISIONS

1	
2	
3	
4	
5	

THE AVANTI GROUP consulting engineers
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PROPOSED TANK SYSTEM FOR:

EQ FLORIDA
7202 EAST 8TH AVE
TAMPA, FL 33619

DAVID M. SCHOMMER LICENSE NO. 68131 STATE OF FLORIDA PROFESSIONAL ENGINEER (NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL) 07/24/2013

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE DRAWINGS & SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

SCALE:	AS SHOWN
DRAWN BY:	ALH
CHECKED BY:	DMS
ISSUE DATE:	07-24-13
PROJECT:	13-098

SHEET NUMBER

S101

TANK PLAN, ELEVATION & DETAILS

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APPENDIX J

Waste Analysis Plan Documentation

Tracking #_____

WASTE CHARACTERIZATION REPORT

☐ ***I authorize EQ – The Environmental Quality Company to choose the appropriate facility and method of waste management from the technologies offered at the EQ facilities identified below.***

☐ **Michigan Disposal Waste Treatment Plant** (Stabilization and Treatment)	49350 N. I-94 Service Drive, Belleville, MI 48111 Phone: 800-592-5489	Fax: 800-592-5329	EPA ID # MID 000 724 831
☐ **Wayne Disposal, Inc. Site #2 Landfill** (Hazardous & PCB Waste Landfill)	49350 N. I-94 Service Drive, Belleville, MI 48111 Phone: 800-592-5489	Fax: 800-592-5329	EPA ID # MID 048 090 633
☐ **EQ Detroit, Inc.** (Stabilization, Wastewater Treatment)	1923 Frederick Street, Detroit, MI 48211 Phone: 313-923-0080	Fax: 313-923-3375	EPA ID # MID 980 991 566
☐ **EQ Resource Recovery, Inc.** (Solvent Recycling, Fuel Blending, WW Treatment)	36345 Van Born Road, Romulus, MI 48174 Phone: 866-373-8357	Fax: 734-326-4033	EPA ID # MID 060 975 844
☐ **EQ North Carolina** (Stabilization, Treatment, Labpack Decommissioning)	1005 Investment Blvd, Apex, NC 27502 Phone: 919-363-4700	Fax: 919-363-4714	EPA ID # NCD 982 170 292
☐ **EQ Florida, Inc.** (Drum Consolidation, Labpack Decommissioning)	7202 East 8th Ave, Tampa, FL 33619 Phone: 813-623-5463	Fax: 813-628-0842	EPA ID # FLD 981 932 494
☐ **EQ Transfer & Processing** (Drum Transfer/Universal Waste Handling)	2000 Ferry Street, Detroit, MI 48211 Phone: 313-923-0080	Fax: 313-922-8419	EPA ID # MIK 939 928 313
☐ **EQ Indianapolis** (Drum Transfer/Non-Hazardous Waste Processing)	4000 West 10th Street, Indianapolis, IN 46222 Phone: 317-247-7160	Fax: 317-247-7170	EPA ID # IND 161 049 309
☐ **EQ Atlanta** (Drum Transfer/Non-Hazardous Waste Processing)	5600 Fulton Industrial Blvd SW, Atlanta, GA 30336 Phone: 404-494-3520	Fax: 404-494-3560	EPA ID # GAR 000 039 776
☐ **EQ Augusta, Inc.** (Wastewater Treatment)	3920 Goshen Industrial Blvd, Augusta, GA 30906 Phone: 706-771-9100	Fax: 706-771-9124	EPA ID # GAR 000 011 817

Waste Common Name:

Section 1 – Generator & Customer Information

SIC/NAICS* _____

Generator EPA ID # _____

Generator _____

Facility Address _____

City _____ State _____ Zip _____

County _____

Mailing Address _____

City _____ State _____ Zip _____

Generator Contact _____

Title _____

Phone _____ Fax _____

*For a list of NAICS codes, please refer to Section 9 of the EQ Resource Guide.

Internal Use Only: EQ Division _____

EQ Customer No. _____

Invoicing Company _____

Address _____

City _____ State _____ Zip _____

Country _____

Invoicing Contact _____

Phone _____ Fax _____

Technical Contact _____

Phone _____ Fax _____

Mobile _____ Pager _____

E-mail _____

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency _____
☐ One Time Only ☐ Year ☐ Quarter ☐ Month

2.2) DOT Shipping Name _____

2.3) Is this waste surcharge exempt? ☐ Yes ☐ No
If yes, please attach a surcharge exemption form, found in Section 2 of the EQ Resource Guide.

