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225 East Robinson Street, Suite 100  
Orlando, Florida 32801  
Phone: 407 649-5475  
Fax: 407 649-6582  
Web: www.hsagolden.com

January 7, 2005

Mr. James N. Bradner, P.E., Program Manager Solid and Hazardous Waste  
**Florida Department of Environmental Protection**  
3319 Maguire Boulevard, Suite 232  
Orlando, Florida 32803

RECEIVED  
JAN 11 2005  
Solid Waste Section

Subject: **Class I Waste Processing Facility Intermediate Permit Modification Application**  
Taft Recycling, Inc., 375 7<sup>th</sup> Street, Taft, Florida  
Permit No. SO48-0173968-003  
Project No. 04-297.010

Dear Mr. Bradner:

On behalf of Taft Recycling, Inc., HSA Golden is submitting for your review a permit modification application for temporary Class I waste acceptance using the existing Taft Recycling facility in Taft, Florida. This application describes temporary Class I waste processing and transfer within the existing facility. Specifically, we are requesting to be allowed to accept Class I MSW into the existing MRF building once it has been retrofitted with upgraded ventilation, lighting and leachate controls. This temporary Class I operation is expected to last for about six months, or until the new building expansion is complete. Your office has already received a permit modification application dated August 17, 2004, and an RAI dated September 30, 2004, for the proposed building addition to include a permanent Class I facility. A check for the \$1,000.00 intermediate permit modification processing fee is enclosed.

We have organized the attachments to this submittal as listed below. The attachments which have not changed since the previous permit submittal are not being resubmitted.


- Attachment A Application Form No. 62-701.900(4)
- Attachment B Operations Plan-Revised
- Attachment C Site Plans-Revised

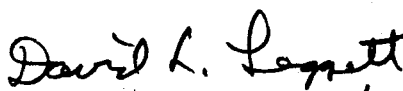
Facility compliance with prohibitions of Rule 62-701.300, FAC were also previously submitted. In addition, we have previously submitted an ERP modification request to the Department's stormwater section under separate cover. This modification will include no additional impervious surfaces, so the ERP will not require modification.

We trust that this submittal will meet the requirements of Rule 62-701, FAC and will allow the permit issuance for the subject temporary waste processing facility. Please call if you have any questions.

Sincerely,

**HSA GOLDEN**

*for*   
James E. Golden, P.G.  
Vice President, Principal Hydrogeologist

  
David L. Leggett, P.E.  
Senior Project Manager, Principal Engineer

*Environmental and Engineering Consultants*

Attachments

Addressee (4)

Copy to: George Ward, Taft Recycling  
Bill Condron, Taft Recycling  
Mike Massaro, Taft Recycling

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**JAN 11 2005**

**Solid Waste Section**

**ATTACHMENT A**





Florida Department of Environmental Protection  
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(4)
Form Title Application to Construct, Operate or Modify a Waste Processing Facility
Effective Date 05-27-01
DEP Application No. _____

RECEIVED

JAN 11 2005

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION FOR PERMIT TO CONSTRUCT, OPERATE  
OR MODIFY A WASTE PROCESSING FACILITY

Solid Waste Section

**GENERAL REQUIREMENT:** Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes, (F.S.) and in accordance with Florida Administrative Code (F.A.C.) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315(4), F.A.C., shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP). Complete appropriate sections for the type of facility for which application is made and include all additional information, drawings, and reports necessary to evaluate the facility.

Please Type or Print in Ink

A. GENERAL INFORMATION

1. Type of facility (check all that apply):

☒ Transfer Station

☒ Materials Recovery Facility:

☐ C&D Recycling

☒ Class III MRF

☒ MSW MRF

☐ Other Describe: \_\_\_\_\_

☒ Volume Reduction Facility

☒ Pulverizer/Shredder

☒ Compactor/Baling

☐ Other Describe: \_\_\_\_\_

NOTE: C&D Disposal facilities that also recycle C&D, shall apply on DEP FORM 62-701.900(6), F.A.C.

2. Type of application:

☒ Construction/Operation

☐ Operation Without Additional Construction

3. Classification of application:

☐ New

☐ Substantial Modification

☐ Renewal

☒ Intermediate Modification

☐ Minor Modification

4. Facility name: Taft Recycling, Inc.

5. DEP ID number: SO48-0173968-003 County: Orange

6. Facility location (main entrance): 375 7th Street, Taft, Florida 32824

7. Location coordinates:

Section: 2 Township: 24S Range: 29E

UTMs: Zone 17 462480 km E 3144268 km N

Latitude: 28 ° 25 ' 33 " Longitude: 81 ° 22 ' 59 "

Northwest District 160 Governmental Center Pensacola, FL 32501-5794 850-595-8360	Northeast District 7825 Baymeadows Way, Ste. B200 Jacksonville, FL 32256-7590 904-448-4300	Central District 3319 Maguire Blvd., Ste. 232 Orlando, FL 32803-3767 407-894-7555	Southwest District 3804 Coconut Palm Dr. Tampa, FL 33619 813-744-6100	South District 2295 Victoria Ave., Ste. 364 Fort Myers, FL 33901-3881 941-332-6975	Southeast District 400 North Congress Ave. West Palm Beach, FL 33401 561-681-6600
---	---	--	--	---	--

8. Applicant name (operating authority): Taft Recycling, Inc.  
Mailing address: 1099 Miller Drive Altamonte Springs, Florida 32701  
Street or P.O. Box City State Zip  
Contact person: Bill Condron Telephone: (407) 851-0074  
Title: Regional Manager bcondron@recyclingit.com  
E-Mail address (if available)
9. Authorized agent/Consultant: HSA Golden  
Mailing address: 225 E. Robinson Street, Suite 100 Orlando Florida 32801  
Street or P.O. Box City State Zip  
Contact person: James E. Golden Telephone: (407) 649-6458  
Title: Vice President jgolden@hsagolden.com  
E-Mail address (if available)
10. Landowner(if different than applicant): 7th Street Properties, LLC  
Mailing address: 2401 S. Laflin Street Chicago Illinois 60608  
Street or P.O. Box City State Zip  
Contact person: Jeff Godfrey, Comptroller Telephone: (312) 942-0042  
jgodfrey@recyclingit.com  
E-Mail address (if available)
11. Cities, towns and areas to be served: Orange, Osceola, Seminole Counties; City of Orlando
12. Date site will be ready to be inspected for completion: March 2005
13. Estimated costs:  
Total Construction: \$ 100,000 Closing Costs: \$ NC
14. Anticipated construction starting and completion dates:  
From: January 2005 To: March 2005
15. Expected volume of waste to be received: 3,000 <sup>Class I-300</sup> yds<sup>3</sup>/day <sup>Class III-700</sup> tons/day
16. Provide a brief description of the operations planned for this facility: The  
facility will accept Class I and Class III waste from private collection vehicles. The Class I waste will be placed  
into transport vehicles and hauled to a Department permitted Class I landfill. Recyclable materials will be separated  
from the Class III waste stream. The remaining waste will be hauled to a Department permitted Class III landfill.

**B. ADDITIONAL INFORMATION**

Please attach the following reports or documentation as required.

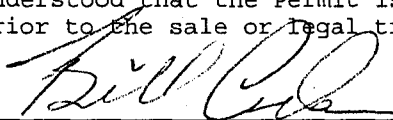
1. Provide a description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections (Rule 62-701.710(2)(a), F.A.C.). Attachment B, Sections 1.1, 1.2, 2.3.1 and 2.4.1
2. Attach a site plan, signed and sealed by a professional engineer registered under Chapter 471, F.S., with a scale not greater than 200 feet to the inch, which shows the facility location, total acreage of the site, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, potable water wells on or within 500 feet of the site and wells serving community water supplies on or within 1000 feet of the site (Rule 62-701.710(2)(b), F.A.C.). Attachment C Site Plan, NC in aerial
3. Provide a description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include (Rule 62-701.710(2)(c), F.A.C.):
  - a. Regular facility operations as they are expected to occur;
  - b. Procedures for start up operations, and scheduled and unscheduled shut down operations; and
  - c. Potential safety hazards and control methods, including fire detection and control.Attachment B, Sections 1.16, 1.2, 1.6.4, and 2.0; Appendix C
4. Provide a description of the design requirements for the facility which demonstrate how the applicant will comply with Rule 62-701.710(3), F.A.C. Attachment B, Section 2.0
5. Provide a description of the loading, unloading, storage and processing areas (Rule 62-701.710(2)(d), F.A.C.). Attachment B; Sections 1.2; 2.3; 2.5; Site Plan, Appendix I
6. Provide the identification and capacity of any on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues (Rule 62-701.710(2)(e), F.A.C.). Attachment B; Site Plan; Appendix B
7. Provide a plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment (Rule 62-701.710(2)(f), F.A.C.). Attachment B; Section 2.5
8. Provide a boundary survey, legal description, and topographic survey of the property (Rule 62-701.710(2)(g), F.A.C.). NC (see 8-17-04 application Attachment B)
9. Provide an operation plan which describes how the applicant will comply with Rule 62-701.710(4), F.A.C. (Rule 62-701.710(2)(h), F.A.C.). Attachment B
10. Provide a closure plan which describes generally how the applicant will comply with Rule 62-701.710(6), F.A.C. (Rule 62-701.710(2)(i), F.A.C.). Attachment B; Section 3.0
11. Unless exempted by Rule 62-701.710(10)(a), F.A.C., provide the financial assurance documentation required by Rule 62-701.710(7), F.A.C. (Rule 62-701.710(2)(j), F.A.C.). NC (see 8-17-04 application and 9-30-04 RAI Attachment E)
12. Provide documentation to show that stormwater will be controlled according to the requirements of Rule 62-701.710(8), F.A.C. see ERP48-0179138-002-EM issued 1-7-05
13. Provide documentation to show that the applicant will comply with the recordkeeping requirements of Rule 62-701.710(9), F.A.C. Attachment B, Section 2.9

C. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Taft Recycling, Inc.

\_\_\_\_\_ is aware that statements made in this form and attached information are an application for a Waste Processing Facility Permit from the Florida Department of Environmental Protection and certifies that the information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

  
\_\_\_\_\_  
Signature of Applicant or Agent  
Bill Condron, Regional Manager  
Name and Title (please type)  
bcondron@recyclingit.com  
E-Mail address (if available)

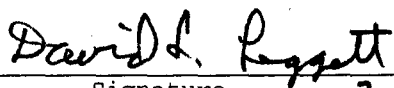
2401 S. Laflin Street  
Mailing Address  
Chicago, Illinois, 60608  
City, State, Zip Code  
(312) 942-0042  
Telephone Number

Date: 1/7/05

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this waste processing facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

  
\_\_\_\_\_  
Signature  
David L. Leggett, P.E.  
Name and Title (please type)

58667  
Florida Registration Number  
(please affix seal)

HSA GOLDEN, 225 E. Robinson St., Suite 100  
Mailing Address  
Orlando, FL 32801  
City, State, Zip Code  
dleggett@hsagolden.com  
E-Mail address (if available)

(407) 649-6437  
Telephone Number

Date: 1/7/05

**ATTACHMENT B**  
**Operations Plan**

**RECEIVED**

JAN 11 2005

Solid Waste Section

**OPERATIONS PLAN**

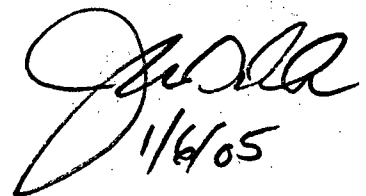
**TAFT RECYCLING, INC.  
CLASS I AND CLASS III  
WASTE PROCESSING FACILITY  
PERMIT MODIFICATION APPLICATION  
TAFT, FLORIDA**

*Prepared for:*

**Taft Recycling, Inc.  
148 Baywood Avenue  
Longwood, Florida 32750**

*Prepared by:*

**HSA GOLDEN  
225 East Robinson Street, Suite 100  
Orlando, Florida 32801**

  
1/6/05

**Project No. 04-297.010**

**September 2004  
January 2005 - Revised**

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- Appendix B: Material Disposition
- Appendix C: Facility Operations Flow Chart
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## OPERATIONS PLAN

### 1.0 GENERAL

#### 1.1 PURPOSE

The purpose of this manual is to describe the operation and maintenance procedures for the Taft Recycling, Inc. (TRI) waste processing facility (Facility) located at 375 7<sup>th</sup> Street in Taft, Florida. The Facility currently includes processing and storage areas for Class III materials. Materials accepted at the site include yard trash, concrete, asphaltic concrete, wood wastes, building debris, cardboard, carpet, cloth, paper, glass, metal, plastic, waste tires, and furniture. A building expansion is proposed to process and transfer Class I waste. Sections have been added to this plan for a temporary plan that describes Class I waste processing and transfer within the existing facility. This permit modification proposes to add processing and transfer areas for Class I municipal solid waste (MSW).

#### 1.2 PROCESS OVERVIEW

All waste entering the Facility will follow a process of identification and sorting immediately upon arrival at the site. If the material is unauthorized, the driver will be directed to a solid waste management facility which is permitted to handle the type of material rejected. Appendix A contains a list of typical authorized and unauthorized materials for the proposed modified Facility.

Upon acceptance, the truck will be weighed and directed to the appropriate area where the waste will be placed on an indoor tipping floor. Class I waste will be placed by collection trucks in the Class I area located in the building, processed, and loaded on to transfer trailers for Class I Landfill disposal. The Class III waste will also be placed in the building to undergo sorting operations in the form of placing the waste into a sorter with a conveyor belt where the material will be downsized and hand sorted. Unsuitable materials (i.e. paint containers, oil containers, etc.) will be temporarily stored inside the building and transported off-site for proper disposal. Recoverable (paper, plastic, cardboard, metal, etc.) and recyclable (wood and concrete) materials will be removed for recycling. The cardboard will be placed into a baler, and the wood will be placed in a chipper. Recovered screen materials (RSM) are stored in a covered concrete bin for transport to a Class I landfill for use as daily cover material.

The temporary Class I Waste tipping floor will be enclosed within bays 3 and 4 of the existing 150 ft. by 75 ft. facility building. Class I and Class III / C & D tipping floors (bays 1 and 2) will be separated by an 8 ft. concrete bin block wall, see revised drawing C-6A in Appendix I. The duration of temporary Class I waste acceptance into the existing building will be about 6 months (approximately March 2005 to August 2005). Ventilation, lighting and leachate control upgrades are to be added to the existing building prior to Class I waste acceptance, see following details in Sections 1.10, 2.3.1, and 2.4.1.

Once the waste has been sorted, unacceptable waste or rejected Class III wastes will be transported to disposal facilities.

### 1.2.1 Waste Quantity Projections

The future demand for recycled and properly disposed Class I and Class III waste material is expected to increase. This is based on the 4 to 5 percent population growth rates for Orange, Osceola, and Seminole Counties per the Florida Statistical Abstract. Material types will be limited to the processing capabilities of this site. Solid waste quantities are projected to also grow at a rate of four to five percent per year. The three primary operations will be sorting, compacting, and chipping. Estimated demands, may require managing approximately 3,000 cyds (1,000 tons) per average operating day, with a maximum of 4,242 cyds (1,500 tons) per day of Class I (500 tons/day) and Class III (1000 tons/day) waste. This production rate of 77 to 108 tons per hour is well within the stated equipment capacities. All equipment specified for this site exceeds this initial anticipated average production rate. The equipment production capacities are 50 tons per hour for the sorter, 20 tons per hour for the cardboard compactor, and a minimum of 32 to 45 tons per hour for the wood chipper, depending on the type of material.

### 1.3 MANAGEMENT AND OPERATIONS PERSONNEL

Personnel trained for handling and processing of Class I and Class III material will be designated to operate the Facility. TRI will have certified operators on staff. The certifications for the current Facility Manager are provided in Appendix D. The Regional Manager is responsible for overseeing operators of TRI facilities within the region. Overall management of the Facility and general direction of the Facility operations will be the responsibility of the Facility Manager, whose office will be located on-site. The Facility Manager's responsibilities include:

- Managing environmental compliance for the Facility;
- Managing personnel requirements for the Facility, including hiring of supervisory and operating personnel, and providing for their training and orientation;
- Ascertaining the operation and maintenance needs for the Facility;
- Implementation of the Operations and Maintenance Plan for the Facility; and
- Implementation of Equipment Maintenance Plans.

In the absence of the Facility Manager, duties and responsibilities of the Facility will be performed by the Yard Supervisor. The Yard Supervisor's additional responsibilities include:

- Supervising the tipping floor;
- Supervising the placement of materials;
- Supervising heavy equipment operations; and
- Spotting loads.

Spotters will be employed on the tipping floor and as loader operators to pre-check each incoming load for concealed drums and other suspect waste and to handle sorting operations. Support staff, such as sorters, gate attendant and equipment operators will be employed to facilitate operations at the Facility.

#### 1.4 HIRING AND TRAINING PROGRAM

In-house and publicly available training will be obtained to ensure that operators and spotters are properly trained to operate the Facility and to identify and manage unacceptable materials entering the Facility. This plan is designed to fulfill the requirements of F.A.C. 62-701.320(15).

In-house training will be provided on an as-needed basis, generally when new operators and spotters are hired until the required publicly available training is feasible. Any in-house operator training, which includes an examination required by Section 403.716 F.S., will be administered by an independent third party. Publicly available training will be provided on a schedule, which complies, with F.A.C. 62-701.320(15). This will include 16 hours of initial operator training and 8 hours of spotter training to instruct in the proper operation of the Facility and provide instruction in identifying unacceptable materials, especially materials that qualify as a hazardous waste.

Once every three years, each operator will complete 8 hours of additional course work as a refresher to the initial training and to learn new operation procedures and information related to waste identification. Spotters will receive 4 hours of course work every three years as a refresher. The course work will be selected from courses available through the University of Florida TREEO Center that meet the needs of the Facility. Records documenting the above training will be made available for inspection by the Department Staff at the Facility and the office of the Facility Manager. A copy of the training log, training schedule, and a list of approved classes are provided in Appendix D.

#### 1.5 EMERGENCY TELEPHONE NUMBERS

Emergency telephone numbers are included in Appendix E.

#### 1.6 EMERGENCY AND CONTINGENCY PLAN

In the event of inclement weather, accidents, fires, and equipment breakdowns, the appropriate provision of the contingency plan will be implemented immediately. Amendments will be made to this plan if the Facility design, operations or maintenance procedures change.

Incidents, which might require the assistance of outside emergency response agencies, will be handled by conventional means. In the event of a natural disaster, all waste will be transferred off-site, operations at the Facility shall cease, and the Facility shall be evacuated until the Facility Manager has deemed the area safe for contingency operations. The evacuation plan includes gathering all personnel on the site at the main office to account for everyone's whereabouts before dismissing the employees and directing them to leave the property. If time allows, operations will be maintained on a limited basis (no incoming waste), dependent upon the Facility Manager's determination, to allow continued removal of waste and materials off the property.

#### 1.6.1 Inclement Weather Operations

Litter control at the Facility will occur on a continuous basis during operating hours as a component of the site maintenance program. Loose, stock piled materials will be secured to prevent litter during windy events.

#### 1.6.2 Personal Injury Accidents

In the event of a personal injury at the Facility, the nature and extent of the injury will be assessed to the extent possible by the on-site personnel and emergency first aid techniques administered by appropriately trained personnel as necessary. If the injury appears to require professional medical attention, emergency assistance will be obtained. If the injury requires nonemergency medical attention, the injured party will be transported by conventional means to a place of professional medical care, i.e., hospital, emergency room, doctor's office, or clinic. In all cases, the Facility Manager will be notified.

#### 1.6.3 Vehicular Accidents

In the event of a vehicular accident at the site, a determination will be made regarding the feasibility of safely moving the vehicle(s) under their own power. If possible, the vehicles will be moved out of the way of normal traffic flow. If the vehicles cannot move under their own power and the vehicles are interrupting traffic flow, the vehicles will be pushed out of the way using on-site equipment. The Facility Manager will be notified and arrangements to have the disabled vehicles removed will be made in accordance with the directions of the Facility Manager.

#### 1.6.4 Fire

In case of a fire, a fire hydrant is located near the processing area and fire hose bibs within the building, as shown on the Site Plan, Appendix I. Water service on the site is supplied by the City of Taft. Fire extinguishers will also be located within the processing area and on all equipment. Fire security will be approved by the Orange County Fire and Rescue Division.