2.4) Packaging **(check all that apply)**
☐ Bulk Solid (Yd^3 < 2000 lbs/yd^3)
☐ Bulk Solid (Ton >2000 lbs/yd^3)
☐ Bulk Liquids (Gallon)
☐ Totes, Size _____
☐ Cubic Yard Boxes/Bags
☐ Drums, Size _____
☐ Other (palletized, 5 gal. Pail, etc.) _____
Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

Section 3 – Physical Characteristics

3.1) Color _____ 3.2) Odor _____

3.3) Does this waste contain any "Potentially Odorous Constituents" as defined in the EQ Resource Guide? (Section 3) ☐ Yes ☐ No

3.4) Physical State at 70^0F: ☐ Solid ☐ Dust/Powder ☐ Liquid ☐ Sludge

3.5) What is the pH of this waste? ☐ ≤2 ☐ 2.1-4.9 ☐ 5-10 ☐ 10.1-12.4 ☐ ≥12.5

3.6) What is the flash point of this waste? ☐ $<90^0$F ☐ 90-140^0F ☐ 140-199^0F ☐ $>200^0$F

3.7) Does this waste contain? **(check all that apply)** ☐ **None** ☐ Free Liquids ☐ Oily Residue ☐ Metal Fines

☐ Biodegradable Sorbants ☐ Amines ☐ Ammonia ☐ Water Reactive ☐ Biohazard ☐ Aluminum

☐ Shock Sensitive Waste ☐ Reactive Waste ☐ Radioactive Waste ☐ Explosives ☐ Pyrophoric Waste ☐ Isocyanates

☐ Asbestos – non-friable ☐ Asbestos – friable ☐ Dioxins ☐ Furans

Section 4 – Waste Composition and Generating Process

4.1) Describe the physical composition of the waste (i.e., soil, water, PPE, debris, key chemical compounds, etc.)

_____ _____ to _____ % _____ _____ to _____ %

_____ _____ to _____ % _____ _____ to _____ %

Total: 100%

4.2) Provide a *detailed* description of the process generating this waste (attach flow diagram if available).

_____

_____

_____

_____

Section 5 – Is This Hazardous Waste?

Please refer to Section 5 of the EQ Resource Guide for a list of waste codes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ☐ Yes ☐ No _____

5.2) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ☐ Yes ☐ No _____

5.3) Do any State Hazardous Waste Codes apply? ☐ Yes ☐ No _____

5.4) Is this waste intended for wastewater treatment? ☐ Yes* ☐ No

If you answered 'no' to 5.1, 5.2, and 5.3, please skip to Section 7. *If you answered 'yes' to 5.4, please attach the Waste Characterization Report Addendum found in Section 7 of the EQ Resource Guide.

Section 6 – Hazardous Wastes

6.1) Does this waste exceed Land Disposal Restriction levels? ☐ Yes ☐ No

6.1a) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40 CFR 268.49? ☐ Yes ☐ No

6.1b) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ☐ Yes ☐ No

6.2) Is the waste an oxidizer (D001)? ☐ Yes ☐ No

6.3) Does this waste contain reactive cyanide ≥ 250 ppm (D003)? ☐ Yes ☐ No

6.4) Does this waste contain reactive sulfide ≥ 500 ppm (D003)? ☐ Yes ☐ No

6.5) Please indicate which constituent concentrations are below or above the regulatory level. Please indicate the basis used in the determination. Either "Below" or "Above" **MUST** be checked for each constituent.