Larger fires located anywhere on the site will be sprayed with water. The primary emergency phone number (911) and the Fire Department will be called immediately to respond to all fires.

During a fire, all placement of combustible waste in the immediate area of the fire will be suspended. Placement of combustible waste in the area of the fire can only resume after a thorough inspection by the Facility Manager.

In the event of a fire in or on facility equipment, the following procedures will be followed by the equipment operator or other nearby facility personnel:

- Activate the on-board fire suppression equipment;
- If possible, safely move the equipment away from the fire immediately, shut off the engine, and drop blade;

- Signal other operators in the immediate area of the fire via radio or by hand signals;
- Evacuate the vehicle; and,
- Extinguish any reoccurring fires with the fire suppression equipment on the facility vehicles.

Charged and tested fire extinguishers will be located throughout the Facility, including the tipping floor, maintenance building, office and in some cases, the equipment (i.e., sorter, loaders and trucks) carry them.

There will be no open burning at the Facility. Any accidental fires that take more than one hour to extinguish shall be promptly reported to the County and FDEP.

#### 1.6.5 Hot Loads

Any hot load (of authorized material) identified will be dumped in an area away from the active processing area, see Site Plan. The load will immediately be covered with soil or sprayed with water if a fire is imminent. All run off from hot loads will be directed to the leachate collection trenches. The waste will not be processed until it has cooled completely, and the fire hazard has been mitigated.

#### 1.6.6 Hazardous Waste and Spills

No hazardous wastes are to be accepted at the Facility. The Yard Supervisor, spotters, and equipment operator will be responsible for spotting concealed drums or other suspect wastes. In the event waste materials of questionable nature are unloaded before they are spotted by Facility personnel, the source of the waste will be recorded, and the Facility Manager shall be immediately notified to determine the appropriate action. Typical actions will include: 1) isolation of the waste; 2) temporary storage of small containers in 55-gallon FDOT drum; and 3) uncontainerized wastes shall be isolated in the building and the Department and contractor, such as Safety Kleen, will be called to manage proper waste disposal. All suspect hazardous wastes will be removed from the facility within 5 days.

Despite these precautions, if hazardous waste, fuel, or oil is spilled at the site, absorbent material will be placed to contain the spill. The Facility Manager will be notified immediately in the event a spill occurs. During the operational hours of the Facility, at least one person who is trained in the spill plan procedures will be on-site. In case of a spill, the following spill contingency plan will be implemented.

1. In case of, or as soon as any spill is observed, the source of the spill will be located and actions taken to prevent further spillage, if possible;
2. Valves, pumps, and electrical equipment will be shut off as appropriate;

3. Potential ignition sources will be removed from and restricted from entering the area of the spill;
4. Existing floor drains, sumps, and storm drains will be covered or a temporary dike constructed;
5. Absorbent socks/booms will be used where appropriate. A spill response firm will be contacted, if necessary, to assist in these activities. The spill response firm will provide sampling and analysis for spill cleanup materials;
6. All absorbed material or contained liquid will be removed and packaged in Florida Department of Transportation (FDOT) approved containers (55-gallon drums). Used Absorbent materials should be packaged separately from liquids; and,
7. All containers used for the disposal of petroleum spill response debris will be labeled with type of waste determined by visual inspection and laboratory testing, and the start date of accumulation and disposed in accordance with Federal and State environmental regulations. Debris from large spills will be removed immediately by the spill response firm. Debris from small spills will be kept in one 55-gallon drum, in the processing area, for no longer than 30 days.

The following spill clean up equipment will be maintained at the Facility:

- Spill response kit capable of containing a spill of at least 25 gallons will be located in the processing area. This kit includes absorbent spill pads, socks, and/or booms;
- An adequate amount of nitrile gloves, nitrile or rubber boots and other personal protective equipment;
- First aid kit and eye wash; and,
- Fire extinguishers.

#### 1.6.7 Equipment Failure

Sufficient backup equipment will be available for equipment breakdowns and downtime for normal routine equipment maintenance. In case of major equipment failure (both primary and backup equipment fail) the following procedures will be followed:

1. Arrangements with contractors and rental equipment dealers will be made to furnish equipment on a short-term basis. Equipment will be available within one to two hours; and,
2. Applicable Facility operations will cease until equipment capacity is retained by renting the necessary equipment.

3. Electrical power loss will require the use of on-site 8000 kw generators to operate lighting and leachate pump systems.

#### 1.7 WASTE-TYPE CONTROL PLAN

Emphasis will be placed on controlling the types of waste unloaded within the Facility. Each load will be visually screened, to the maximum extent practical, by the Yard Supervisor for unauthorized wastes (batteries, drums, gas cans, oil cans, paint cans, etc.) before unloading.

A 4-foot by 8-foot painted sign will be constructed at the entrance to the Facility, which will indicate the types of waste allowed, see Appendix F. The sign will include a notice that attempting to unload unauthorized waste will result in the delivery personnel having to reload the waste and remove the waste from the site.

TRI will have two full-time spotters/equipment operators, one on each tipping floor, when waste is received and processed who will be trained in identifying hazardous waste and wastes unsuitable for acceptance at the Facility.

In the event waste not suitable for processing within the Facility is observed by any spotter, sorter, or equipment operator, the spotter, sorter, or equipment operator will be responsible for isolating the suspect waste. The rejected waste will be loaded into the proper transport vehicle for disposal off-site and recorded in a log, see Log Form in Appendix G.

Reasonable effort will be made to prevent the delivery of unauthorized waste to the Facility. In the event unauthorized waste is delivered to the Facility, it will be handled in accordance with applicable laws. Unauthorized waste will not be processed at the Facility.

Pressure-treated lumber (i.e. treated with chromated copper arsenate (CCA)) will not be recovered from the waste stream for chipping or mulching, but will be transported for proper disposal. The CCA treated wood will be either identified by waste type (fencing or decking) or by the distinctive greenish color.

#### 1.8 WEIGHING AND MEASURING INCOMING WASTE

All incoming waste will be weighed prior to processing at the Facility. TRI will retain all records at the Regional Facility's administrative office for a minimum of three (3) years.

The records will be available to the FDEP personnel upon request. Report outputs can include daily, month-to-date and year-to-date totals of waste received.

#### 1.9 SIGNS AND VEHICLES TRAFFIC CONTROL

Ingress and egress to the Facility will be limited to 7<sup>th</sup> Street. A sign will be located at the entrance gate stating facility name, hours of operation, acceptable/unacceptable wastes, and emergency phone numbers. Additional interior signs will be used to direct traffic to the appropriate tipping areas. The entrance road exists from the Facility entrance gate located near the southeast property corner and

Ingress and egress to the Facility will be limited to 7<sup>th</sup> Street. A sign will be located at the entrance gate stating facility name, hours of operation, acceptable/unacceptable wastes, and emergency phone numbers. Additional interior signs will be used to direct traffic to the appropriate tipping areas. The entrance road exists from the Facility entrance gate located near the southeast property corner and extends through the scale to the building and around to the exit located at the southeast corner. Transfer trailers will enter near the southeast corner, load at the building and exit at the southeast corner of the site, crossing the scale and picking up bills of lading. The entrance and exit roads will be accessible in all weather conditions. Lockable gates will control access to the site. Vehicle traffic flow is depicted on drawing D-2, Appendix I. Drawing D-2A has been added to Appendix I to depict the temporary flow of MSW trucks to bays 3 and 4 of the existing MRF building.

TRI personnel will direct incoming truck traffic to expedite safe movement of vehicles within the Facility. Traffic will be directed as necessary to prevent dangerous traffic conditions and to assure that any back up of in-bound vehicles is kept off of the public right-of-way.

#### 1.10 ODOR AND VENTILATION

Action shall be taken to prevent fugitive odors and particulates from creating nuisance conditions. These steps include the following:

- Rejection of unacceptable waste that would create odors;
- Removal from the site of putrescible or other rejected waste that could cause odor problems within 48 hours;
- Cleaning of the MSW tipping floor daily;
- Active management of recycled materials;
- Use of odor masking agents, if necessary,
- Wall mounted 3 hp ventilation fans are to be installed in the existing facility building to insure interior ventilation, see Appendix H for fan specifications and drawings M-1 and M-2, Appendix I.

#### 1.11 DUST

The following steps will be taken to minimize fugitive dust emissions at the Facility:

- Sprinkling roadways, stockpile areas, and processing areas with water as necessary.

#### 1.12 LITTER

The site will be inspected daily for litter. Litter will not be allowed to accumulate and will be picked up daily (or as often as necessary) and put into appropriate containers for proper disposal. Litter fencing will be constructed to control blowing litter around the building, wherever feasible.



### 1.13 VECTOR CONTROL

The following steps will be taken to minimize vectors at the site:

- Unacceptable wastes will not be accepted at the recycling Facility;
- Rejected wastes will be promptly removed and disposed of at an appropriate disposal facility. Rejected waste will be removed within one week;
- Class I waste will be disposed off-site within 48 hours;
- Non-active portions of the site will be kept mowed and free from debris accumulation; and,
- If needed, pesticides will be used in accordance with Florida Department of Agriculture rules and standards.

### 1.14 HOURS OF OPERATION

The Facility will be open up to 24 hours per day, 7 days a week. Although, typically the facility will be closed on Sundays. During non-day light hours, lighting will be provided by 400-watt, building and 400-watt yard lights in the processing area. All lights will be weather proof and sealed to prevent a dust explosion, see Appendix H for lighting details. Existing building interior lighting details have been provided on drawings E-1, E-2, E-3, Appendix I.

### 1.15 ACCESS CONTROL AND SITE SECURITY

Access to the Facility will be controlled by a 6-foot chain link fence. Security will be maintained by locking the entrance and exit gates during any times the Facility is not operating. Semi-annual inspections of the wall and fence will be conducted to identify locations in need of repair.

### 1.16 EQUIPMENT AND OPERATION PROCEDURES

The Facility tipping floor operation is expected to operate with the following equipment:

- Front-End Loader - (2)

The recycling operation is expected to operate with the following equipment:

- Fork Lift - Primary;
- Front-End Loader - (1) Primary;
- Front-End Loader - Back-up;
- Excavator - Primary;
- Tromell Screen - Primary;
- Sorting Line - Primary;
- Compactor - Primary;

- Horizontal Portable Grinder - Primary;
- Transfer Trucks - Primary;
- Misc. Roll-Off Containers/Bins (15).

All of the equipment on the site will be owned by TRI. Details on the loaders, excavator, compactor, and tub grinder (chipper) are provided in Appendix H.

Where appropriate, equipment will be fitted with safety cabs, fire extinguishers, and radio communication equipment. The radio equipment will also be stationed in the administrative offices located on-site, along with telephone service.

The on-site administrative offices will include potable water, sanitary facilities, emergency firstaid supplies, telephone, fax, and electricity. The building also will provide shelter for employees during inclement weather conditions.

Maintenance to the equipment will be performed by an off-site mobile contractor.

#### 1.17 NOTICE OF VIOLATION

The Facility Manager will provide immediate notice to the Regional Manager, in the event TRI is notified by Federal, State or local governmental agencies or officials regarding violations of any permits or approvals held by TRI relating to the operation and use of this Facility. The Regional Manager will respond appropriately to the various agencies, and immediately correct the non-compliance item.

### 2.0 CLASS I AND CLASS III OPERATIONS

#### 2.1 PURPOSE

The Facility processes the incoming material to remove that portion of the waste that has an end-use market. Residuals from the recycling facility are disposed of at appropriate disposal facilities.

#### 2.2 START UP AND SHUT DOWN PROCEDURES

Start-up procedures will consist of the Facilities Manager inspecting the processing and storage areas for safety purposes. Equipment will be turned on and allowed to warm up if necessary. Storage bins will be inspected to verify ample storage capacity for the day's activities. In the event that the storage capacity is inadequate, additional sorting will cease until the existing stored materials have been removed for resale.

The Facility plans to clear the tipping floor of Class I wastes each day, to the extent possible. However, the Facility anticipates receipt of Class I waste from evening pick-up routes and therefore may have Class I waste on the tipping floor at any given time. Under no circumstances will any Class I wastes remain on the tipping floor for more than 48 hours. Odor control, such as odor masking agents will be used if deemed necessary. Any unprocessed Class III material will be left

on the tipping floor for next day's processing. The processed material will be contained within the confines of the designated storage bins.

## 2.3 SORTING OPERATIONS

Class I waste will only be accepted in the class I tipping area in the north building expansion. Class III and C&D wastes will be accepted only in the designated bays in the existing WPF building, see Appendix I, D-2. Care will be taken not to commingle wastes. If wastes are mixed, the waste must be disposed of as the highest category of wastes, i.e., class III mixed with class I, will be disposed of at class I landfill.

Within the Class III processing area, an excavator and front-end loaders equipped with buckets or clamps will place the material into a sorting machine. Personnel will be available to hand sort the materials once the machine has removed the fines and reduced the material size. Sorted material will be placed in appropriate bins for recycling or transport vehicles for disposal off-site. Bins will be used in the sorting process (glass, paper, plastic, metal, wood, concrete, cardboard, and RSM (fines). RSM will be sampled in accordance with the FDEP's guidelines for reuse, or disposed of at a Class I landfill. It will be kept in a covered bin, as shown on the Site Plan.

Personnel will operate on an 8 to 10 hour shift with a lunch break in between and will be on the tipping floor at all times when waste is received or processed.

### 2.3.1 TEMPORARY CLASS I WASTE OPERATIONS

Bays 3 and 4 of the existing building will act as temporary tipping floor for Class I wastes while the north building expansion is under construction (Approximately 6 months). During this time, Class III and C & D wastes will be accepted in bays 1 and 2., see Appendix D-2A for temporary traffic flow. Class I transfer trailer trucks will be loaded within bay 4 of the existing building.

## 2.4 LEACHATE COLLECTION AND DISPOSAL

The Class I tipping floor is enclosed within a 110 ft by 60 ft portion of the building, see Site Plan, Appendix I. This area of the building has a minimum 6-inch impervious concrete floor and leachate collection and will be washed daily, or as necessary. The leachate collection clean-out covers will be opened during washing. Water shall be directed into the building from the open wall area (east side) to ensure that none of the water leaves the building. Leachate will be collected from this area and the transfer truck scale tunnel through drains and will be discharged to a lift station and storage tank. The trench drains or catch basins will be cleaned daily to prevent clogging, see Appendix H.

The Class III concrete tipping floor is enclosed within a 150 by 75 foot portion of the building. No water will be involved in the processing of the material. Leachate collection is proposed in this area to collect any stormwater that may enter due to the open door on the east side and liquids that may leak from the vehicles. To keep this area clean and free of excess debris, all open floor areas in this portion of the building will be swept weekly. The leachate storage tank will have a high level alarm and will be pumped out by a permitted industrial waste hauler, as needed. Leachate disposal will

be at a State permitted wastewater disposal facility, such as IWS, Jacksonville, FL. Leachate generation rate estimate is in Appendix H.

#### 2.4.1 TEMPORARY CLASS I UPGRADES

The temporary Class I tipping floor area (bays 3 and 4) will be upgraded with leachate controls by the addition of a catch basin with pump to the leachate storage tank on the west of the building. Concrete curbs will also be added to the bay door floors to contain any liquids, see drawing C-6A, Appendix I. The Class I and III/C&D concrete tipping floors will be separated by an 8 ft. concrete block wall within the existing facility. Bays 1 and 2 will be designated for Class III and C & D wastes only.

Manifests of all waste leachate removals will be maintained by TRI.

#### 2.5 PROCESSED/UNPROCESSED MATERIAL DISPOSAL PLAN

The processed (recycled/recovered) material is sold to a variety of different companies for many different uses. The most common uses are described below. After processing, wood waste will be chipped and sold for fill or mulch. Concrete will be crushed offsite and sold. Cardboard and paper will generally be sold to a paper mill. Metal will be sold to scrap metal dealers, and glass will be crushed offsite and sold for fill material. Plastic will be sold to companies capable of recycling mixed plastic and the recovered screened material will be sold for daily cover material. The quantity and maximum storage time for each material is listed in the table in Appendix B.

Class I waste will be placed into larger transport trailers for disposal at a Class I landfill. Unprocessed Class III materials will be placed in a waiting transport vehicle for later disposal at a Class III landfill. Each type of reject waste will be stored in separated bin areas at the north end of the WPF building/loading area, see Appendix I, drawing D-2.

#### 2.6 EQUIPMENT OPERATIONS AND MAINTENANCE MANUAL

Operations and maintenance for each piece of equipment will be in accordance to manufacturer's recommendations and manuals.

#### 2.7 SAFETY PROCEDURES FOR VEHICLES

TRI personnel will direct incoming truck traffic to expedite safe movement of vehicles within the Facility. Traffic will be directed as necessary to prevent dangerous traffic conditions and to assure that any back up of in-bound vehicles is kept off of the public right-of-way.

## 2.8 STORMWATER MANAGEMENT

The Facility Manager will perform weekly inspections of the stormwater management system. Any required maintenance or repairs will be made within seven days. A copy of the current FDEP stormwater permit is included as Attachment G of this application. This permit is in the process of modification to manage the proposed additional impervious areas.

## 2.9 RECORD KEEPING/SUBMITTALS

Record submittal requirements for the Recycling Facility will be in compliance with the FDEP requirement for these facilities.

Operational records shall include a daily log of: 1) quantities and types of solid waste received; 2) quantity of solid waste processed; 3) quantity of solid waste stored; and 4) quantity of solid waste removed from site for recycling or disposal. These records/logs will be compiled monthly and made available for Department inspection at the facility.

The reporting requirements include submitting a report annually (by April 1) which summarizes the amounts and types of waste received and the amounts and types of wastes disposed of or recycled. The annual report will be submitted on the FDEP Form 62-701.900(7), per F.A.C. 62-701.710(9).

## 3.0 CLOSURE PLAN

The closure of the Facility will include removal of the operational equipment, which is completely mobile by design. Any remaining materials will be removed and hauled to an appropriate processing site or landfill. To protect the State from bearing the cost of potential cleanup activities, an insurance policy in the amount as shown in Attachment D will be posted at the time of permitting. The purpose of the Policy is to provide for cleanup of the site, if the permittee does not perform.

The approved closure steps include notifying the Florida Department of Environmental Protection (FDEP) at least 180 days prior to closure. The cleanup is to be completed within 30 days of the final close date. Closure will be completed within 180 days after the final waste load is received. At that time, a closure report is to be issued to the FDEP to allow time for a site inspection and closure certification.