Based On: ☐ **Generator Knowledge** ☐ **Analysis*** ☐ **MSDS***

***Please attach a copy. Analysis or MSDS are required for EQFL Non-hazardous wastes.**

Code		Regulatory Level TCLP (mg/l)	Concentration (if above)	Code		Regulatory Level TCLP (mg/l)	Concentration (if above)
D004	Arsenic	5	☐ Below ☐ Above _____	D024	m-Cresol	200	☐ Below ☐ Above _____
D005	Barium	100	☐ Below ☐ Above _____	D025	p-Cresol	200	☐ Below ☐ Above _____
D006	Cadmium	1	☐ Below ☐ Above _____	D026	Cresols	200	☐ Below ☐ Above _____
D007	Chromium	5	☐ Below ☐ Above _____	D027	1,4-Dichlorobenzene	7.5	☐ Below ☐ Above _____
D008	Lead	5	☐ Below ☐ Above _____	D028	1,2-Dicholoroethane	0.5	☐ Below ☐ Above _____
D009	Mercury	0.2	☐ Below ☐ Above _____	D029	1,1-Dichloroethylene	0.7	☐ Below ☐ Above _____
D010	Selenium	1	☐ Below ☐ Above _____	D030	2,4-Dinitrotoluene	0.13	☐ Below ☐ Above _____
D011	Silver	5	☐ Below ☐ Above _____	D031	Heptachlor	0.008	☐ Below ☐ Above _____
D012	Endrin	0.02	☐ Below ☐ Above _____	D032	Hexachlorobenzene	0.13	☐ Below ☐ Above _____
D013	Lindane	0.4	☐ Below ☐ Above _____	D033	Hexachlorobutadiene	0.5	☐ Below ☐ Above _____
D014	Methoxychlor	10	☐ Below ☐ Above _____	D034	Hexachloroethane	3.0	☐ Below ☐ Above _____
D015	Toxaphene	0.5	☐ Below ☐ Above _____	D035	Methyl Ethyl Ketone	200	☐ Below ☐ Above _____
D016	2,4-D	10	☐ Below ☐ Above _____	D036	Nitrobenzene	2	☐ Below ☐ Above _____
D017	2,4,5-TP (Silvex)	1	☐ Below ☐ Above _____	D037	Pentachlorophenol	100	☐ Below ☐ Above _____
D018	Benzene	0.5	☐ Below ☐ Above _____	D038	Pyridine	5	☐ Below ☐ Above _____
D019	Carbon Tetrachloride	0.5	☐ Below ☐ Above _____	D039	Tetrachloroethylene	0.7	☐ Below ☐ Above _____
D020	Chlordane	0.03	☐ Below ☐ Above _____	D040	Trichloroethylene	0.5	☐ Below ☐ Above _____
D021	Chlorobenzene	100	☐ Below ☐ Above _____	D041	2,4,5-Trichlorophenol	400	☐ Below ☐ Above _____
D022	Chloroform	6.0	☐ Below ☐ Above _____	D042	2,4,6-Trichlorophenol	2	☐ Below ☐ Above _____
D023	o-Cresol	200	☐ Below ☐ Above _____	D043	Vinyl Chloride	0.2	☐ Below ☐ Above _____

6.6) If this is a characteristic hazardous waste, does it contain underlying hazardous constituents? ☐ Yes ☐ No

If yes, please list the constituents in Section 11.

Section 7 – Non-Hazardous Wastes

For a complete list of non-hazardous waste codes, please refer to Section 7 of the EQ Resource Guide

Please list applicable waste code:

7.1) Is this a Michigan non-hazardous liquid industrial waste? ☐ Yes ☐ No _____

7.2) Is this a Universal waste? ☐ Yes ☐ No

7.3) Is this a Recyclable Commodity? (e.g.: computer monitors, free mercury, etc.) ☐ Yes ☐ No

7.4) Is this waste a recoverable petroleum product? ☐ Yes* ☐ No

7.5) Is this waste used oil as defined by 40 CFR Part 279? ☐ Yes* ☐ No

If you answered 'yes' to questions 7.4 or 7.5 please attach the Waste Characterization Report Addendum found in Section 7 of the EQ Resource Guide.

Section 8 – TSCA Information

8.1) What is the concentration of PCBs in the waste? ☐ None ☐ 0-5 ppm ☐ 6-49 ppm ☐ 50-499 ppm ☐ 500+ ppm

8.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ☐ Yes ☐ No

If you answered "no" to 8.1 and 8.2, please skip to Section 9.

8.3) Has this waste been processed into a non-liquid form? ☐ Yes ☐ No

If yes, what was the concentration of PCBs prior to processing? ☐ N/A ☐ 0-499 ppm ☐ 500+ ppm

8.4) Is the non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ☐ Yes ☐ No

8.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ☐ Yes ☐ No

8.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ☐ N/A ☐ Yes ☐ No

Section 9 – Clean Air Act Information

NESHAP SIC*		
2812	2836	2875
2813	2841	2879
2816	2842	2891
2819	2843	2892
2821	2844	2893
2822	2851	2895
2823	2861	2899
2824	2865	2911
2833	2869	3312
2834	2873	4953
2835	2874	9511

9.1) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD or 40 CFR, Part 264, Subpart CC (RCRA)? ☐ Yes ☐ No
(Does the waste contain >500 ppm Volatile Organic Hazardous Air Pollutants – VOHAP's or Volatile Organic Compounds – VOC's?)

For a complete list of VOHAP's, please see Section 11 of the EQ Resource Guide

9.2) Is the site, or waste, subject to any other MACT or NESHAP? ☐ Yes, please specify: _____ ☐ No

9.3) Does this waste stream contain Benzene? ☐ Yes ☐ No

If you answered "no" to 9.3, please skip to Section 10.

9.4) Does the waste stream come from a facility with one of the SIC/NAICS codes listed under the Benzene NESHAP identified in 40 CFR 61, Subpart FF? ☐ Yes ☐ No

9.5) Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ☐ Yes ☐ No

For assistance in calculating the TAB, please see the TAB Worksheet in Section 9 of the EQ Resource Guide.

If you answered "no" to question 9.4 <u>and</u> 9.5, please skip to Section 10.