**APPENDIX A**

**AUTHORIZED / UNAUTHORIZED  
MATERIALS**

**TAFT RECYCLING, INC.**  
**WASTE PROCESSING FACILITY**  
**AUTHORIZED/UNAUTHORIZED SOLID WASTES**

*Typical unauthorized solid wastes include:*

*Typical authorized wastes:*

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Hazardous wastes.</li></ul>                | <ul style="list-style-type: none"><li>• "Class I waste" means solid waste which is not hazardous waste, and which is not prohibited from disposal in a lined landfill under Rule 62-701.300, F.A.C.</li></ul>  |
| <ul style="list-style-type: none"><li>• Chemicals/solvents.</li></ul>              | <ul style="list-style-type: none"><li>• "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.</li></ul>  |
| <ul style="list-style-type: none"><li>• Paint containers or paint.</li></ul>       | <ul style="list-style-type: none"><li>• "Household waste" means any solid waste, including garbage, trash, and sanitary waste in septic tanks, derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crews quarters, campgrounds, picnic grounds, and day-use recreation areas.</li></ul>   |
| <ul style="list-style-type: none"><li>• Biomedical wastes.</li></ul>               | <ul style="list-style-type: none"><li>• "Garbage" means all kitchen and table food waste, and animal or vegetative waste that is attendant with or results from the storage, preparation, cooking, or handling of food materials.</li></ul>  |
| <ul style="list-style-type: none"><li>• Lead-Acid Batteries.</li></ul>             | <ul style="list-style-type: none"><li>• "Class III waste" means yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department that are not expected to produce leachate which poses a threat to public health or the environment.</li></ul>  |
| <ul style="list-style-type: none"><li>• Fluorescent light bulbs.</li></ul>         | <ul style="list-style-type: none"><li>• "Clean wood" means wood, including lumber, tree and shrub trunks, branches, and limbs, which is free of paint, glue, filler, pentachlorophenol, creosote, tar, asphalt, other wood preservatives or treatments.</li></ul>  |
| <ul style="list-style-type: none"><li>• Used Oil.</li></ul>                        | <ul style="list-style-type: none"><li>• "Construction and demolition debris" means discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or demolition project of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project; clean cardboard; paper, plastic, wood, and metal scraps from a construction project.</li></ul> |
| <ul style="list-style-type: none"><li>• White goods.</li></ul>                     | <ul style="list-style-type: none"><li>• "Land clearing debris" means rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Land clearing debris does not include vegetative matter from lawn maintenance, commercial or residential landscape maintenance, right-of-way or easement maintenance, farming operations, nursery operations, or any other sources not related directly to a construction project.</li></ul>  |
| <ul style="list-style-type: none"><li>• Appliances</li></ul>                       |  |
| <ul style="list-style-type: none"><li>• Non-containerized liquids</li></ul>        |  |
| <ul style="list-style-type: none"><li>• Containers or tanks with liquids</li></ul> |  |

**TAFT RECYCLING, INC.  
TAFT, FLORIDA**

**UNAUTHORIZED WASTE RECEIPT LOG**

1. DATE: \_\_\_\_\_
2. TIME: \_\_\_\_\_
3. COMPANY: \_\_\_\_\_
4. VEHICLE INFORMATION:           A) TRUCK # \_\_\_\_\_  
  B) LICENSE PLATE # \_\_\_\_\_
5. NAME OF DRIVER: \_\_\_\_\_
6. SOURCE OF UNAUTHORIZED WASTE MATERIAL: \_\_\_\_\_
7. DESCRIPTION OF UNAUTHORIZED WASTE MATERIAL: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. WHAT PROCEDURES WERE FOLLOWED FOR PROPER DISPOSAL/REMOVAL FROM THE SITE? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. OTHER OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_
10. SPOTTER SIGNATURE: \_\_\_\_\_

SIGNED

Note: Forms must be maintained in Unauthorized Waste Receipt Log Book



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## **APPENDIX B**

### **MATERIAL DISPOSITION**

**MATERIALS DISPOSITION  
TAFT RECYCLING, INC.  
TAFT, FLORIDA**

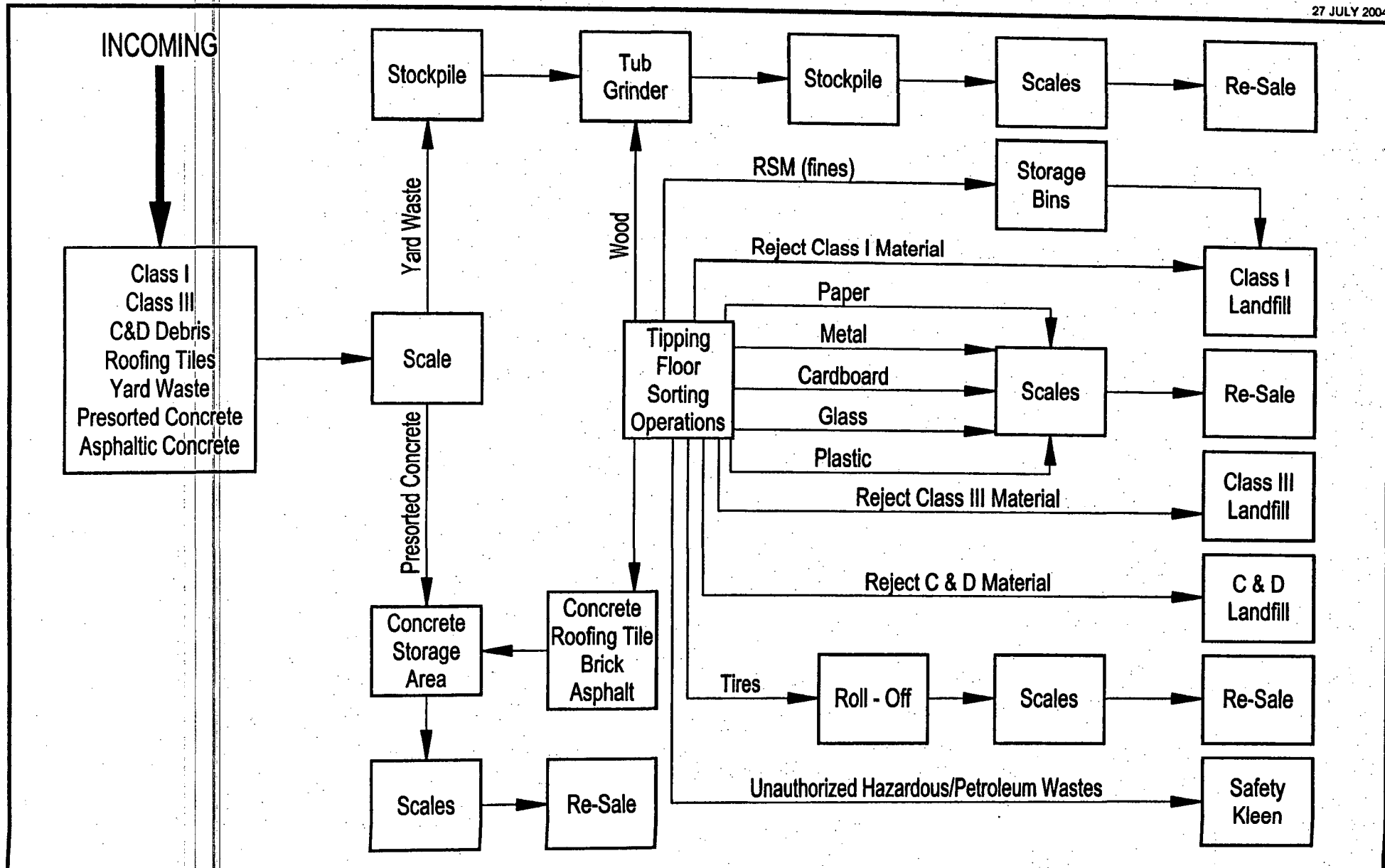
<i>Material Type</i>	<i>Maximum Storage Quantity</i>	<i>Density (lbs/CY)</i>	<i>Covered or Uncovered</i>	<i>Method of Storage</i>	<i>Disposal/Recycling Location</i>	<i>Maximum Hold Time</i>
Unprocessed Class III	700 CY	400	Covered	Tipping Floor	Class III Landfill	1 Week
Unprocessed C&D	700 CY	667	Covered	Tipping Floor	C&D Landfill	1 Week
Yard Trash	200 CY	296	Uncovered	Outside Bin	Re-Sale Public	6 Months
Recovered Concrete	200 CY	4,000	Uncovered	Outside Bin	Re-Sale Public	6 Months
Asphaltic Concrete	200 CY	1,380	Uncovered	Outside Bin	Re-Sale Public	6 Months
Roofing Tiles	200 CY	2,000	Uncovered	Outside Bin	Re-Sale Public	6 Months
Recovered Cardboard	60 CY	100	Uncovered	Outside Bin	Re-Sale Public	6 Months
Paper	60 CY	600	Covered	Outside Bin	Re-Sale Public	6 Months
Metal Ferrous	60 CY	400	Uncovered	Outside Bin	Re-Sale Public	6 Months
Metal Aluminum	60 CY	250	Uncovered	Outside Bin	Re-Sale Public	6 Months
Glass	60 CY	1,000	Uncovered	Outside Bin	Re-Sale Public	6 Months
Plastic	60 CY	75	Uncovered	Outside Bin	Re-Sale Public	6 Months
Recovered Wood	1,000 CY	600	Uncovered	Outside Bin	Re-Sale Public	6 Months
Tires	30 CY	100	Covered	Roll-off	Tire Recycler	30 Days
Class I Putrescible	1,200 CY	500	Covered	Trailers or Tipping Floor	Class I Landfill	48 Hours
Waste Oil/Hazardous Waste-Rejected	55 Gallons	8 lbs/gal	Covered	Inside Building	Safety Kleen	30 Days
RSM	100 CY	1,000	Covered	Covered Bin	Class I Landfill	6 Months

Note: Storage Location of Material is shown on the Site Plan.

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## **APPENDIX C**

### **FACILITY OPERATIONS FLOW CHART**



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## **APPENDIX D**

### **TRAINING LOG**

**TAFT RECYCLING, INC.  
TRAINING SCHEDULE**

<i>Personnel</i>	<i>Job Title</i>	<i>Last Trained</i>	<i>Next Required Course Type / Date*</i>
Steve Orr	Transfer Station/MRF Operator	02/08/03	8-hour Refresher / 11/19/06
Bryan Manning	Transfer Station/MRF Operator	11/19/03	8-hour Refresher / 11/19/06
Tony Santaniello	Transfer Station/MRF Operator	11/19/03	8-hour Refresher / 11/19/06
William J. Condron	Transfer Station/MRF Operator - In Training	N/A	19-hour Initial Transfer Station/MRF Operator / 02/19/05
To Be Determined	Spotters	N/A	Initial 8-hour / 10/22/04; 12/03/04

\*Dates approximate, TREEO schedule updated annually at [www.Treeo.ufl.edu](http://www.Treeo.ufl.edu).

**TAFT RECYCLING, INC.**  
**TAFT, FLORIDA**

**TRAINING LOG**

COURSE	TRAINED OPERATOR INSTRUCTOR	HRS. ATTENDED	SIGNATURES/ DATE

# Training Requirements

To meet the training requirements of FAC 62-701, Operator(s) or Spotter(s) must successfully complete an approved initial training course, and be in attendance for entire course. Operators must pass exam (70% or higher).

## Classification

Landfill - Class I, II, III/C&D

Transfer Station/MRF

Landfill Clearing Debris Facility

Spotter of all Facilities

## Initial Course

24 hours

16 hours

no operator training required

8 hours

## Continuing Education

16 hours

8 hours

no training required

4 hours

## Continuing Education Hours Awarded

	Courses	I II III	C&D	Trans-fer	MRFs	Spot-ter
Initial Operator	* Construction & Demolition Debris Landfill Short Course	16	16			
	* SWANA-Manager of Landfill Operations [MOLO®]	16	16	8	8	
	* SWANA-MOLO® Exam					
	* SWANA-Recycle Mgr Exam					
Initial Spotter	* 19-Hour Initial Training for Transfer Station & MRF Oper	10	10	8	8	4
	* 8-Hour Spotter Training for I,II,III, C&D, TS Mgmt Facilities	8	8	8	8	8
	Spotter Training for Solid Waste Facilities	8	8	8	8	8
	* Training for Spotters at LDF, C&D Sites and TS	8	8	8	8	8
	Waste Screening & Identification for LDF Operators & Spotters	8	8	8	8	8
Manager/Engineer	Landfill Design and Construction	28				
	Leachate and Gas Management System Design	15				
	Old Landfills Seminar	5	5			
	Laws and Rules for Florida Engineers					
	Health & Safety Training for HazMat: 40 Hr OSHA	8	8	8	8	
	Hazardous Waste Regulations for Generators	4	4	4	4	4
	US DOT Hazardous Materials / Waste Transportation	6	6	6	6	

\* Courses offered in cooperation with SWANA - Florida Chapter.

If you do not have a copy of "Florida's Solid Waste Management Facility Operators & Spotters Training Requirements Guide," visit [www.treco.ufl.edu/sw/TrainingRequirements.pdf](http://www.treco.ufl.edu/sw/TrainingRequirements.pdf) for the most up-to-

	Courses	I II III	C&D	Trans-fer	MRFs	Spot-ter
Continuing Education	Hazardous Materials in C&D Waste	4	4			
	Groundwater Issues for Landfill Operators	6	6			
	Management of Leachate, Gas, Stormwater & Odor	8	8			
	Asbestos Awareness for Landfill Operators	4	4	4	4	4
	Construction and Demolition Waste Recycling	7	7		7	7
	* SWANA - Managing MSW Recycling Systems	7	7	7	7	
	* SWANA - Household Hazardous Waste	15	15	15	15	15
	* Measurement and Calculations for Operators	5	5			
	Two-Hour Spotter Refresher Online	2	2	2	2	2
	Health & Safety Training for Landfills Operations	5	5	5	5	5
Other Courses	Hazardous Materials in C&D Waste Online	4	4			
	HazWoper 40hr OSHA Online	8	8	8	8	
	HazWoper 8hr Refresher Online	4	4	4	4	4
	Permit Required Confined Space Training	8	8	8	8	
	Excavation and Trenching Competent Person	8	8			
	Chemistry for Environmental Professionals	8	8	8	8	8
	Pumps and Pumping	16	16	16	16	
	Health & Safety Training for HazMat: 8 Hour OSHA	4	4	4	4	2
	Introduction to Electrical Maintenance	16	16	16	16	

date information on training requirements. New Operators and Spotters this is the guide you will need to use in planning your continuing education training. Please visit <http://landfill.treco.ufl.edu/> for additional solid waste training information and the solid waste database.

### Solid Waste Courses Coordinator

Dawn Jenkins, University of Florida TREEO Center, 3900 SW 63rd Blvd., Gainesville, FL 32608, (352) 392-9570 ext. 127, FAX: (352) 392-6910, [djenkin@treco.docc.ufl.edu](mailto:djenkin@treco.docc.ufl.edu), [www.treco.ufl.edu](http://www.treco.ufl.edu).

### UF/TRECO Hires Full-Time Instructor

Chris J. Roeder, senior training specialist, recently came to the University of Florida TREEO Center from the Florida Department of Environmental Protection where he was an engineer in the solid waste section. Chris was with the DEP for more than 20 years, primarily in compliance, enforcement and permitting for the air and domestic waste sections as well as solid waste.

At the DEP Gainesville branch office, Chris developed and implemented innovative compliance strategies for solid waste facilities, and he was a founding member and past chairman of the Environmental Crimes Task Force, working closely with law enforcement on several key environmental investigations. Chris is an active member of SWANA and has been certified by the U.S. Environmental Protection Agency in hazardous waste response and source sampling methods. While with the DEP, he often presented public outreach and training on environmental rules and regulations, including sections in several UF/TRECO courses.

Chris is available to provide spotter and other customized solid waste training. Contact Chris at (352) 392-9570 x103 or [croeder@treco.docc.ufl.edu](mailto:croeder@treco.docc.ufl.edu).



# **Kohl Consulting Inc.**

**Is Proud to Certify That**

**Steve Orr**

**Has Successfully Completed the  
Initial Training Course for  
Transfer Station and MRF Operators Entitled :  
19-hour Initial Training for Transfer Station  
and Materials Recovery**

**Facility Operators (with Exam)  
January 23rd and 24th, 2003**

**And Has Successfully Completed the Required Examination  
in Accordance with the Training Requirements  
for Waste Processing Facility Operators in Florida**

**Signed this 8th Day of February, 2003**

  
**Chris S. Kohl**

**President**



UNIVERSITY OF  
FLORIDA

## TREEO CENTER

Center for Training, Research and Education for Environmental Occupations

certifies that

**Bryan Manning**

attended

*19-Hour Initial Training Course for  
Transfer Station Operators and MRF Operators*

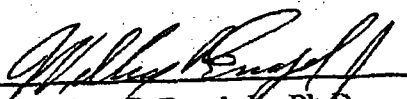
*November 18-19, 2003*

and as awarded this

*Certificate of Attendance*

Date issued: 11/19/03  
CEU's : 1.9

*Passed Exam with 70% or higher Proficiency*

  
William T. Engel, Jr., Ph.D.  
Director



UNIVERSITY OF  
FLORIDA

## TRECO CENTER

Center for Training, Research and Education for Environmental Occupations

certifies that

**Tony Santaniello**

attended

*19-Hour Initial Training Course for  
Transfer Station Operators and MRF Operators*

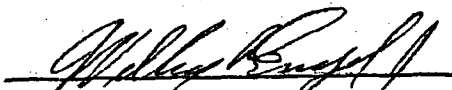
**November 18-19, 2003**

and is awarded this

*Certificate of Attendance*

Date issued: 11/19/03  
CEU's : 1.9

*Passed Exam with 70% or higher Proficiency*

  
William T. Engel, Jr., Ph.D.  
Director

## **APPENDIX E**

### **EMERGENCY TELEPHONE NUMBERS**

**TAFT RECYCLING, INC.**  
**EMERGENCY TELEPHONE NUMBERS**

<i>Organization</i>	<i>Phone Number</i>
Primary Emergency Response	911
Fire Department	(407) 836-9000
Hazard Response - Safety Kleen	(407) 321-6080
Police - Orange County Sheriff	(407) 836-3700
Facility Manager - Tony Santaniello Office	(407) 851-0074
Bill Condron - Regional Manager Office	(312) 942-0042
Mobile	(312) 405-1085
Florida Department of Environmental Protection - James Bradner	(407) 894-7555

## **APPENDIX F**

### **SIGNAGE**

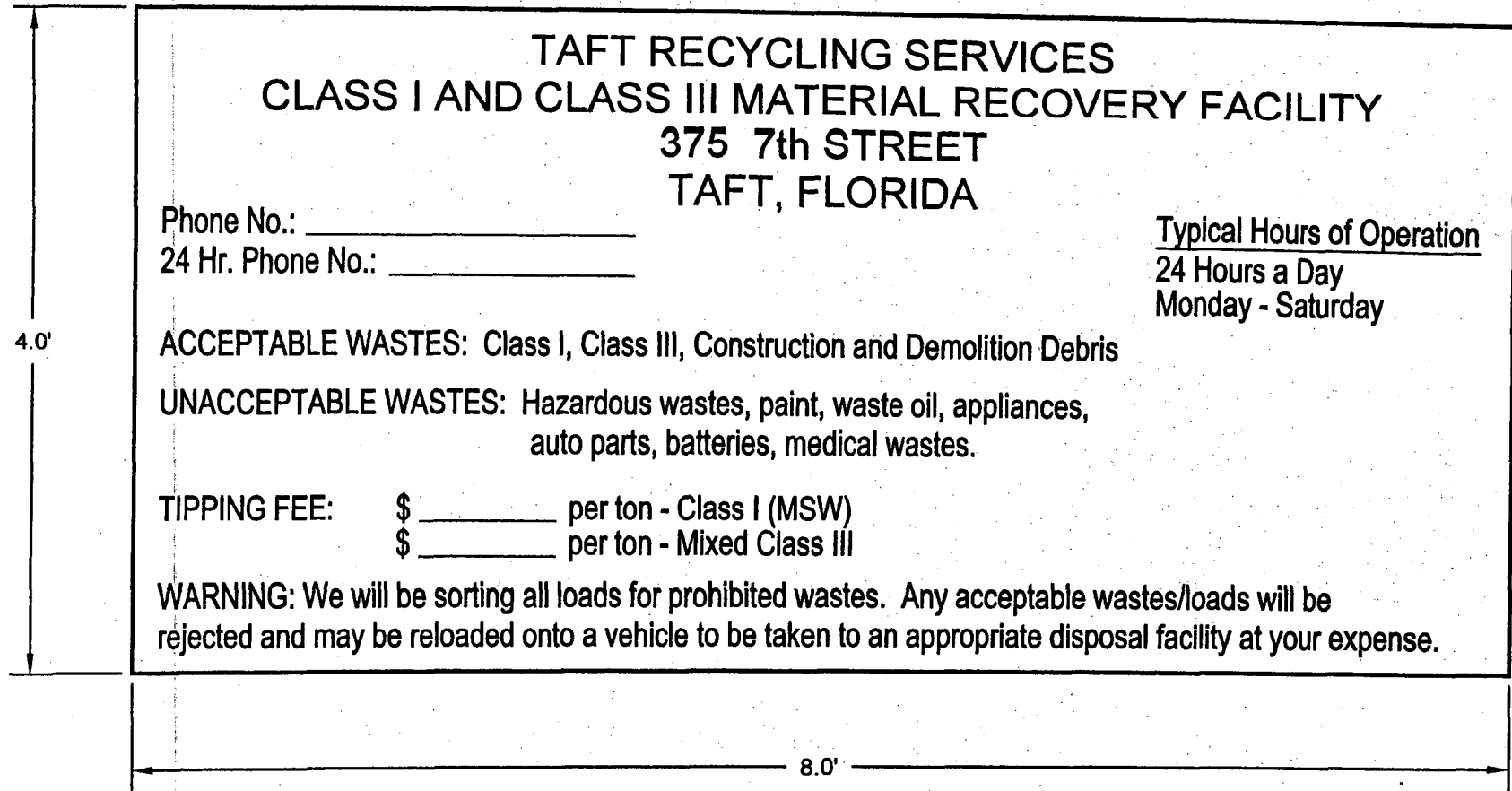


FIGURE  
F-1



DATE: AUGUST 2004  
SCALE: 1"= 1'-0"  
DRAWN BY: D.R. DAVIS

PROPOSED GATE SIGN  
TAFT RECYCLING, INC.  
TAFT, FLORIDA

**APPENDIX G**

**UNAUTHORIZED  
WASTE LOG**



**TAFT RECYCLING, INC.**  
**TAFT, FLORIDA**

**UNAUTHORIZED WASTE RECEIPT LOG**

1. DATE: \_\_\_\_\_

2. TIME: \_\_\_\_\_

3. COMPANY: \_\_\_\_\_

4. VEHICLE INFORMATION:           A) TRUCK # \_\_\_\_\_

B) LICENSE PLATE # \_\_\_\_\_

5. NAME OF DRIVER: \_\_\_\_\_

6. SOURCE OF UNAUTHORIZED WASTE MATERIAL: \_\_\_\_\_

7. DESCRIPTION OF UNAUTHORIZED WASTE MATERIAL: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. WHAT PROCEDURES WERE FOLLOWED FOR PROPER DISPOSAL/REMOVAL FROM  
THE SITE? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. OTHER OBSERVATIONS: \_\_\_\_\_

\_\_\_\_\_

10. SPOTTER SIGNATURE: \_\_\_\_\_

SIGNED

Note: Forms must be maintained in Unauthorized Waste Receipt Log Book

---

## **APPENDIX H**

### **EQUIPMENT CUT SHEETS**

# SIDEWALL PROPPELLER FANS - SERIES SBE

## SBE PERFORMANCE DATA - IN STOCK

Stock Model SBE fans are belt drive exhaust and include steel propellers UL/CUL 705.

Order stock products online at  
www.greenheck.com/qd

MODEL NUMBER	MOTOR HP	FAN RPM	MAX BHP	F.A. SONES	PERFORMANCE IN INCHES WG											
					0	.1	.125	.15	.2	.25	.3	.375	.5	.625	.75	1
SBE-1L20-LMDX-QD 705-1085 RPM	1/4	705	.17	13.3	3606	2835	2450									
		861	.30	14.3	4404	3794	3671	3455								
	1/3	889	.33	14.9	4547	3949	3830	3654	3067							
		947	.40	16.1	4843	4270	4155	4043	3647							
	1/2	1021	.50	17.0	5222	4675	4566	4461	4180	3746						
		1085	.60	17.9	5549	5021	4918	4816	4620	4269	3711					
SBE-1H20-LMDX-QD 773-1221 RPM	1/4	773	.17	9.8	2904	2452	2292	2112	1595	924	676	304				
		953	.30	16.1	3580	3246	3148	3033	2769	2468	2001	1159	656			
	1/3	998	.33	16.7	3749	3436	3342	3243	3006	2727	2398	1588	873	392		
		1039	.40	17.2	3903	3607	3517	3427	3211	2954	2675	2037	1064	602		
	1/2	1107	.50	18.0	4159	3885	3805	3720	3533	3315	3065	2599	1367	934	501	
		1221	.60	20	4587	4339	4277	4203	4049	3872	3675	3333	2514	1456	1063	
SBE-1L24-LMDX-QD 562-863 RPM	1/4	562	.17	12.3	4673	3577										
		688	.30	12.8	5721	4890	4659	4378								
	1/3	711	.33	13.2	5912	5114	4891	4654								
		759	.41	14.1	6311	5572	5367	5158	4621							
	1/2	811	.50	15.6	6744	6062	5872	5677	5255	4528						
		863	.60	17.4	7176	6545	6367	6187	5820	5345						
SBE-1H24-LMDX-QD 674-1010 RPM	1/4	674	.17	10.0	3524	2893	2679	2416	1615	1155	821					
		785	.30	13.2	4104	3617	3445	3266	2848	2105	1654	1132	443			
	1/3	829	.33	14.8	4334	3877	3734	3568	3219	2595	2006	1445	769			
		877	.42	16.1	4585	4157	4040	3887	3564	3178	2471	1844	1107	491		
	1/2	961	.55	18.5	5024	4641	4534	4428	4145	3846	3484	2574	1700	1103	540	
		1010	.60	19.9	5281	4920	4818	4717	4470	4193	3901	3092	2108	1439	903	
SBE-2L30-LMDX-QD 710-950 RPM	3/4	645	.75	17.2	10672	9766	9507	9190	8446	7562						
		685	.90	18.7	11334	10496	10252	10009	9331	8621						
	1	710	1.00	19.7	11748	10949	10714	10479	9871	9192	8383					
		754	1.20	21	12476	11735	11519	11298	10806	10174	9527					
	1 1/2	812	1.50	24	13436	12748	12569	12364	11953	11425	10837	9892				
		864	1.81	27	14296	13650	13488	13309	12923	12521	11970	11131				
SBE-2L36-LMDX-QD 518-693 RPM	2	895	2.00	29	14809	14185	14029	13868	13495	13123	12633	11830				
		950	2.41	32	15719	15131	14985	14838	14502	14151	13790	13038	11760			
	1	518	1.01	16.1	14943	13482	13043	12604	11568	10083						
		550	1.21	17.6	15867	14525	14112	13699	12872	11681	9933					
	1 1/2	593	1.51	20	17107	15909	15526	15144	14377	13511	12328					
		631	1.81	22	18203	17112	16759	16400	15680	14959	14025	12175				
SBE-2L42-LMDX-QD 398-611 RPM	2	653	2.01	24	18838	17784	17466	17119	16424	15728	14942	13286				
		693	2.41	27	19992	18998	18743	18416	17761	17105	16449	15153				
	1 1/2	456	1.50	21	21250	19152	18531	17809	16577	15188						
		484	1.80	23	22555	20598	20064	19419	18116	17086	15457					
	3	502	2.01	24	23394	21520	21005	20440	19127	18098	16824					
		532	2.40	27	24792	23046	22560	22074	20880	19756	18819	16578				
SBE-2L48-LMDX-QD 335-513 RPM	3	575	3.01	30	26796	25211	24761	24312	23339	22193	21215	19836				
		611	3.65	31	28473	26984	26585	26162	25315	24279	23200	21952	18526			
	1	335	1.00	13.7	21586	18559	17625	16199								
		355	1.12	15.4	22875	20095	19219	18192	14778							
	1 1/2	384	1.50	17.9	24743	22196	21482	20667	18419							
		407	1.80	18.9	26225	23840	23203	22474	20719	17923						
SBE-2L48-LMDX-QD 335-513 RPM	2	422	2.00	19.6	27192	24904	24289	23636	22154	19746						
		448	2.40	21	28867	26732	26153	25574	24228	22468	19898					
	3	483	3.00	23	31122	29170	28632	28095	26962	25667	23839					
		513	3.60	28	33056	31240	30735	30229	29218	28042	26798	23721				

Performance shown is for Model SBE exhaust without ducts. BHP does not include belt and pulley losses.

Performance shown is for installation type A: Free inlet, Free outlet. Power rating (BHP/kW) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet fan sone levels. The AMCA Certified Ratings Seal applies to sone ratings only.

# SIDEWALL PROPELLER FANS - SERIES SBE

## SBE PERFORMANCE DATA - IN STOCK

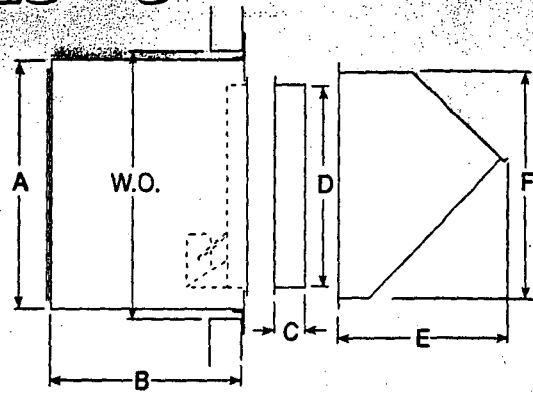
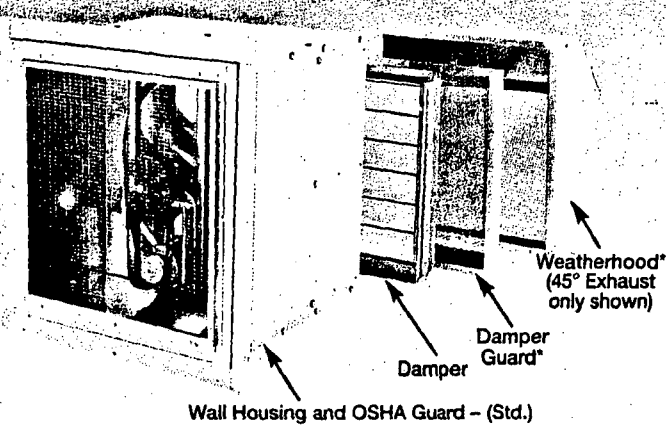
Stock Model SBE fans are belt drive exhaust and include steel propellers UL/CUL 705.

Order stock products online at  
www.greenheck.com/qd

MODEL NUMBER	MOTOR HP	FAN RPM	MAX BHP	F.A. SONES	PERFORMANCE IN INCHES WG											
					0	.1	.125	.15	.2	.25	.3	.375	.5	.625	.75	1
SBE-1L20-LMDX-QD 705-1085 RPM	1/4	705	.17	13.3	3606	2835	2450									
		861	.30	14.3	4404	3794	3671	3455								
	1/3	889	.33	14.9	4547	3949	3830	3654	3067							
		947	.40	16.1	4843	4270	4155	4043	3647							
	1/2	1021	.50	17.0	5222	4675	4566	4461	4180	3746						
		1085	.60	17.9	5549	5021	4918	4816	4620	4269	3711					
SBE-1H20-LMDX-QD 773-1221 RPM	1/4	773	.17	9.8	2904	2452	2292	2112	1595	924	676	304				
		953	.30	16.1	3580	3246	3148	3033	2769	2468	2001	1159	656			
	1/3	998	.33	16.7	3749	3436	3342	3243	3006	2727	2398	1588	873	392		
		1039	.40	17.2	3903	3607	3517	3427	3211	2954	2675	2037	1064	602		
	1/2	1107	.50	18.0	4159	3885	3805	3720	3533	3315	3065	2599	1367	934	501	
		1221	.60	20	4587	4339	4277	4203	4049	3872	3675	3333	2514	1456	1063	
SBE-1L24-LMDX-QD 562-863 RPM	1/4	562	.17	12.3	4673	3577										
		688	.30	12.8	5721	4890	4659	4378								
	1/3	711	.33	13.2	5912	5114	4891	4654								
		759	.41	14.1	6311	5572	5367	5158	4621							
	1/2	811	.50	15.6	6744	6062	5872	5677	5255	4528						
		863	.60	17.4	7176	6545	6367	6187	5820	5345						
SBE-1H24-LMDX-QD 674-1010 RPM	1/4	674	.17	10.0	3524	2893	2679	2416	1615	1155	821					
		785	.30	13.2	4104	3617	3445	3266	2848	2105	1654	1132	443			
	1/3	829	.33	14.8	4334	3877	3734	3568	3219	2595	2006	1445	769			
		877	.42	16.1	4585	4157	4040	3887	3564	3178	2471	1844	1107	491		
	1/2	961	.55	18.5	5024	4641	4534	4428	4145	3846	3484	2574	1700	1103	540	
		1010	.60	19.9	5281	4920	4818	4717	4470	4193	3901	3092	2108	1439	903	
SBE-2L30-LMDX-QD 710-950 RPM	3/4	645	.75	17.2	10672	9766	9507	9190	8446	7562						
		685	.90	18.7	11334	10496	10252	10009	9331	8621						
	1	710	1.00	19.7	11748	10949	10714	10479	9871	9192	8383					
		754	1.20	21	12476	11735	11519	11298	10806	10174	9527					
	1 1/2	812	1.50	24	13436	12748	12569	12364	11953	11425	10837	9892				
		864	1.81	27	14296	13650	13488	13309	12923	12521	11970	11131				
SBE-2L36-LMDX-QD 518-693 RPM	2	895	2.00	29	14809	14185	14029	13868	13495	13123	12633	11830				
		950	2.41	32	15719	15131	14985	14838	14502	14151	13790	13038	11760			
	1	518	1.01	16.1	14943	13482	13043	12604	11568	10083						
		550	1.21	17.6	15867	14525	14112	13699	12872	11681	9933					
	1 1/2	593	1.51	20	17107	15909	15526	15144	14377	13511	12328					
		631	1.81	22	18203	17112	16759	16400	15680	14959	14025	12175				
SBE-2L42-LMDX-QD 398-611 RPM	2	653	2.01	24	18838	17784	17466	17119	16424	15728	14942	13286				
		693	2.41	27	19992	18998	18743	18416	17761	17105	16449	15153				
	1 1/2	456	1.50	21	21250	19152	18531	17809	16577	15188						
		484	1.80	23	22555	20598	20064	19419	18116	17086	15457					
	2	502	2.01	24	23394	21520	21005	20440	19127	18098	16824					
		532	2.40	27	24792	23046	22560	22074	20880	19756	18819	16578				
SBE-2L48-LMDX-QD 335-613 RPM	3	575	3.01	30	26796	25211	24761	24312	23339	22193	21215	19836				
		611	3.65	31	28473	26984	26585	26162	25315	24279	23200	21952	18526			
	1	335	1.00	13.7	21586	18559	17625	16199								
		355	1.12	15.4	22875	20095	19219	18192	14778							
	1 1/2	384	1.50	17.9	24743	22196	21482	20667	18419							
		407	1.80	18.9	26225	23840	23203	22474	20719	17923						
SBE-2L48-LMDX-QD 335-613 RPM	2	422	2.00	19.6	27192	24904	24289	23636	22154	19746						
		448	2.40	21	28867	26732	26153	25574	24228	22468	19898					
	3	483	3.00	23	31122	29170	28632	28095	26962	25667	23839					
		513	3.60	28	33056	31240	30735	30229	29218	28042	26798	23721				

Performance shown is for Model SBE exhaust without ducts. BHP does not include belt and pulley losses. Performance shown is for installation type A: Free inlet. Free outlet. Power rating (BHP/kW) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet fan sone levels. The AMCA Certified Ratings Seal applies to sone ratings only.

# SIDEWALL FAN ACCESSORIES - S



## WALL HOUSING DIMENSIONAL DATA

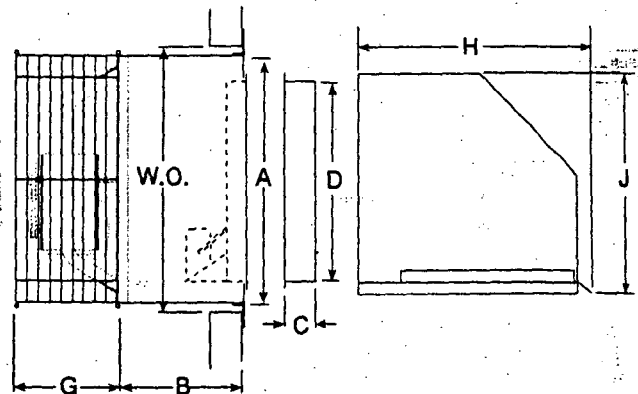
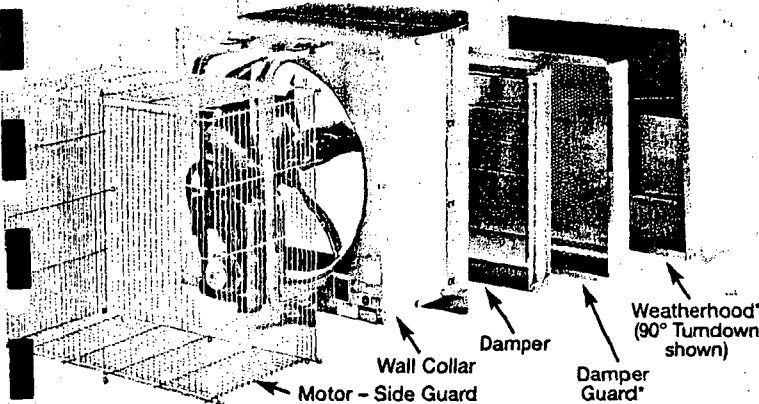
SIZE	WALL HOUSING			DAMPER GUARD		45° WEATHER-HOOD		90° WEATHER-HOOD		DAMPER SIZE SQ.
	A	B	W.O.	C	D	E	F	H	J	
8	13 1/4	19	14 1/4	5 1/2	10 1/4	13 1/4	11 1/4	16 1/2	12	10
10	15 1/4	19	16 1/4	5 1/2	12 1/4	14 1/4	13 1/4	18 1/2	14	12
12	18 1/4	23	19 1/4	5 1/2	14 1/4	16 1/4	15 1/4	20 1/2	16 1/2	14
14	20 1/4	23	21 1/4	6 1/2	16 1/4	17 1/2	17 1/4	22 1/2	18 1/2	16
16	22 1/4	24	23 1/4	6 1/2	18 1/4	19 1/4	19 1/4	25	20 1/2	18
18	24 1/4	28	25 1/4	6 1/2	20 1/4	22	21 1/4	27 1/2	22 1/2	20
20	26 1/4	29	27 1/4	6 1/2	22 1/4	24 1/4	23 1/4	29 1/4	24 1/2	22
24	32 1/4	36 1/2	33 1/4	6 1/2	26 1/4	26 1/4	30 1/4	36	31 1/4	26
30	38 1/4	38	39 1/4	6 1/2	32 1/4	29 1/4	36 1/2	40 1/4	37 1/4	32
36	44 1/4	39	45 1/4	6 1/2	38 1/4	33	42 1/2	45 1/2	43 1/4	38
42	50 1/4	42	51 1/4	7 1/2	44 1/4	35 1/4	48 1/4	49 1/4	49 1/4	44
48	56 1/4	44	57 1/4	7 1/2	50 1/4	40 1/4	54 1/4	55 1/2	56	50
54	62 1/4	50	63 1/4	7 1/2	56 1/4	44 1/4	60 1/4	61 1/4	62 1/4	56
60	68 1/4	54	69 1/4	7 1/2	62 1/4	48 1/4	67	66 1/2	68 1/4	62
72	83 1/4	60	84 1/4	7 1/2	74 1/4	53 1/4	79 1/4	72 1/2	80 1/4	74

All dimensions in inches.

## WALL HOUSING & ACCESSORIES

Wall housings are the safest and most efficient platform for mounting of sidewall propeller fans and their optional accessories. Wall housings allow for a wide range of mounting arrangements to meet specific applications, and can be mounted flush inside, flush outside, or centered in wall. Standard construction is of galvanized steel.

\*Select only one. Shown together for illustration only.