9.6) Does the waste contain >10% water? ☐ Yes ☐ No

9.7) What is the TAB quantity for your facility? _____Mg/Year

9.8) Does the waste contain >1.0 mg/kg total Benzene? ☐ Yes ☐ No

9.9) What is the total Benzene concentration in your waste? _____Percent or _____ ppmw.

(Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.)

*For a list of NAICS codes, please refer to Section 9 of the EQ Resource Guide.

Section 10 – Fuel Blending Information

10.1) Is this waste intended for fuel blending? ☐ Yes* ☐ No

*If yes, Heat value (BTU/lb.) _____ Chlorine (%) _____ Water (%)_____ Solids (%) _____

10.2) Is this waste intended for reclamation? ☐ Yes ☐ No (5-Gallon Sample required for all reclaim waste streams)

Section 11 – Constituent Information

Please identify your waste constituents from these four categories: ***Underlying Hazardous Constituents (UHC's), Volatile Organic Hazardous Air Pollutants (VOHAP's), Volatile Organic Compounds (VOC's) and Toxic Release Inventory Constituents (TRI)***

Constituent	Concentration	UHC?	Constituent	Concentration	UHC?
_____	_____	☐ Yes ☐ No	_____	_____	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No	_____	_____	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No	_____	_____	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No	_____	_____	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No	_____	_____	☐ Yes ☐ No

Please see Section 11 of the EQ Resource Guide for a list of UHC's, VOHAP's and VOC's. For a complete list of TRI constituents, please refer to 40 CFR 372.65.

Section 12 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's Resource Team to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's Resource Team to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

Generator Signature _____ Printed Name _____

Company _____ Title _____ Date _____

The generator's signature <u>MUST</u> appear on the EQ Waste Characterization Report. If the generator has authorized a third party to certify this document, a written notice (on generator letterhead) must accompany this submittal. Although the EQ Resource Team is authorized to make certain modifications to the information provided on this form, the addition or removal of waste codes and waste constituents must be documented by the generator.

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ – The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Characterization Report, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

The following definitions shall apply for purposes of this Agreement:

"Acceptable Waste" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"Delivered Wastes" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Characterization Report and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Characterization Report (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Characterization Report containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Characterization Report, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Characterization Report.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Characterization Report. The information set forth in the Waste Characterization Report or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Characterization Report, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

EQ FLORIDA, INC.

Land Disposal Restriction (LDR) Notification Form

Generator_____ **US EPA ID #**_____ **Manifest Doc.#**_____

1 Manifest page # and line item	2 EPA Hazardous Waste Code	3a WW	3b NWW	4 Subcategory (if applicable)	5 F001-F005 Constituents (if applicable)	6 UHC; Underlying Hazardous Constituents (if applicable)	7 LDR Certification (one per line)

The list of waste codes continues Yes_____ **No**_____

Waste on following line item(s) is subject to 'California List" restrictions of 40 CFR 268.32 for the following characteristic(s):	
California List Characteristics	**Manifest Line Item(s)**
Liquid hazardous wastes >= 50 ppm PCBs	
Hazardous wastes with HOCs >= 1000 ppm (40 CFR 268, Appendix III)	
Liquid hazardous wastes with nickel concentrations > 134 mg/L	
Liquid hazardous wastes with thallium concentrations > 130 mg/L	

LDR Certifications (Please list only one for each of the above line entries)	
1.	This waste complies with the treatment standards specified in 40 CFR 268, Subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d).
2.	This waste does not meet the treatment standards specified in 40 CFR 268, Subpart D, or exceeds the applicable treatment standards set forth in CFR 268.32 or RCRA Section 3004(d). Waste must be treated to the appropriate standards.
3.	This waste has been treated in accordance with 40 CFR 268.40 to remove the hazardous characteristic. The above listed underlying hazardous constituents are likely present in the waste, and must be treated to the applicable standards set forth in 40 CFR 268.40 prior to land disposal.
4.	This waste is lab pack waste for incineration, and qualifies for alternative treatment as described in 40 CFR 268.42(c). Codes not eligible for alternate treatment are as follows: D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, AND U151.
5.	This waste qualifies for exemption from land disposal restriction. (Please attach explanation which includes the date exemption was granted.)
6.	This waste is not restricted under 40 CFR 268.

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

Signature_____ Date_____

Printed Name_____ Title_____

EQ FLORIDA, INC.

Land Disposal Restriction (LDR) Notification Form

Generator______________________________ **US EPA ID #**________________________ **Manifest Doc.#**_________________

1 Manifest page # and line item	2 EPA Hazardous Waste Code	3a WW	3b NWW	4 Subcategory (if applicable)	5 F001-F005 Constituents (if applicable)	6 UHC; Underlying Hazardous Constituents (if applicable)	7 LDR Certification (one per line)

Page_______ of _______

The electronic version of this document is the controlled version. Each user is responsible for ensuring that any document being used is the current version.