## WALL COLLAR DIMENSIONAL DATA

SIZE	WALL COLLAR			DAMPER GUARD		45° WEATHER-HOOD		90° WEATHER-HOOD		MOTOR-SIDE GUARD	DAMPER SIZE SQ.
	A	B	W.O.	C	D	E	F	H	J		
8	12 1/4	16 1/4	14 1/4	5 1/2	10 1/4	13 1/4	11 1/4	16 1/2	12	9 1/2	10
10	14 1/4	16 1/4	16 1/4	5 1/2	12 1/4	14 1/4	13 1/4	18 1/2	14	10	12
12	17 1/4	16 1/4	19 1/4	5 1/2	14 1/4	16 1/4	15 1/4	20 1/2	16 1/2	11	14
14	19 1/4	18 1/4	21 1/4	6 1/2	16 1/4	17 1/2	17 1/4	22 1/2	18 1/2	11	16
16	21 1/4	18 1/4	23 1/4	6 1/2	18 1/4	19 1/4	19 1/4	25	20 1/2	12 1/4	18
18	23 1/4	18 1/4	25 1/4	6 1/2	20 1/4	22	21 1/4	27 1/2	22 1/2	12 1/4	20
20	25 1/4	18 1/4	27 1/4	6 1/2	22 1/4	24 1/4	23 1/4	29 1/4	24 1/2	14 1/2	22
24	31 1/4	18 1/4	33 1/4	6 1/2	26 1/4	26 1/4	30 1/4	36	31 1/4	19	26
30	37 1/4	18 1/4	39 1/4	6 1/2	32 1/4	29 1/4	36 1/2	40 1/4	37 1/4	22	32
36	43 1/4	18 1/4	45 1/4	6 1/2	38 1/4	33	42 1/2	45 1/2	43 1/4	23	38
42	49 1/4	18 1/4	51 1/4	7 1/2	44 1/4	35 1/4	48 1/4	49 1/4	49 1/4	25	44
48	55 1/4	18 1/4	57 1/4	7 1/2	50 1/4	40 1/4	54 1/4	55 1/2	56	28	50
54	61 1/4	20 1/4	63 1/4	7 1/2	56 1/4	44 1/4	60 1/4	61 1/4	62 1/2	29 1/4	56
60	67 1/4	21	69 1/4	7 1/2	62 1/4	48 1/4	67	66 1/2	68 1/4	31 1/4	62

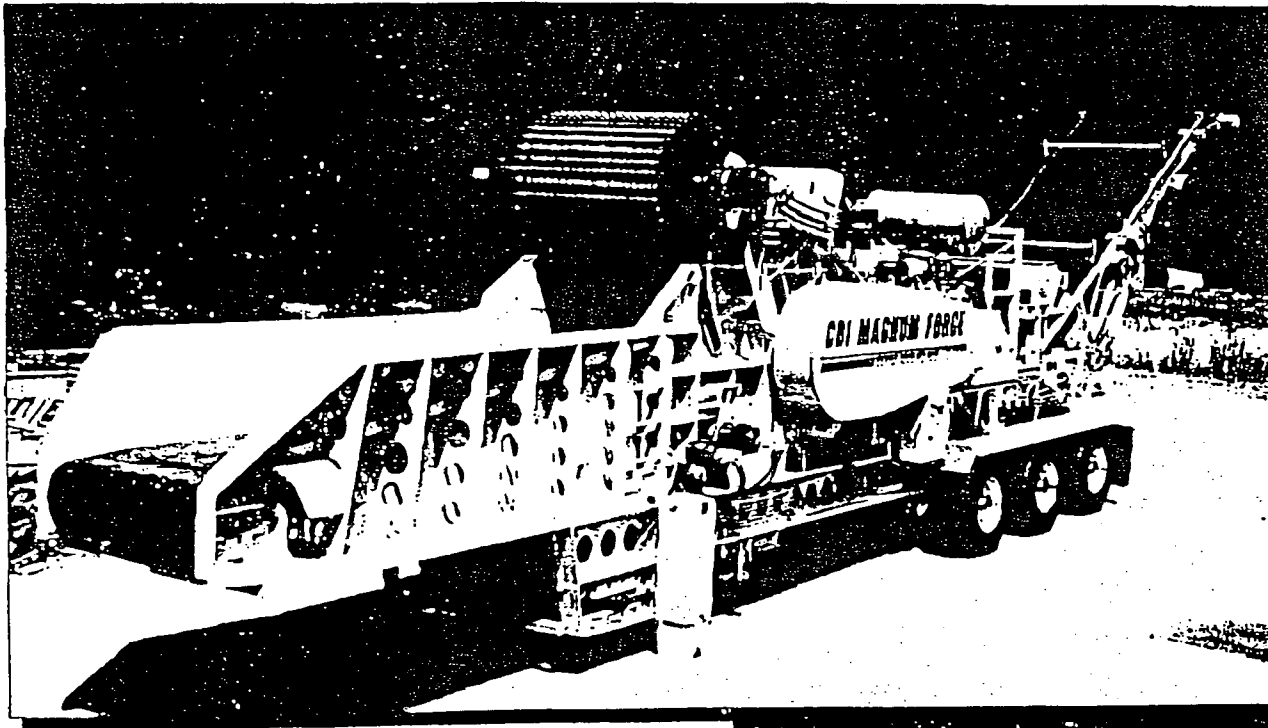
## WALL COLLAR & ACCESSORIES

Wall collars offer an alternate method for mounting sidewall propeller fans and the optional accessories shown here. Standard construction is of galvanized steel.

\*Select only one. Shown together for illustration only.

# CBI MAGNUM FORCE

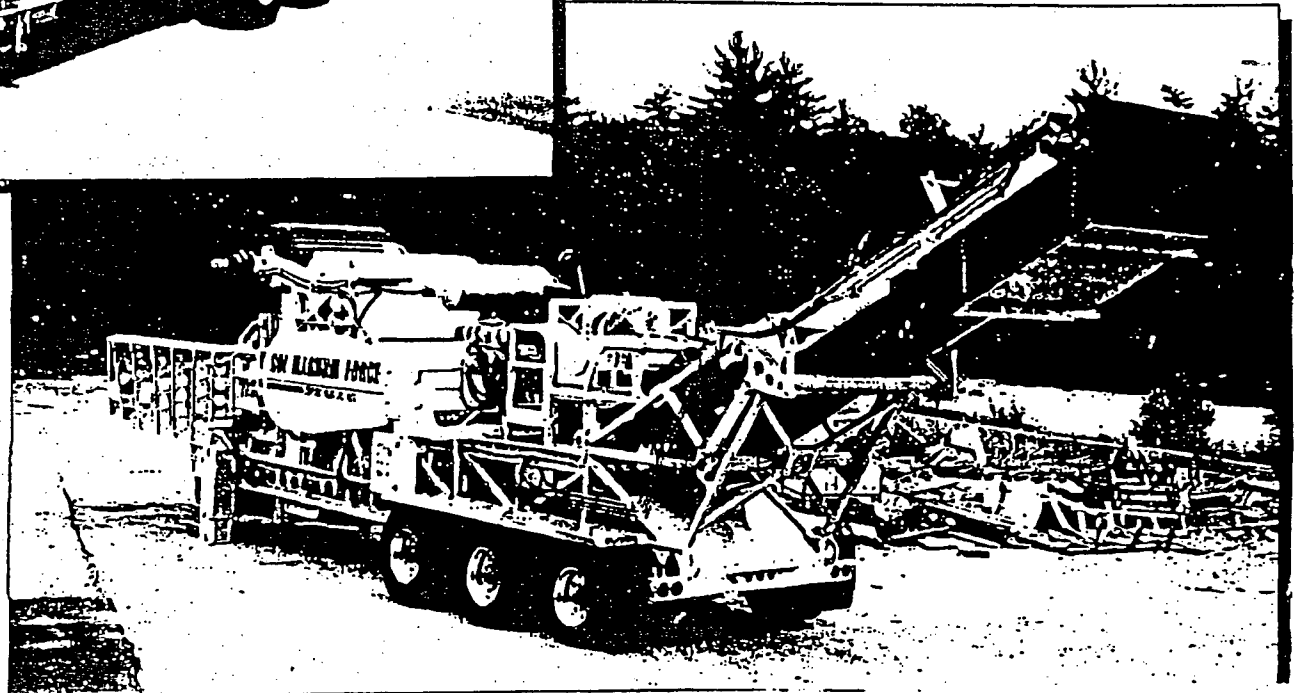
Series 4800 HZ Hog



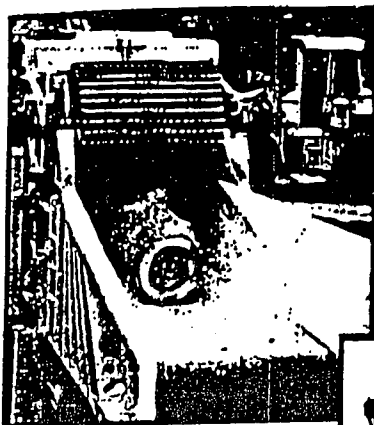
*The ultimate land clearing machine grinds full length trees, stumps, and brush at an unbeatable throughput rate. Easily transportable both on and off the road. Safe to operate—no flying debris.*

BUILT TO PROCESS  
HIGH VOLUMES OF:

- Stumps
- Logs
- Yard Waste
- Contaminated C & D
- Poles & Ties, Etc.
- Tolerant to Rock, Dirt & Metal



# Eliminate chippers - Grind trees and stumps into valuable mulch for greater profits!

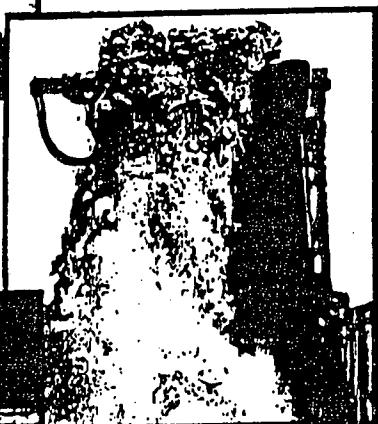


**FEED SYSTEM:** Two extremely rugged feed rollers, upper and lower, powered by three heavy-duty high-torque planetary gear drives provides continuous positive feed of logs, stumps and brush, etc.

Upper roller's crushing force is adjustable by radio control.

Built-in pre-screener allows abrasive fines to by-pass hog and extend wear component life.

Load-regulated feed system.



**DISCHARGE:** 60" wide discharge conveyor, heavy-duty construction; 17' discharge height. Magnetic head pulley available.



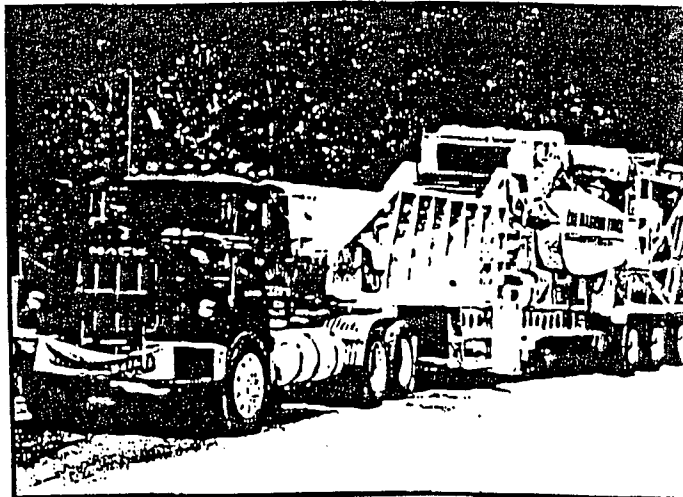
**ROTOR:** 48" diameter, 19,000 lb. solid steel rotor with our unique patented off-set helix design that cuts from left to right and right to left at half the RPM of a conventional hammermill. A design that is tolerant to rock, dirt, and metal, provides exceptional long wear life. Bolt-on striker bars for ease of maintenance.



**FEED HOPPER:** Open ended with ex large capacity accepts large surges at full-length material.



**CHAMBER:** Specially designed hog chamber with full access in front and back; bolt-in liners throughout; tremendously stout grate and anvil frame with shear pin release system for full component protection; bolt-in heavy-duty thick grate liner.



**POWER:** 880-1000 HP CAT.

**ELECTRICAL:** Radio remote control for all functions with full independent mechanical backup.

*Anger*  
**Gil Fredsall 1-800-591-1111**

Distributed by:



**Continental Biomass Industries, Inc.**

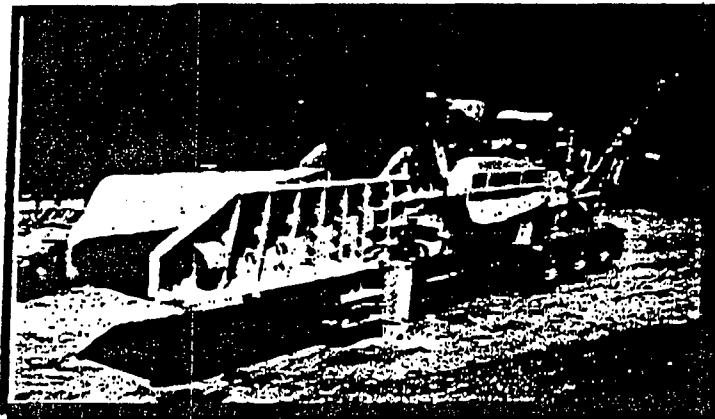
Manufacturers of Stationary and Portable Biomass Recovery Systems

22 Whittier Street, Newton, NH 03858

Tel. 603-382-0556 Fax 603-382-0557 *John C/C*



## Continental Biomass Industries, Inc.



### CBI MAGNUM FORCE Model 4800

RETAIL PRICE SHEET  
Effective June 18, 1999  
(F.O.B. Newton, NH)

**BASE PRICE: \$477,900.00**

#### OPTIONS:

Flexxaire Fan	\$11,800.00
Magnetic Head Pulley	\$ 7,800.00

#### HOG:

- Heavy-duty reinforced housing with bolt-in replaceable wear liner;
- 48" diameter x 60" long solid steel offset helix rotor with 4 rows of bolt-on tungsten imbedded hammers;
- 7" shaft and bearings;
- Heavy-duty swing-away grate frame with grate liner and cutting anvil held in place with shear pin for rotor protection;
- Weight of hog with rotor, shaft, bearings and grate, 40,000 lbs.

#### INFEED SYSTEM:

- 16' x 60" Feed Conveyor with high sides; impact plate in bottom; 18" head and tail pulleys; 440, 4-ply belt; hydraulic drive through gearbox.
- 50" diameter upper feed roller with 4" shaft, bearings, two high torque planetary gear drives with 2000 series Char Lynn motors and hydraulic up and down pressure.
- 18" diameter bottom feed roller; 3" shaft, bearings, high torque planetary gear drive with 2000 series Char Lynn motor.

#### ENGINE:

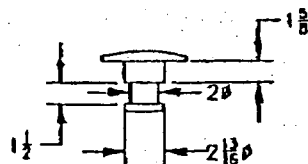
- Caterpillar 3412 Diesel Engine rated, 880 HP at 2250 RPM;
- Twin Disc model 318 extra heavy-duty PTO clutch with outboard support bearing;
- Donaldson Air Filtering System with Turbo Two Pre-Cleaners;
- 8" Critical Silencer;
- Electric dual battery 24 volt DC system with emergency shut down, and all weather control enclosures;



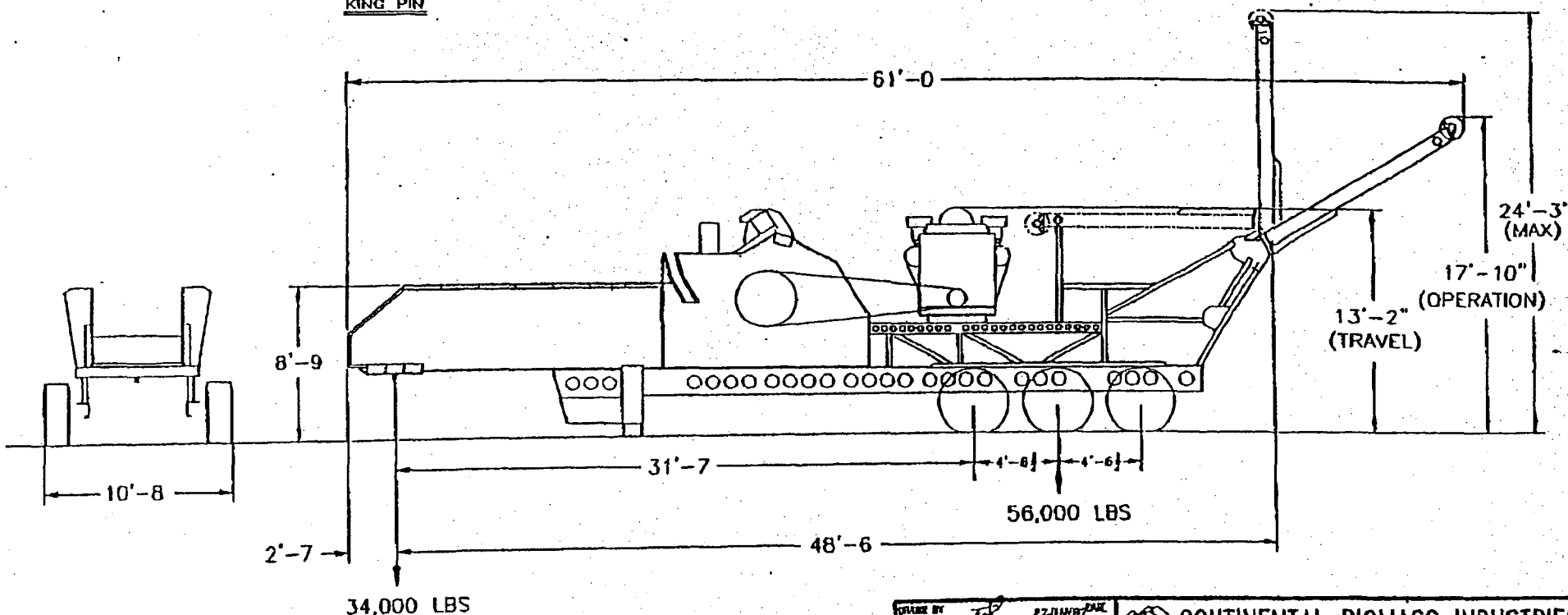
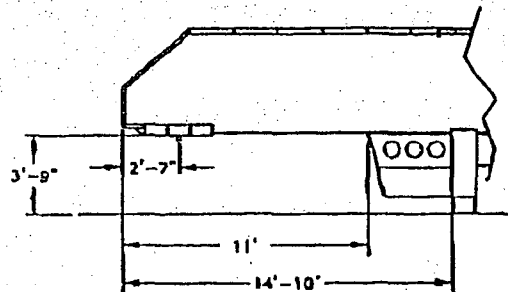
# NOTICE

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REVISION		
REV	DESCRIPTION	DATE/APVD
A	90,000 WAS 68,800 55,000 WAS 55,600	31MAR98
B	ADDED MAX HEIGHT OF CONVEYOR	27APR98



KING PIN



## NOTES:

WEIGHT: 90,000 lbs  
TIRES: 445/65R 22.5  
LOAD CAPACITY PER TIRE: 12,300

36 FT<sup>2</sup> GRATE SURFACE AREA 1 1/2" THICK

DESIGNED BY	27JUN98/PAR
CHECKED BY	DVE
APVD	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES:	
XXX DECIMAL	±.03
XXX DECIMAL	±.005
ANGLES	±.5°
REMOVE BURRS & SHARP EDGES	
MACHINED SURFACE FINISH TO BE 125 RMS	
OTHER SURFACE FINISHES TO BE 250 RMS	