CHAIN OF CUSTODY RECORD

49350 N. I-94 Service Drive Belleville MI 48111 Phone: (800) 592-5489 Fax: (800) 592-5329

Please check all that apply:

❑ **Michigan Disposal Waste Treatment Plant** ❑ **Wayne Disposal, Inc. – Subtitle C Landfill** ❑ **Michigan Recovery Systems, Inc.**

Generator Name _____

Company (Customer) _____

Address _____

_____

_____

Phone _____ Fax _____

Lab Use Only

Cold Pack: Yes ____ No ____

Headspace: Yes ____ No ____

Shipped: UPS _____

FedEx _____

Other _____

T#	*Collection Date/Time*	*Sample Description /Matrix*	*# Container(s)*	*Size/Type (G, P)*	*Analysis Requested*

Relinquished By (Sampler):*	*Date/Time:*	*Received By:*	*Date/Time:*
Relinquished By :	*Date/Time:*	*Received By:*	*Date/Time:*
Relinquished By :	*Date/Time:*	*Received By:*	*Date/Time:*

*Sampler confirms that sample(s) are representative of waste stream(s) described above.
See back of this form for shipment guidelines.

Hazards Associated with Sample

Flammable _____

Corrosive _____

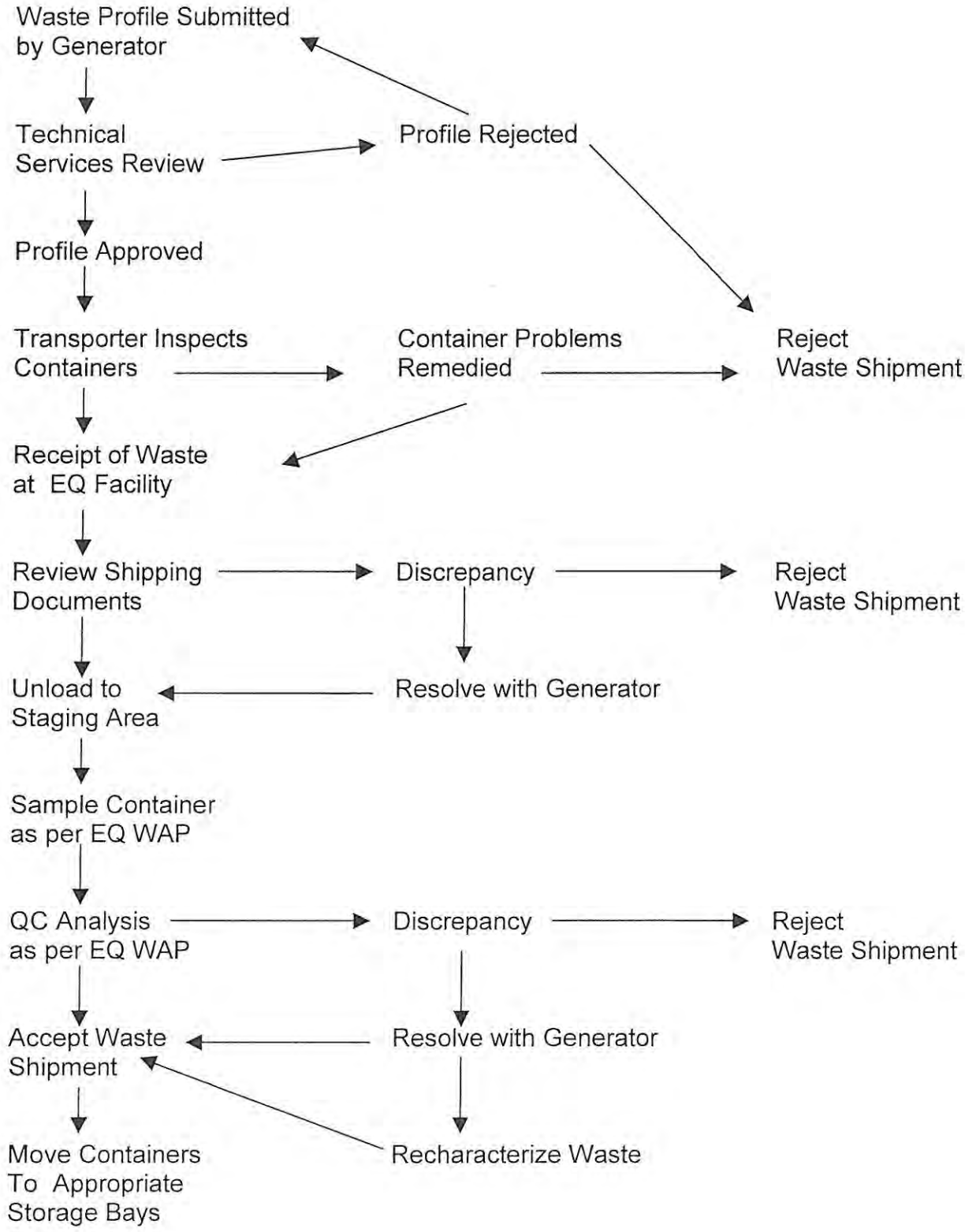
Highly Toxic _____

Other _____

EQ LABORATORY COPY FORM

EQ WEBFORM 1006 (3/96)