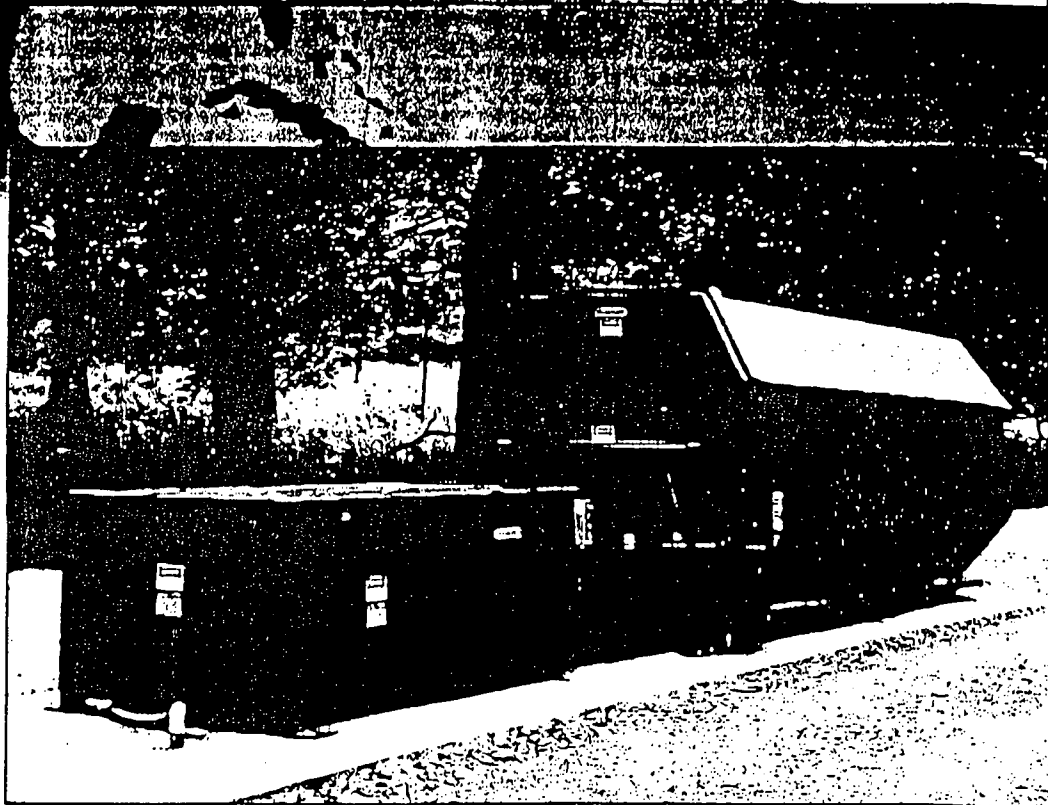
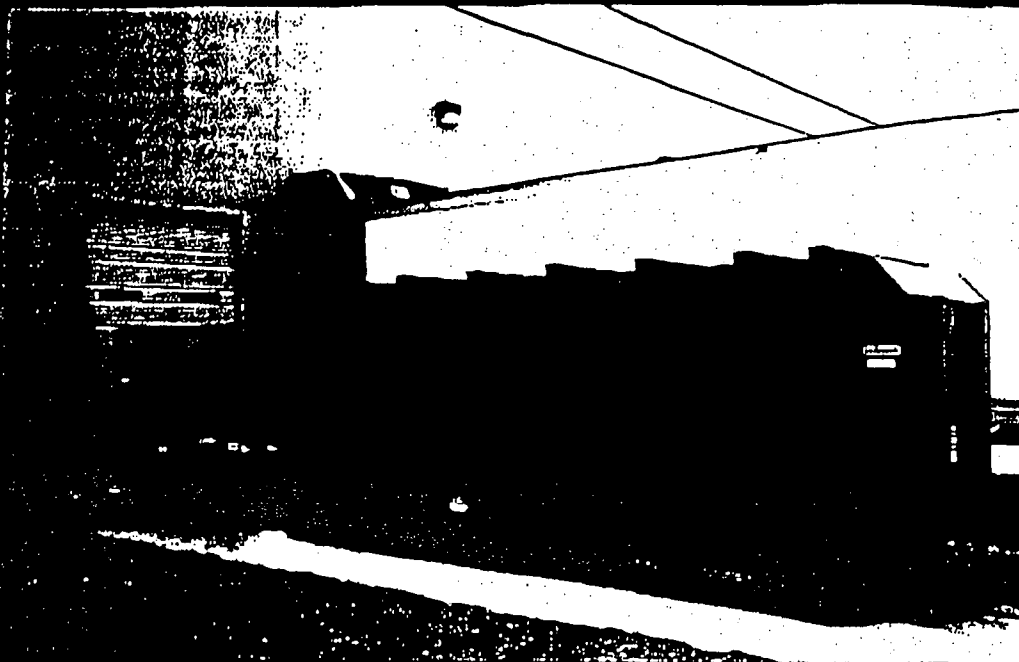
CONTINENTAL BIOMASS INDUSTRIES	
22 WHITTIER ST. NEWTON MA 03858	
TITLE 4800 MAGNUM FORCE DIMENSIONAL OUTLINE	
SCALE	00910008
SHEET C	OF 1

TOTAL P.07

Stationary Compactors

®

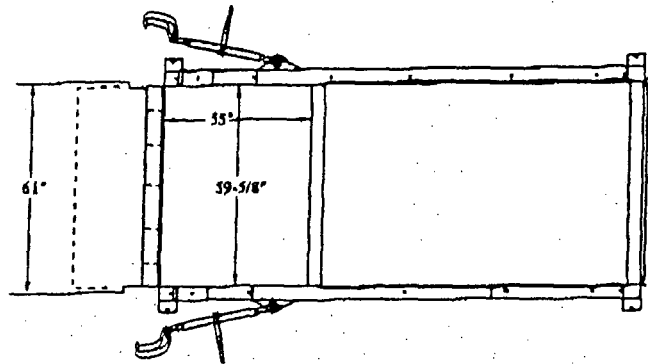
## *Stationary Compactors*



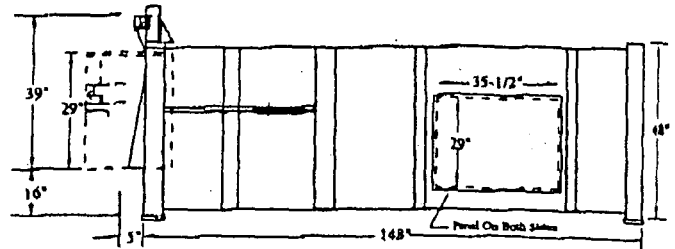
**Advanced design, superior engineering  
provides years of reliable service life.**

# PakFORCE SPECIFICATIONS

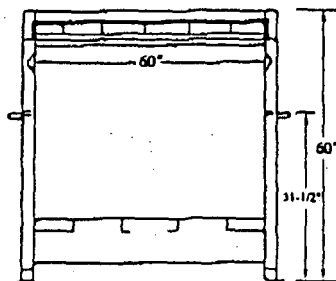
*Top View*



*Side View*



*End View*



## Specifications

Model Number	PF6055
NSWMA - Rating Size	2.09 Cubic Yds.
Clear Top Opening - Length	55"
Width	59-1/2"
Ram Penetration	16"
Chamber Length	56"
Ram Face - Height	29"
Width	60"
Cylinder Stroke	72"
Cylinder Bore	6"
Cylinder Rod Diameter	4"
Discharge Opening - Height	39"
Width	61"
Ground Height	16"
Scale Weight B004	approx. 5,200 lbs.
Cycle Time*	31-75 Sec.
Pump Size	10.5 G.P.M.
Motor Size	10 H.P.
Operating Pressure - Normal	1950 PSI
Maximum	2250 PSI
Force Rating - Normal	31.6/55,100
Maximum	36.5/63,600
Chamber Sides	1/4" Plate
Chamber Floor	1/2" Plate
Ram Top	1/4" Plate
Ram Sides	1/4" Plate
Ram Floor	1/4" Plate
Ram Face	1/2" Plate
Top Cover	12 Ga. Floor Plate

\* Varies depending on pump and motor configuration

## Standard Features

- Solid State Control System
- External Power Plant
- UL & Canadian UL Listed Industrial Control Panel
- 10 HP, 208/230/460 Volt, 3 Phase Motor
- 40 Micron Air Filter
- 200 Mesh Suction Filter in Reservoir
- Oil Level Sight Gauge with Thermometer
- 25 G.P.M. Hydraulic Control Valve
- 3/4 Full Light (1550 PSI)
- Contalner Full Light (1950 PSI)
- Claw Type Grab Hooks
- Replaceable Nylon Ram Guides
- Operator's Controls on 10' Sealtite
- Hold to Operate Mode
- Hold to Operate Extend/Auto Retract Mode
- 2 - 8 Multicycle Modes
- Ram Stop Extended Mode
- Floor Plate Walk-On Ramp
- Finish Paint Any Standard Galbreath Color

## Optional Features

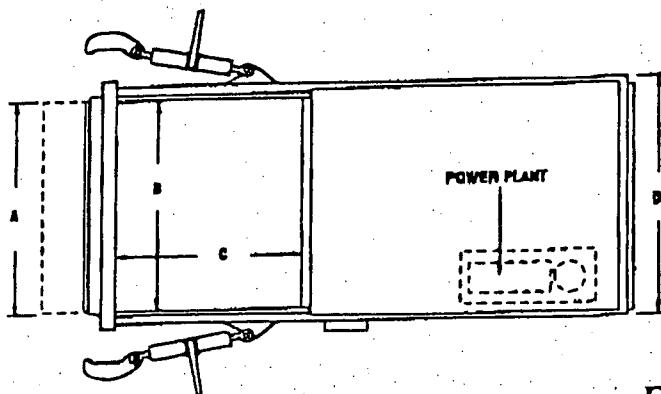
- Electro-Mechanical Power Unit
- Pressure Gauge
- Oil Heater
- Photoelectric Eye
- Low Oil/High Temperature Shut Off Sensor
- Drive-On Ramp
- Internal Power Plant
- Hoppers
- Chutes
- Weather Cover
- Interlock Switch On 30' Sealtite

**Specifications...designed for superior  
performance and efficiency.**

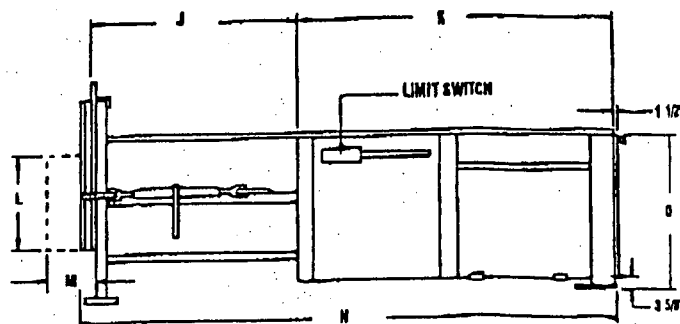
**Advanced design, superior engineering  
provides years of reliable service life.**

# GP Series SPECIFICATIONS

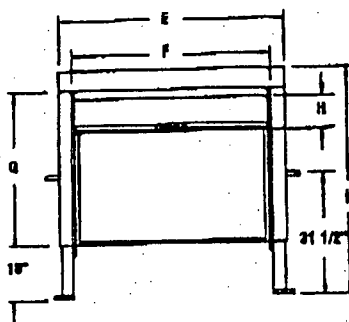
**Top View**



**Side View**



**End View**



## Standard Features

- Internal Power Plant
- UL Listed Relay Control Box
- 15 HP 208/230/460 Volt, 3 Phase Electric Motor\* (GP-350, GP-450, GP-550, GP-450HD & GP-550HD)
- 40 Micron Air Filter
- 200 Mesh Oil Screen Filter in Reservoir
- Pump 13.5 GPM
- Operator's Controls on 10' Sealtite
- UL & Canadian UL Listed Industrial Control Panel
- Oil Level Sight Gauge With Thermometer
- 20 GPH Hydraulic Regenerative (1200 PSI) Control Valve
- Pressure Control Shut-Down (1950 PSI)
- Claw Type Grab Hooks
- Replaceable Nylon Ram Guides
- Red Oxide Primer Finish

\* Motor can be used on 208 volt system up to 40 Amps. May not meet all NEMA performance limits on 208 volt system.

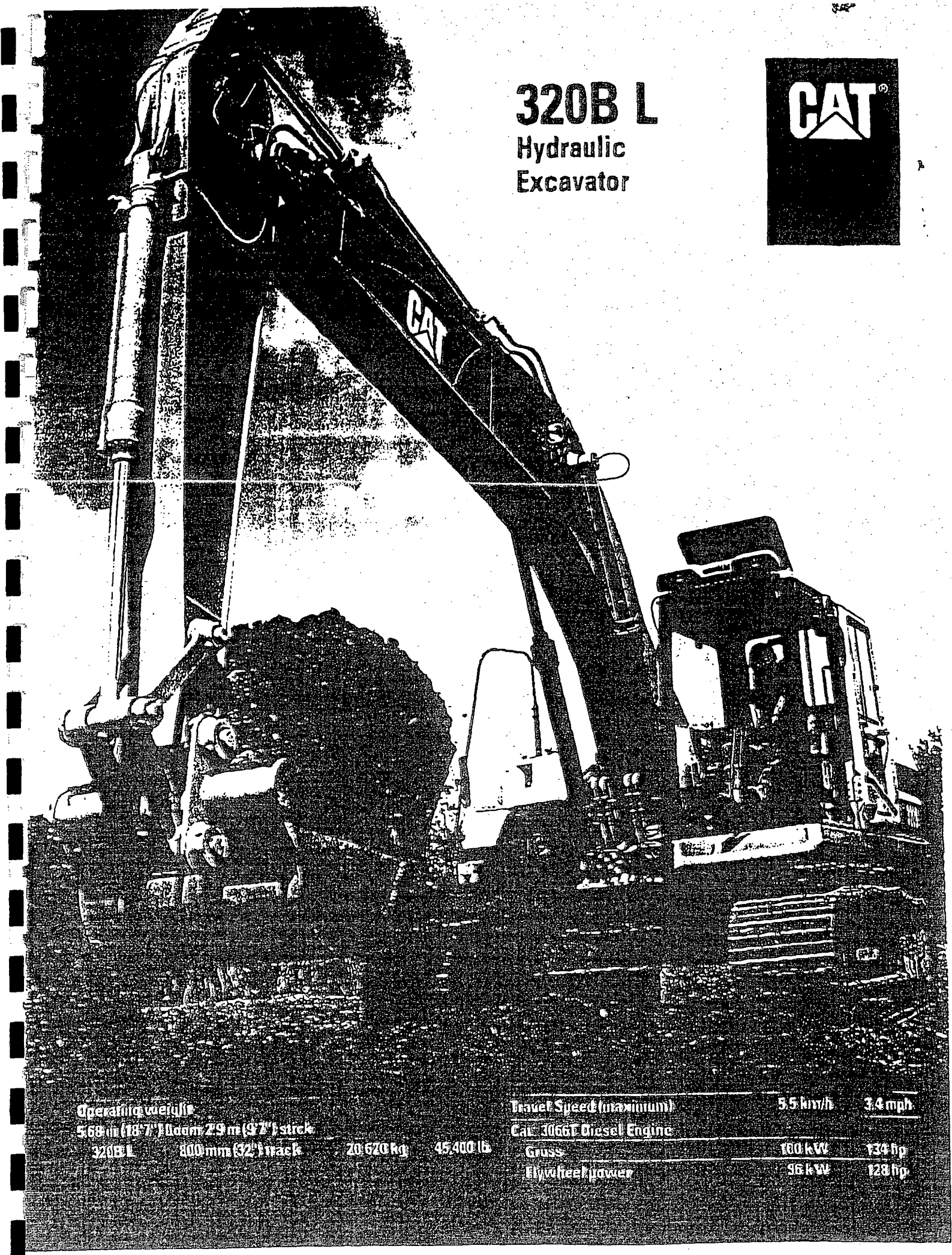
## Optional Features

- Container Full Light (1950 PSI)
- 3/4 Container Full Light (1550 PSI)
- Hold to Operate Controls
- Multi-Cycle Timer
- External Power Plant (controls mounted on power unit)
- Remote Control Pendant for External Power Plant
- Pressure Gauge
- Oil Heater
- Photoelectric Eye
- Low Oil/High Temperature Shut Off Sensor
- Drive-On Ramp
- Hoppers
- Chutes
- Weather Cover
- Interlock Switch On 30' Sealtite
- Ram Stop Extended Mode
- Override/Hauler's Control
- Guard Rails
- Floor Plate Walk-On Ramp
- 20 HP Motor With 16 GPM Pump
- Internal Switch

## Specifications...designed for superior performance and efficiency.

Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	APPROX. WT.
GP-350	60"	57"	67"	67"	71"	61 1/2"	43"	10"	64"	70"	114"	28"	18"	187 1/2"	48"	5,863 Lbs.
GP-450	60"	57"	87"	67"	71"	61 1/2"	43"	10"	64"	90"	142"	28"	24 1/2"	236"	48"	6,762 Lbs.
GP-550	72"	69"	87"	79"	83"	73 1/2"	45"	10"	66"	90"	142"	30"	24 1/2"	236"	50"	8,639 Lbs.
GP-450HD	60"	57"	87"	67"	71"	62"	43"	10"	64"	90"	142"	28"	24 1/2"	236"	48"	9,387 Lbs.
GP-550HD	72"	69"	87"	79"	83"	73 1/2"	45"	10"	66"	90"	142"	30"	24 1/2"	236"	50"	10,800 Lbs.

	GP-350	GP-450	GP-550	GP-450HD	GP-550HD
Mfg. Rating	3 Cu. Yds.	4 Cu. Yds.	5 Cu. Yds.	4 Cu. Yds.	5 Cu. Yds.
NSWMA Rating	2.54 Cu. Yds.	3.26 Cu. Yds.	4.19 Cu. Yds.	3.26 Cu. Yds.	4.19 Cu. Yds.
Cycle Time	41-86 seconds - varies depending on pump and motor configuration.				
Packing Force-Norm.	55,100 Lbs.	55,100 Lbs.	55,100 Lbs.	75,000 Lbs.	75,000 Lbs.
Packing Force-Max.	63,600 Lbs.	63,600 Lbs.	63,600 Lbs.	86,500 Lbs.	86,500 Lbs.
Operating Pressure-Norm.	1950 PSI	1950 PSI	1950 PSI	1950 PSI	1950 PSI
Operating Pressure-Max.	2250 PSI	2250 PSI	2250 PSI	2250 PSI	2250 PSI
Cylinder (Bore x Stroke x Rod)	6" x 90" x 4"	6" x 116" x 4.5"	6" x 116" x 4.5"	7" x 116" x 5"	7" x 116" x 5"
Electric Motor	15 HP	15 HP	15 HP	15 HP	15 HP
Oil Reservoir	34 Gal.	34 Gal.	34 Gal.	34 Gal.	34 Gal.
Chamber Floor	1/2" AR Plate	1/2" AR Plate	1/2" AR Plate	3/4" AR Plate	3/4" AR Plate
Chamber Sides	1/4" Plate	1/4" Plate	1/4" Plate	3/8" Plate	3/8" Plate
Ram Top	1/4" Plate	1/4" Plate	1/4" Plate	3/8" Plate	3/8" Plate
Ram Face	1/2" Plate	1/2" Plate	1/2" Plate	3/4" Plate	3/4" Plate



# 320B L

Hydraulic  
Excavator

**CAT**<sup>®</sup>

**Operating weight**

5680 lb (2570 kg) 29 m (97') stroke

320B L 800 mm (32") track 20 620 kg 45 400 lb

**Travel Speed (maximum)**

5.5 km/h

3.4 mph

**Cat 3066T Diesel Engine**

Gross

180 kW

134 hp

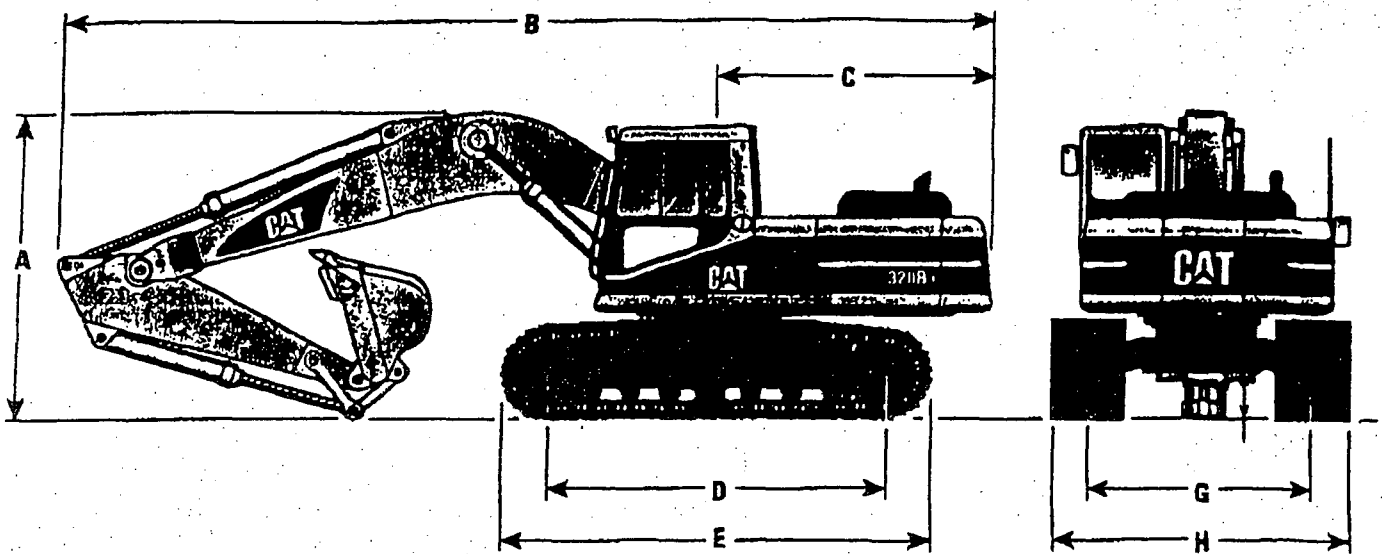
Hydroturbopower

96 kW

128 hp

## Dimensions and Weights

All dimensions are approximate.



Reach Boom 5.68 m (18'7")	R3.9B (12'8") Stick	R2.9B (9'7") Stick	R2.5B (8'2") Stick	R1.9C (6'3") Stick
A Shipping height	3430 mm (11'3")	2930 mm (9'7")	3010 mm (9'11")	3050 mm (10'8")
B Shipping length	9420 mm (30'11")	9440 mm (31')	9460 mm (31')	9490 mm (31'2")
C Tail swing radius	2750 mm (9')	2750 mm (9')	2750 mm (9')	2750 mm (9')
D Length to centers of rollers	3650 mm (12')	3650 mm (12')	3650 mm (12')	3650 mm (12')
E Track length	4455 mm (14'7")	4455 mm (14'7")	4455 mm (14'7")	4455 mm (14'7")
F Ground clearance	475 mm (1'7")	475 mm (1'7")	475 mm (1'7")	475 mm (1'7")
G Track gauge	2380 mm (7'10")	2380 mm (7'10")	2380 mm (7'10")	2380 mm (7'10")
H Transport width	800 mm (32") shoes	600 mm (24") shoes	700 mm (28") shoes	800 mm (32") shoes
Long	3180 mm (10'5")	2980 mm (9'9")	3080 mm (10'1")	3180 mm (10'5")

Mass Boom 5.2 m (17'1")	M2.4C m (7'10") Stick
A Shipping height	3050 mm (10'8")
B Shipping length	9000 mm (29'6")

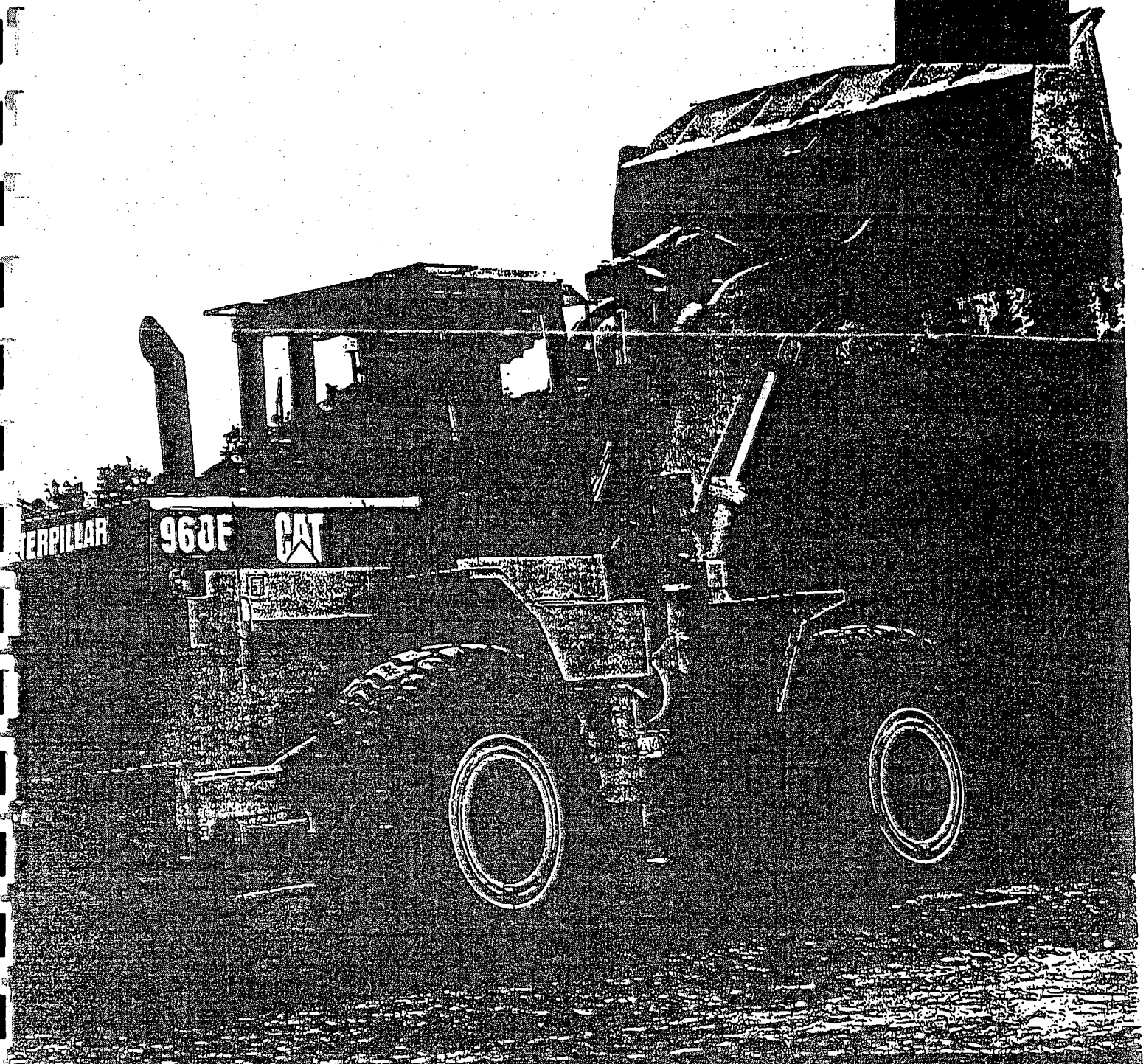
Operating Weight	600 mm (24") Shoes		700 mm (28") Shoes		800 mm (32") Shoes	
	kg	lb	kg	lb	kg	lb
Sticks:						
3.9 m (12'8")	20 180	44,500	20 540	45,200	20 860	45,900
2.9 m (9'7")	19 940	43,900	20 300	44,700	20 620	45,400
2.5 m (8'2")	19 900	43,800	20 240	44,600	20 580	45,300
1.9 m (6'3")	20 300	44,700	20 650	45,500	20 980	46,200
Mass Boom						
Stick:						
2.4 m (7'10")	20 320	44,700	20 670	45,500	20 990	46,200
Ground Pressure with Reach Boom, 2.9 m (9'7") Stick						
	41.4 kPa	6.0 psi	36.1 kPa	5.2 psi	32.1 kPa	4.7 psi



# 960F

Wheel Loader

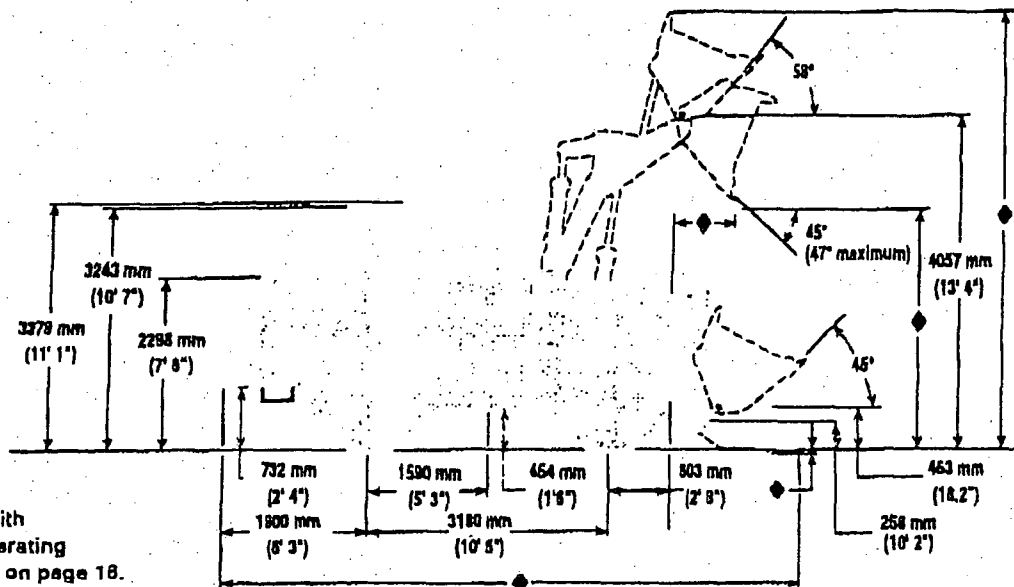
**CAT**



Bucket capacities	3.1 to 3.5 m <sup>3</sup>	4.0 to 4.5 yd <sup>3</sup>
Operating weight	17,650 kg	38,936 lb
Cat 3116 Engine		
Gross power	156 kW	210 HP
Hydraulic power	143 kW	200 HP

## Dimensions

All dimensions are approximate.



◆ Dimensions vary with bucket. Refer to operating specifications chart on page 18.

Tread width for all tires 2090 mm (82")

	Width over tires		Ground clearance		Change in vertical dimensions	
	mm	inches	mm	inches	mm	inches
23.5-R25 XHA (L-3) steel radial (standard)	2770	109.0	454	17.9	—	—
23.5-25, 12 PR (L-2)	2754	108.4	476	18.7	+22	+8.7
23.5-25, 16 PR (L-3)	2839	111.8	469	18.5	+22	+8.7
23.5-R25 GP-2B (L-2/3) steel radial	2771	109.1	471	18.5	+17	+6.7
20.5-25, 20 PR (L-3)	2681	105.6	426	16.8	-28	-1.13
20.5-R25 GP-2B (L-2/3) steel radial	2685	105.7	402	15.8	-52	-2.03
20.5-R25 XHA (L-3) steel radial	2692	106.0	399	15.7	-55	-2.16
20.5-R25 XGLA (L-2) steel radial	2700	106.3	393	15.5	-61	-2.4

## Supplemental Specifications

	Change in Operating Weight		Change in Articulated Static Tipping Load	
	kg	lb	kg	lb
Remove cab only, ROPS remains	+177	-390	-132	-291
23.5-25, 16 PR (L-3)	-238	-525	-148	-326
23.5-R25 GP-2B (L-2/3) steel radial	-84	-185	-49	-108
20.5-25, 20 PR (L-3)	-612	-1350	-381	-840
20.5-R25 GP-2B (L-2/3) steel radial	-568	-1253	-354	-780
20.5-R25 XHA (L-3) steel radial	-568	-1253	-354	-780
20.5-R25 XGLA (L-2) steel radial	-747	-1647	-464	-1023
23.5-25, 12 PR (L-2)	-409	-902	-256	-564

Note: Tire options include exchange of tires and rims.



ATTN: Jim  
RE: Blue Lighting  
(Existing)

\* 400 WATT  
Metal Halide High Bay Lights

## High Intensity Discharge Lamps

Lamp Watts	Bulb	Base	Product Number 046577-	Ordering Code	ANSI Code	Phg. Qty.	Description (Operating Position — Universal, unless otherwise indicated)	L.C.L. (in.)	M.O.L. (in.)	Rated Avg. Life Hrs.(35)	Approximate Lumens(352): Initial	Mean(353)	CRI	OCT(K)
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## Metal Halide Lamps

175 ED-28 Mog. (Enclosed fixtures only) Operate on ANSI specified "M57" Metal Halide Ballasts.	POMB	28733-4	MH175/U	M57PE-175	12	+G, & St. Ltg., Clear (372)(377)	5	8 1/4	10,000 (385)	18,000	10,350	85	3700	
		28728-4	MH175/C/U	M57PF-175	12	+G, & St. Ltg., Phos. Coated (372)(377)	5	8 1/4	10,000 (385)	18,000	9500	70	3400	
		31287-6	MH175/3K/U	M57PF-175/3U	12	+G, Vert. ± 15° Phos. Coated (372)(374)(377)		8 1/4	10,000	12,000	9000	70	3200	
		28849-2	M5175/HOR	M57PE-175/HOR	12	+G, S. Hor. ± 45° Clear (372)(374)(377)	5	8 1/4	7500	15,000	12,000	85	4100	
		28850-0	M5175/C/HOR	M57PF-175/HOR	12	+G, Hor. ± 45° Phos. Coated (372)(374)(377)		8 1/4	7500	15,000	11,300	70	4100	
		PAR-38 ▲ Mod.	30858-5	MH175/RLP	M57	6	+G, Clear, 50° Beam (372)(377)		5 3/4	7500	11,000		85	4100
□	31518-5	MH175/RSP	M57	6	+G, Clear, 16° Beam (372)(377)		5 3/4	7500	11,000		85	4100		
250 ED-28 Mog. (Enclosed fixtures only) Operate on ANSI specified "M59" Metal Halide Ballasts.	POMB	27484-5	MH250/U	M58PG-250	12	+G, & St. Ltg., Clear (372)(377)	5	8 1/4	10,000	20,500	17,000	85	3700	
		29189-0	MH250/C/U	M58PH-250	12	+G, & St. Ltg., Phos. Coated (372)(377)	5	8 1/4	10,000	20,500	16,000	70	3400	
		31137-3	MH250/3K/U	M58PH-250/ 3U	12	+G, BU ± 45° Phos. Coated (372)(374)(377)	5	8 1/4	10,000	18,000	14,200	70	3200	
		28652-6	M5250/HOR	M58PG-250/HOR	12	+G, S. Hor. ± 45° Clear (372)(374)(377)	5	8 1/4	10,000	23,000	18,000	85	4100	
		28654-2	M5250/C/HOR	M58PH-250/HOR	12	+G, Hor. ± 45° Phos. Coated (372)(374)(377)	5	8 1/4	10,000	23,000	17,000	70	3800	
		T-15 Mog. †	33282-3	MH250/T15	M58	12	+G, Clear, (372)(374)(377)	5 1/4	9 1/4	10,000	21,000	16,800	85	3700
R-40 Mod. †	32802-1	MH250/RSP	M58	12	+Clear, 20° Beam (372)(377)		7 1/4	7500	18,000		82	3900		
400 ED-28 Mog. (Enclosed fixtures only) Operate on ANSI specified "M59" Metal Halide Ballasts.		27862-2	MH400/U/ED28	M59	12	+G, Clear (372)(377)	5	8 1/4	12,000	36,000	28,800	85	3700	
400 ED-37 Mog. Operate on ANSI Specified, "M59" Metal Halide Ballasts.	POMB	34415-0	MH400/U	M59PJ-400/U	6	+G, & St. Ltg., Clear (372)(377)	7	11 1/4	20,000 (364)	36,000	28,800	85	3700	
		34416-8	MH400/C/U	M59PK-400/U	6	+G, & St. Ltg., Phos. Coated (372)(377)	7	11 1/4	20,000 (364)	36,000	27,700	70	3400	
		31285-0	MH400/3K/U	M59PK-400/3K/U	6	+G Phos. Coated (372)(377)	7	11 1/4	20,000 (364)	33,000	25,000	70	3200	
		30170-5	M5400/BU	M59PJ-400/BU	6	+High Efficacy, Base Up ± 15° Clear (372)(374)(377)	7	11 1/4	20,000	40,000	32,000	85	3700	
		30172-1	M5400/C/BU	M59PK-400/BU	6	+High Efficacy, Base Up ± 15° Phos. Coat. (372)(374)(377)	7	11 1/4	20,000	40,000	31,000	70	3400	
		31135-7	M5400/3K/BU	M59PK-400/BU	6	+G, BU ± 15° Phos. Coated (372)(374)(377)	7	11 1/4	20,000	36,000	27,000	70	3200	
		28655-9	M5400/HOR	M59PJ-400/HOR	8	+G, S. Hor. ± 45° Clear (372)(374)(377)	7	11 1/4	20,000	40,000	32,000	85	4100	
		28656-7	M5400/C/HOR	M59PK-400/HOR	6	+G, Hor. ± 45° Phos. Coated (372)(374)(377)	7	11 1/4	20,000	40,000	31,000	70	3800	
		(Enclosed fixtures only) R-60 Mog. □	31973-1	MH400/RSP	M59	6	+G, Clear, (372)(377)		10 3/4	15,000	30,000		85	3900
		T-15 Mog. □	23127-4	MH400/T15	M59PL-400	12	+G, Clear (372)(377)	5 1/4	9 1/4	10,000	36,000	27,700	85	3700
1000 BT-37 Mog. (Enclosed fixtures only) Operate on ANSI specified "M47" Metal Halide Ballasts	BT-56 Mog.	32150-5	MH1000/U/BT37	M47	6	+G, Clear, (359)(372)(377)	7	11 1/4	10,000	110,000	88,000	85	3700	
29826-5		MH1000/U	M47PA-1000/U	6	+G, & St. Ltg., Clear (372)(377)		9 1/4	15 1/4	12,000	110,000	88,000	85	3700	
29827-3		MH1000/C/U	M47PB-1000/U	6	+G, & St. Ltg., Phos. Coated (372)(377)		9 1/4	15 1/4	12,000	110,000	83,000	70	3400	
Operate on ANSI specified "M47" Metal Halide Ballasts		25093-8	M51000/BU	M47PA-1000/BU/S	8	+High Efficiency, Base Up ± 15° Clear (372)(374)(377)		9 1/4	15 1/4	10,000	125,000	100,000	85	3700

□ Exclusive Product

POMB-Position Oriented Mogul Base

† New Since Last Printing

TFT RECYCLING, INC.

LEACHATE GENERATION ESTIMATE

ASSUMPTIONS:

1) CLASS I TRIPPING AREA = 45' X 60'

DAILY WASH AREA = 2700 SF

WATER WASH = 0.05 GALLONS / SF. X 2700 SF. =

135 GAL / DAY

∴ 135 GAL / DAY X 30 DAYS / MONTH

= 4050 GAL / MONTH

CLASS II AREA - SWEEP - NO WATER USE,

ABOVEGROUND LEACHATE STORAGE TANK = 5000 GAL.

CAPACITY

∴ STORAGE SYSTEM HAS 1.2 MONTH CAPACITY

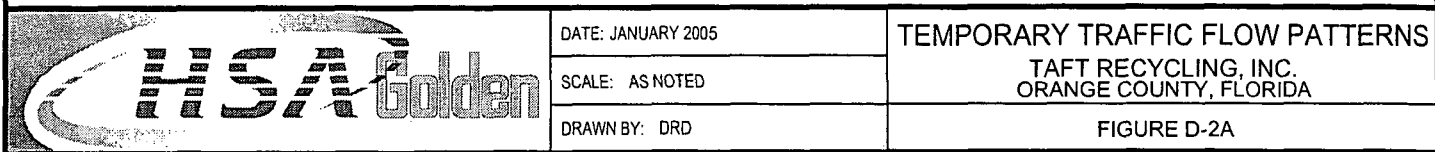
*J. P. Allen* 9/22/04

 **HSA Golden**  
225 East Robinson Street  
Suite 100  
Orlando, Florida 32801  
Tel: 407 649-5475  
Fax: 407 649-6582  
*Environmental & Engineering Consultants*

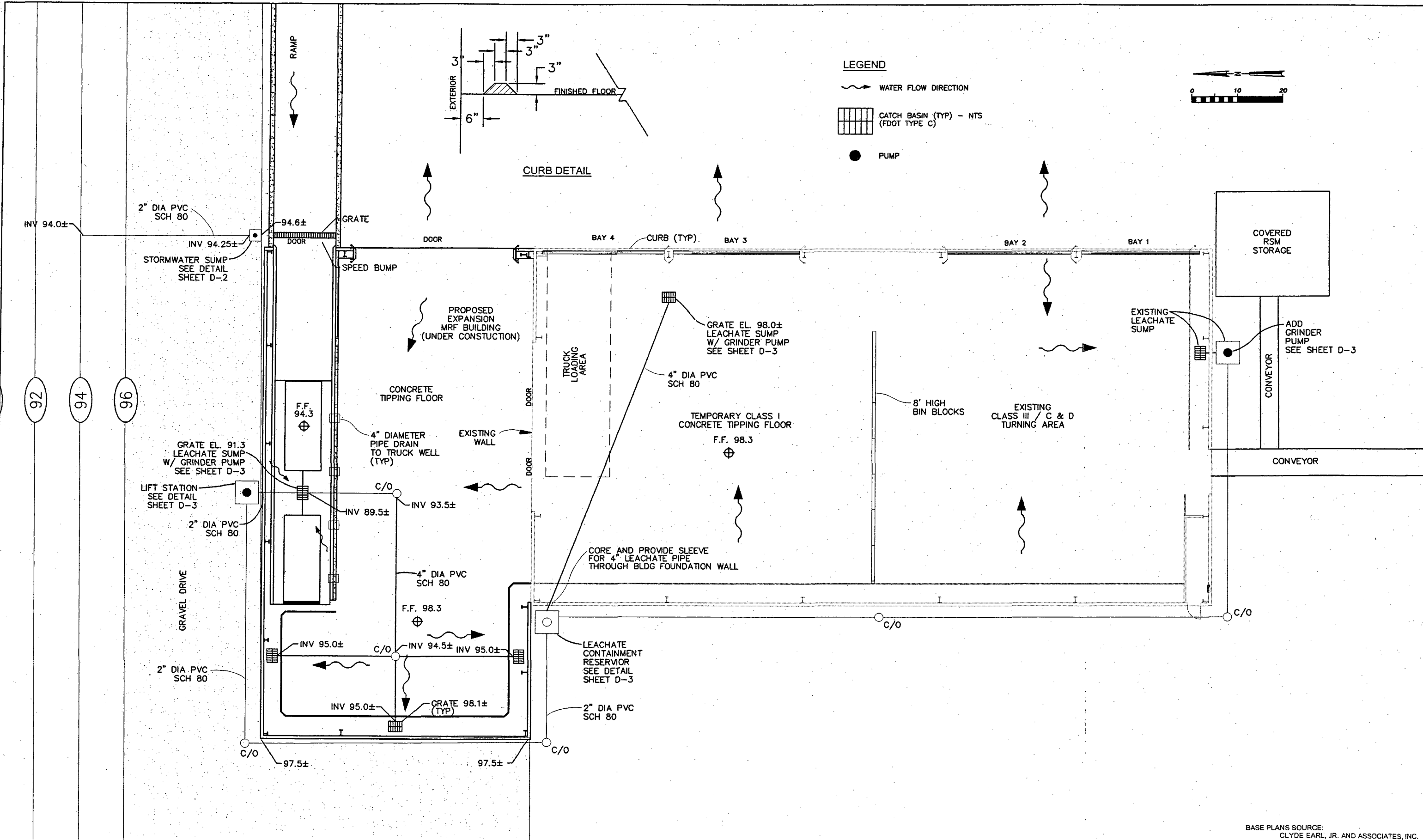
PROJECT NO.: 04-297.001  
DATE: 9/22/04  
BY: *GER*  
**CALCULATION SHEET**  
**APPENDIX H**  
SHEET 1 OF 1

## **APPENDIX I**

### **SITE PLANS**







**HSA Golden**  
 225 East Robinson Street  
 Suite 100  
 Orlando, Florida 32801  
 Tel: 407 649-5475  
 Fax: 407 649-6582

VERIFIED SCALE  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, PLEASE ADJUST SCALE.  
**DOCUMENT REUSE**  
 THIS DOCUMENT AND THE CONCEPTS AND DESIGNS INCORPORATED HEREIN ARE THE PROPERTY OF HSA GOLDEN AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PURPOSE WITHOUT EXPRESS WRITTEN AUTHORIZATION OF HSA GOLDEN.