EQ Florida, Inc.
Attachment 17.4 Waste Screening Flow Chart



EQ FLORIDA, INC., THE ENVIRONMENTAL QUALITY COMPANY
2002 NORTH ORIENT ROAD, TAMPA, FL 33619 TEL: 813 319-3400 FAX: 813 628-0842

CONTAINER CONTENTS ☐ Drum ☐ Lab Pack

Drum #	Date:	Circle One: Virgin Product Spent Material	Approval #:	Chemist:
Proper DOT Shipping Name:				
Hazard Class:	Packaging Group: I II III	UN / NA Number:	Container type: DM 5 30 55 85 CY DF	

Manifest #:			

Line No.	Material Description	Quantity	Size	EPA Waste Code Number
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Chemist Verification_____This Lab Pack list continues: Yes ☐ No ☐ This is page _____ of _____.

WHITE - TSDF CANARY - CUSTOMER PINK - DRUM COPY

EQ Fl[illegible]a, Inc.
PROCESS SHEET

Generator:
Manifest/BOL:
Territory:

Receipt:
Receipt Date:
Non-Bulk Total Quantity:

Description:
Treatment:
Special Handling Instructions:

Containers:
Quantity:
Waste:
Approval:

Lab Comments:
Secondary Waste Codes:

				Solid Type					Process Type							
Cont.#	Liquid	Solid*	Weight	PS	NPS	Debris	Aerosol	Other	DES	Ship Out	Rolloff	Pump	Size	Date Processed	Comments	BarCode

Liquid = White DES = Red Rolloff = Yellow Ship Out = Blue P - Pails BG - Broken Glass PC - Paint Cans GV - Glass Vials
Consolidated = Purple + above color No Pump = Above color placed over bung with NO PUMP

APPENDIX K

In-Bound Waste Shipment Records

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

Inbound Containers Summary by Treatment, Size (1/1/12-12/31/12)

22- EQ Florida, Inc.

00-EQ Florida, Inc.

Treatment:	**1003 AH Chrome-Tranship-TSD**	
	Container Size	**# Containers** / **Weight**
	DM55 Containers	5 / 2,656.000
	Total # Containers for Treatment 1003 AH Chrome-Tranship-TSD:	**5 / 2,656.000**
Treatment:	**1007 AH Min-Tranship-TSD**	
	Container Size	**# Containers** / **Weight**
	DM05 Containers	40 / 1,866.000
	DM10 Containers	1 / 27.000
	DM15 Containers	21 / 2,949.400
	DM20 Containers	5 / 647.000
	DM30 Containers	20 / 4,642.000
	DM55 Containers	66 / 30,118.000
	DM85 Containers	2 / 566.000
	DM95 Containers	1 / 331.000
	GAL Containers	2 / 293.000
	LBS Containers	13 / 4,384.000
	T275 Containers	1 / 2,440.000
	Total # Containers for Treatment 1007 AH Min-Tranship-TSD:	**172 / 48,263.400**
Treatment:	**1010 AH Nitric-Tranship-TSD**	
	Container Size	**# Containers** / **Weight**
	DM05 Containers	3 / 104.000
	DM55 Containers	234 / 144,794.000
	Total # Containers for Treatment 1010 AH Nitric-Tranship-TSD:	**237 / 144,898.000**
Treatment:	**1013 AL Chrome-Tranship-TSD**	
	Container Size	**# Containers** / **Weight**
	DM15 Containers	1 / 136.400
	DM55 Containers	20 / 9,920.200
	T275 Containers	4 / 11,620.000
	Total # Containers for Treatment 1013 AL Chrome-Tranship-TSD:	**25 / 21,676.600**

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

Treatment:	1015 AL HF-Tranship-TSD		
	Container Size	**# Containers**	**Weight**
	DM05 Containers	20	880.000
	DM15 Containers	3	239.000
	DM20 Containers	1	157.000
	DM30 Containers	6	1,044.000
	DM55 Containers	30	13,930.000
	GAL Containers	8	19,194.000
	T330 Containers	1	3,500.000
	Total # Containers for Treatment 1015 AL HF-Tranship-TSD:	**69**	**38,944.000**

Treatment:	1017 AL Min-Tranship-TSD		
	Container Size	**# Containers**	**Weight**
	DM05 Containers	36	1,422.800
	DM10 Containers	5	373.000
	DM15 Containers	14	1,463.600
	DM20 Containers	5	693.400
	DM30 Containers	22	4,792.600
	DM55 Containers	329	145,582.600
	DM85 Containers	6	2,910.000
	GAL Containers	1	5,100.000
	LBS Containers	2	362.600
	T250 Containers	7	16,030.000
	T275 Containers	26	66,800.000
	Total # Containers for Treatment 1017 AL Min-Tranship-TSD:	**453**	**245,530.600**

Treatment:	1019 AL Nitric-Tranship-TSD		
	Container Size	**# Containers**	**Weight**
	DM30 Containers	3	650.000
	DM55 Containers	18	8,929.000
	T250 Containers	3	8,390.000
	T275 Containers	9	26,134.000
	Total # Containers for Treatment 1019 AL Nitric-Tranship-TSD:	**33**	**44,103.000**

Treatment:	1025 AOrg-Tranship-TSD		
	Container Size	**# Containers**	**Weight**
	Missing Container Size	3	0.000
	DM05 Containers	3	68.000
	DM30 Containers	4	639.000
	DM55 Containers	23	7,227.000

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

DM85 Containers	1	476.000
LBS Containers	134	1,963.298
T250 Containers	1	2,020.000
Total # Containers for Treatment 1025 AOrg-Tranship-TSD:	**169**	**12,393.298**
Treatment: **1029 BDegrease-Tranship-TSD**		
Container Size	**# Containers**	**Weight**
DM05 Containers	2	70.000
DM30 Containers	1	243.000
T250 Containers	4	10,035.000
T275 Containers	4	9,878.000
Total # Containers for Treatment 1029 BDegrease-Tranship-TSD:	**11**	**20,226.000**
Treatment: **1034 BLiquid-Tranship-TSD**		
Container Size	**# Containers**	**Weight**
Missing Container Size	1	0.000
CNT Containers	2	0.000
DM05 Containers	39	2,556.400
DM10 Containers	4	103.000
DM15 Containers	13	1,013.000
DM16 Containers	3	421.000
DM20 Containers	3	388.000
DM30 Containers	22	4,097.000
DM55 Containers	374	155,562.000
DM85 Containers	12	5,416.600
GAL Containers	1	36.000
KG Containers	20	225,488.000
LBS Containers	48	9,249.200
T275 Containers	18	30,695.000
T330 Containers	3	6,954.000
Total # Containers for Treatment 1034 BLiquid-Tranship-TSD:	**563**	**441,979.200**
Treatment: **1048 CMet Liq-Consolidat-TSD**		
Container Size	**# Containers**	**Weight**
Missing Container Size	2	247.000
DM05 Containers	56	412.000
DM10 Containers	2	0.000
DM16 Containers	11	411.000
DM30 Containers	3	365.000
DM55 Containers	22	4,072.000

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

GAL Containers	1	298.000
Total # Containers for Treatment 1048 CMet Liq-Consolidat-TSD:	**97**	**5,805.000**
Treatment:	**1053 CMet Liq-Tranship-TSD**	
Container Size	**# Containers**	**Weight**
Missing Container Size	2	0.000
DM05 Containers	64	3,721.000
DM15 Containers	19	2,517.000
DM20 Containers	11	1,447.000
DM30 Containers	139	27,141.000
DM55 Containers	377	166,487.000
DM85 Containers	6	3,469.800
DM95 Containers	3	1,374.000
GAL Containers	1	585.000
LBS Containers	11	5,215.000
T250 Containers	7	18,331.000
T275 Containers	40	102,963.000
Total # Containers for Treatment 1053 CMet Liq-Tranship-TSD:	**680**	**333,250.800**
Treatment:	**1058 CMet Sol-Tranship-TSD**	
Container Size	**# Containers**	**Weight**
Missing Container Size	12	120.000
BULB Containers	1	21.000
CNT Containers	2	532.000
CYB Containers	29	32,098.000
DM05 Containers	463	1,937.100
DM10 Containers	2	184.800
DM15 Containers	15	964.200
DM16 Containers	175	2,168.000
DM20 Containers	1	21.000
DM30 Containers	40	2,016.600
DM55 Containers	620	256,614.513
DM85 Containers	4	3,664.000
GAL Containers	1	20.000
LBS Containers	321	33,292.900
PALL Containers	2	362.000
Total # Containers for Treatment 1058 CMet Sol-Tranship-TSD:	**1688**	**334,016.113**
Treatment:	**1127 KAcid-Dpack/repk-TSD**	
Container Size	**# Containers**	**Weight**
DM02 Containers	1	2.200

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

DM05 Containers	551	6,818.800
DM10 Containers	1	19.000
DM12 Containers	6	178.000
DM15 Containers	36	1,712.000
DM20 Containers	20	1,119.800
DM30 Containers	149	11,455.000
DM55 Containers	294	49,673.800
GAL Containers	54	7,951.000
LBS Containers	132	13,832.000
PALL Containers	2	230.000
Total # Containers for Treatment 1127 KAcid-Dpack/repk-TSD:	**1246**	**92,991.600**

Treatment: 1128 KAcid-Tranship-TSD

Container Size	**# Containers**	**Weight**
Missing Container Size	1	0.000
CYB Containers	1	1,034.000
DM02 Containers	1	3.000
DM05 Containers	349	4,087.000
DM12 Containers	5	206.000
DM15 Containers	22	1,053.000
DM20 Containers	4	253.200
DM30 Containers	71	4,842.000
DM55 Containers	127	20,908.000
DM85 Containers	1	358.000
GAL Containers	17	2,242.000
LBS Containers	64	7,863.000
Total # Containers for Treatment 1128 KAcid-Tranship-TSD:	**663**	**42,849.200**

Treatment: 1131 KBase-Dpack/repk-TSD

Container Size	**# Containers**	**Weight**
Missing Container Size	4	369.000
CNT Containers	6	712.000
CYB Containers	5	3,762.000
DM05 Containers	370	5,240.000
DM10 Containers	5	70.600
DM12 Containers	4	160.000
DM15 Containers	32	1,518.400
DM16 Containers	2	105.000
DM20 Containers	13	645.400
DM30 Containers	141	10,192.400
DM55 Containers	470	82,581.000
GAL Containers	46	6,746.000

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

LBS Containers	129	14,792.000
Total # Containers for Treatment 1131 KBase-Dpack/repk-TSD:	**1227**	**126,893.800**
Treatment: **1132 KBase-Tranship-TSD**		
Container Size	**# Containers**	**Weight**
DM05 Containers	219	2,581.400
DM10 Containers	1	71.000
DM12 Containers	3	163.000
DM15 Containers	13	617.000
DM20 Containers	3	146.000
DM30 Containers	41	2,832.000
DM55 Containers	125	20,532.000
GAL Containers	18	2,701.000
LBS Containers	67	8,238.000
PALL Containers	3	405.000
Total # Containers for Treatment 1132 KBase-Tranship-TSD:	**493**	**38,286.400**
Treatment: **1133 KClass 9-Dpack/repk-TSD**		
Container Size	**# Containers**	**Weight**
DM02 Containers	1	6.600
DM05 Containers	43	501.800
DM10 Containers	1	41.800
DM15 Containers	3	145.200
DM16 Containers	1	34.000
DM20 Containers	1	17.600
DM30 Containers	5	520.800
DM55 Containers	10	1,610.000
GAL Containers	2	627.000
LBS Containers	3	20.000
Total # Containers for Treatment 1133 KClass 9-Dpack/repk-TSD:	**70**	**3,524.800**
Treatment: **1459 BLiquid-Dpack/repk-TSD**		
Container Size	**# Containers**	**Weight**
DM05 Containers	15	113.000
DM16 Containers	13	245.000
DM30 Containers	2	100.000
DM55 Containers	19	2,496.001
Total # Containers for Treatment 1459 BLiquid-Dpack/repk-TSD:	**49**	**2,954.001**

EQ Florida, Inc.
In-Bound Containers (1/1/12-12/31/12)

Treatment:	**1485 CMet Sol-Dpack/repk-TSD**	
	Container Size	**# Containers**	**Weight**
	Missing Container Size	10	1,437.000
	DM05 Containers	144	1,121.000
	DM16 Containers	87	2,809.000
	DM30 Containers	23	2,202.000
	DM55 Containers	5	692.000
	LBS Containers	41	236.999
	Total # Containers for Treatment 1485 CMet Sol-Dpack/repk-TSD:	**310**	**8,497.999**
Treatment:	**1370 BAmmonia-Tranship-TSD**	
	Container Size	**# Containers**	**Weight**
	DM05 Containers	3	57.000
	DM15 Containers	1	39.000
	DM30 Containers	1	45.000
	DM55 Containers	13	1,485.197
	LBS Containers	26	3,032.001
	Total # Containers for Treatment 1370 BAmmonia-Tranship-TSD:	**44**	**4,658.198**

APPENDIX L

Proof of Publication of Notice

Pursuant to 62-730.292(6), F.A.C., proof of publication and broadcast required under this permit application will be provided to the Department no later than 45 days after receipt of the Department's intended action.

10401 Highland Manor Drive, Suite 120 | Tampa, FL 33610 | www.kci.com