**TAFT RECYCLING, INC.**  
 ORANGE COUNTY, FLORIDA

**WASTE PROCESSING FACILITY EXPANSION  
 LEACHATE COLLECTION SYSTEM  
 PLAN**

DATE	REVISIONS	REVISED	CHECKED
1/05	EXISTING BUILDING UPGRADES	JEG	DLL

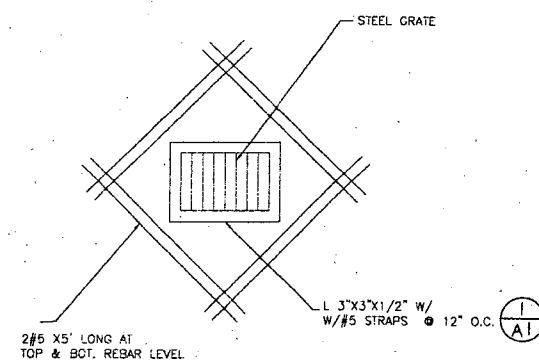
David L. Leggett, P.E. P.E. No. 58667, FL Engineering Business No. 9915	DESIGNED	JEG	10/04	PROJECT NO.	04-297.005
	DRAWN	DRD	10/04	SCALE	AS NOTED
	CHECKED	DLL	10/04		C-6A
	QC APPROVAL	JEG	10/04		
DATE 1-6-05	FILE: 04297005C05.DWG			SHEET	OF

BASE PLANS SOURCE:  
 CLYDE EARL, JR. AND ASSOCIATES, INC.

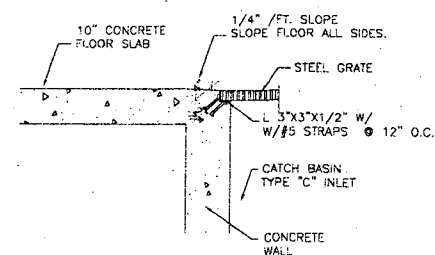
# INDEX TO DRAWINGS

- A1 EXISTING FLOOR PLAN
- P1 PLUMBING PLAN
- P2 PLUMBING DETAILS
- M1 MECHANICAL VENTILATION PLAN
- M2 FAN SCHEDULE & FAN DETAILS
- E1 ELECTRICAL LIGHTING & POWER PLAN
- E2 ELEC. POWER RISER & FIXTURE SCHEDULE
- E3 LEGEND & ELEC. SPECIFICATIONS

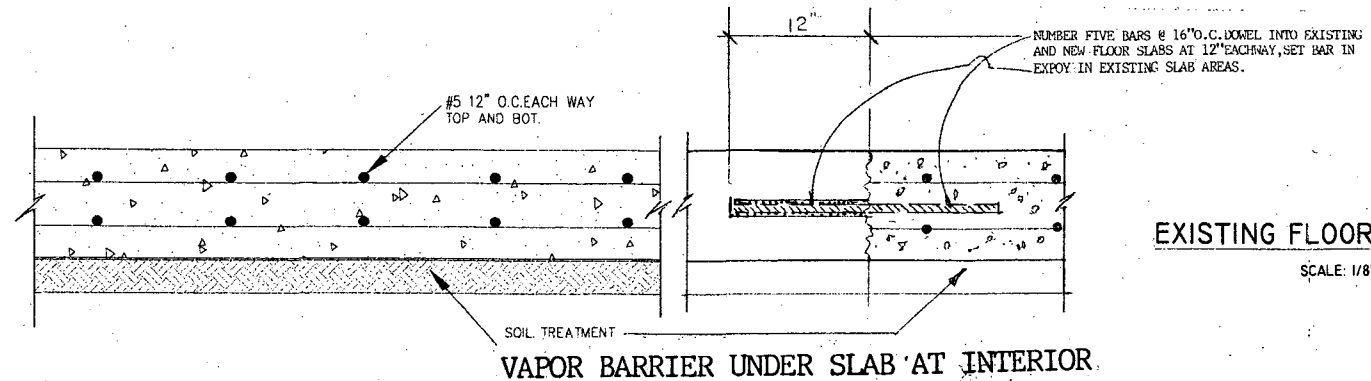
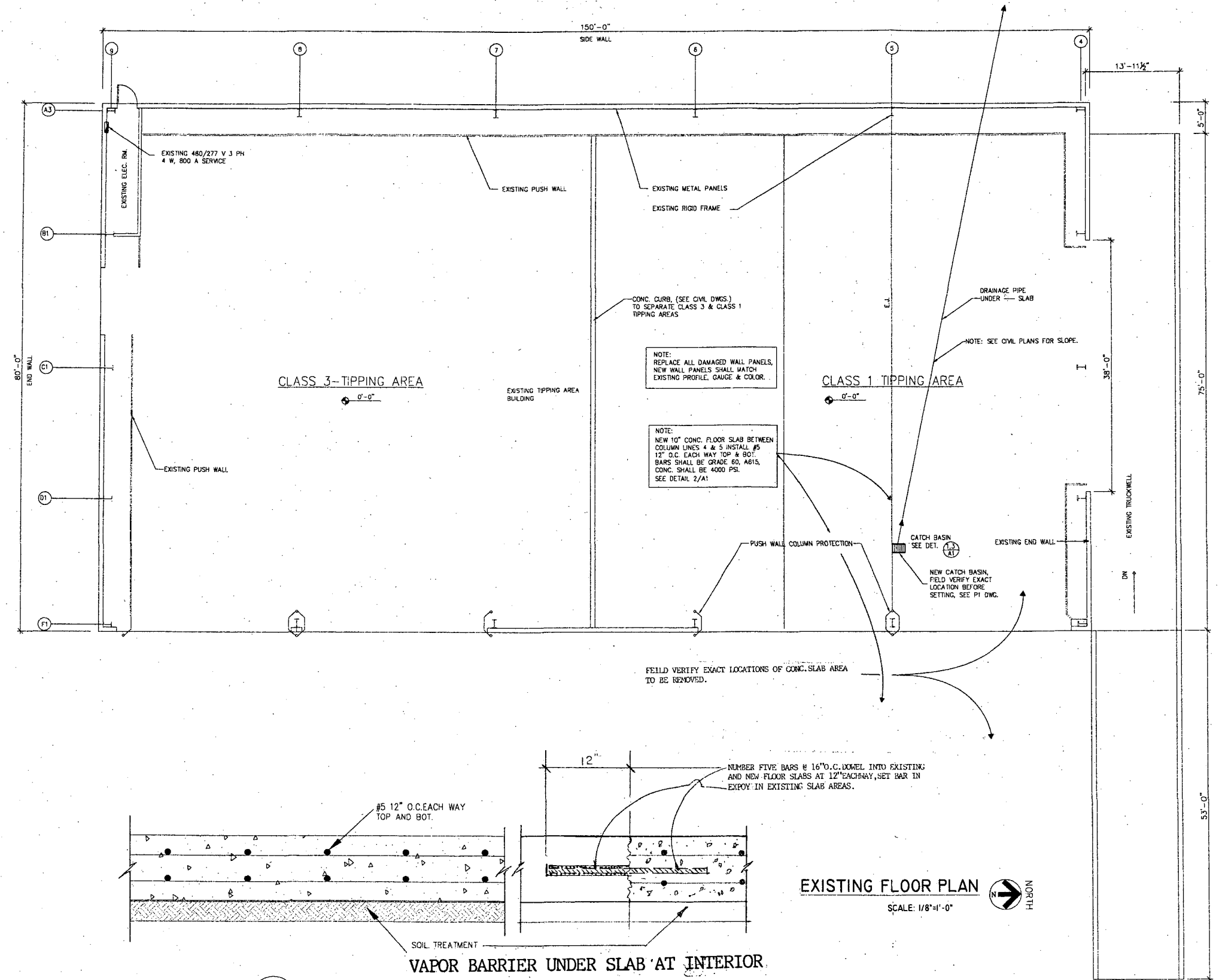
**DESIGN NOTES:**  
WIND LOADING: 120 MPH, EXPOSURE "C"  
IMPORTANT FACTOR = 1  
COORDINATE SLAB DEPRESSIONS WITH PLANS  
MATERIALS:  
CONC. 4000 PSI MIN.  
RE-BAR ASTM A615, GRADE 60 & 40  
WWF ASTM A185  
MASONRY ASTM C-90  
SOIL BEARING ASSUMED 3000 PSF.  
SEE SOIL INVESTIGATION REPORT BY YOVAISH  
SERVICE DATED AUGUST 19, 2004.  
SOIL PREPARATION TO CONFORM ABOVE  
MENTIONED REPORT.  
**OMISSIONS AND REPAIRS:**  
WHERE DOWELS ARE MISSED, DRILL 3/4" X 5" DEEP MIN.  
HOLE & GROUT WITH "SIMPSON ET17 EPOXY."  
DOWEL LOCATION MAY BE ONE CELL OFF FROM  
AREA SHOWN ON PLAN.



**3 PLAN VIEW DETAIL**  
SCALE: 1/2"=1'



**EDGE CONDITION AT LEACHATE BASIN TYPE "C"**  
N.T.S.



**2 DETAIL**  
SCALE: 1 1/2"=1'

**EXISTING FLOOR PLAN**  
SCALE: 1/8"=1'-0"

DESTROY ALL PRINTS  
PREVIOUSLY ISSUED  
JAN 06 2005

**Mr. & associates**  
Civil Engineers, Planners, and Architects  
601 N. 4th St., Suite 400  
Tampa, FL 33602  
Tel: (813) 241-1111  
Fax: (813) 241-1112

**SEVENTH STREET PROPERTIES**  
375 SEVENTH STREET  
TAFT, FLORIDA

DRAWN: V.S.  
CHECKED: C.E./D.P.  
DATE: 12-30-04  
SCALE: NOTED  
JOB NO.: 17-04  
EXISTING FLOOR PLAN

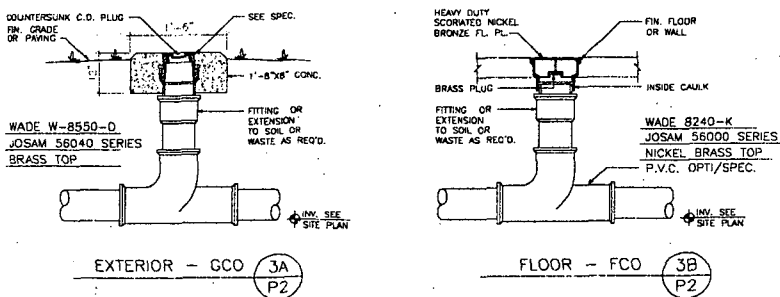
SHEET  
**A1**  
OF SHEETS





PLUMBING FIXTURE SCHEDULE

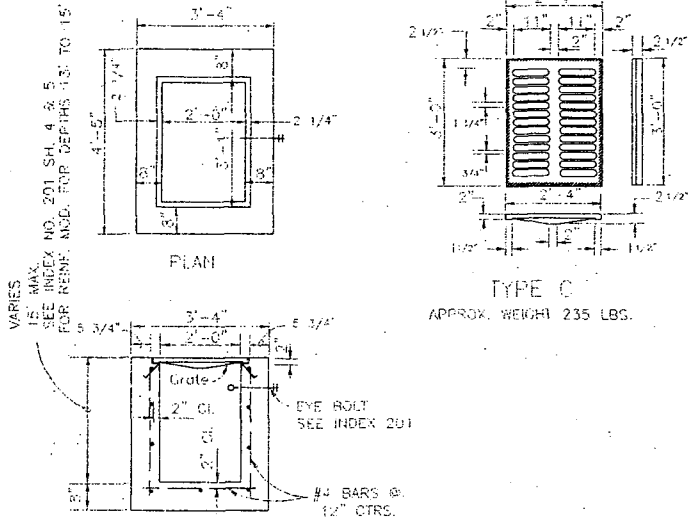
MARK	FIXTURE TYPE	MANUFACTURE & MODEL NO.	CONNECTIONS			REMARKS
			WASTE	CW	HW	
CB	CATCH BASIN	TYPE C	4"	—	—	



TYP. CLEAN-OUT DETAILS 3  
N.T.S. P2

GENERAL PLUMBING NOTES:  
INTENT

- ALL WORK SHALL CONFORM WITH ALL LOCAL, STATE, FEDERAL ORDINANCES AND BUILDING CODES GOVERNING THE INSTALLATION OF THE PLUMBING SYSTEM. IF WORK AS Laid OUT, INDICATED OR SPECIFIED IS CONTRARY TO OR CONFLICTS WITH LOCAL ORDINANCES, BUILDING CODES AND REGULATIONS, THE CONTRACTOR SHALL REPORT IN WRITING TO THE ARCHITECT/ENGINEER BEFORE SUBMITTING A BID. THE ARCHITECT/ENGINEER WILL THEN ISSUE INSTRUCTIONS AS HOW TO PROCEED.
- THE DRAWINGS ARE TO BE CONSIDERED DIAGNOSTIC, NOT NECESSARILY SHOWING IN DETAIL OF SCALE, ALL OF THE VARIOUS ITEMS UNLESS SPECIFIC DIMENSIONS ARE SHOWN. THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN THE EXACT LOCATIONS. CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED AND MAINTAIN MAXIMUM HEADROOM, AND SPACE CONDITIONS AT ALL POINTS, WHERE HEADROOM, OR SPACE CONDITIONS APPEAR INADEQUATE, ARCHITECT/ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. THIS CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE FIELD MODIFICATION IN LAYOUT AS NEEDED TO PREVENT CONFLICT WORK OF VARIOUS TRADES OF PROPER EXECUTION OF THE WORK.
- EXAMINE ALL DRAWINGS CAREFULLY PRIOR TO SUBMITTING A BID. CONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND OR CONNECT WITH APPROPRIATE SERVICES ALL PLUMBING ITEMS SHOWN ON ANY OF THE ARCHITECTURAL, AIR CONDITIONING, ELECTRICAL AND SPRINKLER DRAWINGS WITHOUT ADDITIONAL COST TO THE OWNER. IF DISCREPANCIES, CONFLICTS, INTERFERENCES OF OMISSIONS OCCUR BETWEEN DRAWINGS, NOTIFY IN WRITING TO THE ARCHITECT/ENGINEER IN AMPLE TIME TO PERMIT REVISIONS BEFORE THE BIDS ARE SUBMITTED.
- INSTALL MATERIALS AND EQUIPMENT IN A NEAT AND FIRST CLASS WORKMANLIKE MANNER. THE OWNER RESERVES THE RIGHT TO DIRECT REMOVAL AND REPLACEMENT OF ITEMS WHICH, IN HIS OPINION, DO NOT PRESENT A NEAT AND WORKMANLIKE APPEARANCE. REMOVAL AND REPLACEMENT IS TO BE DONE IMMEDIATELY WHEN DIRECTED BY THE OWNER IN WRITING, AT THE SOLE EXPENSE OF CONTRACTOR.
- START OF WORK BY CONTRACTOR SHALL BE CONSIDERED AS ACCEPTANCE BY HIM OF ALL CLAIMS OR QUESTIONS AS TO SUITABILITY OF THE WORK OF OTHER TRADES OR OTHER CONTRACTORS TO RECEIVE HIS WORK. THIS CONTRACTOR SHALL REMOVE AND REPLACE, AT HIS EXPENSE, ALL PLUMBING WORK WHICH MAY HAVE TO BE REMOVED BECAUSE OF INTERFERENCE WITH OTHER TRADES.
- THIS CONTRACTOR SHALL PAY ALL INSURANCE, FEES, PERMITS, ASSOCIATED DUES, ROYALTIES AND TAXES OF WHATEVER NATURE SHALL APPLY TO THIS WORK. HE SHALL ALSO PAY ALL INSPECTION FEES AS MAY BE REQUIRED BY LAW OR ORDINANCE. HE SHALL KEEP THE OWNER HARMLESS FROM ANY DAMAGE AND EXPENSE ARISING FROM ANY VIOLATION OF THE LAWS, RULES OF ORDINANCES.
- PROVIDE MEANS "FURNISH AND INSTALL".
- DO A COMPLETE JOB, EVERYTHING CONNECTED, READY FOR USE.
- SHOP DRAWINGS: THIS CONTRACTOR SHALL FURNISH THE ENGINEER WITH CUT SHEETS & SHOP DRAWINGS OF EQUIPMENT PRIOR TO PURCHASE FOR APPROVAL.
- AT COMPLETION OF JOB THE CONTRACTOR SHALL GIVE THE OWNER AN AS-BUILT SET OF REPRODUCIBLE SETS SHOWING THE EXACT INSTALLATION. AS-BUILTS WILL NOT BE REQUIRED IF INSTALLATION IS IN ACCORDANCE WITH ENGINEER'S DRAWINGS.
- MATERIALS
  - SCHEDULE 40 P.V.C. D.W.V. PIPE SHALL BE USED WHEN NON EXPOSED TO DAMAGE ON ALL SOIL, WASTE AND VENT LINES. ALL DRAIN LINES INSIDE AND STRUCTURES AND UNDER SLAB 12" UNDER AND BUILDING SEWERS WHEN EXPOSED TO DAMAGES SHALL BE HUB-LESS CAST IRON SOIL PIPE.
  - FOR STORM DRAIN LINES INSIDE STRUCTURES & UNDER SLABS (12" DIAMETER OR LARGER) AND WATER SERVICE TO BUILDING SHALL BE DUCTILE IRON PIPE CENTRICALLY CAST IN MOLDS OR SAND LINES MOLDS WITH WALL THICKNESS CLASS 50.



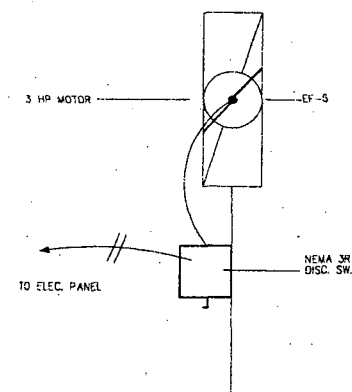
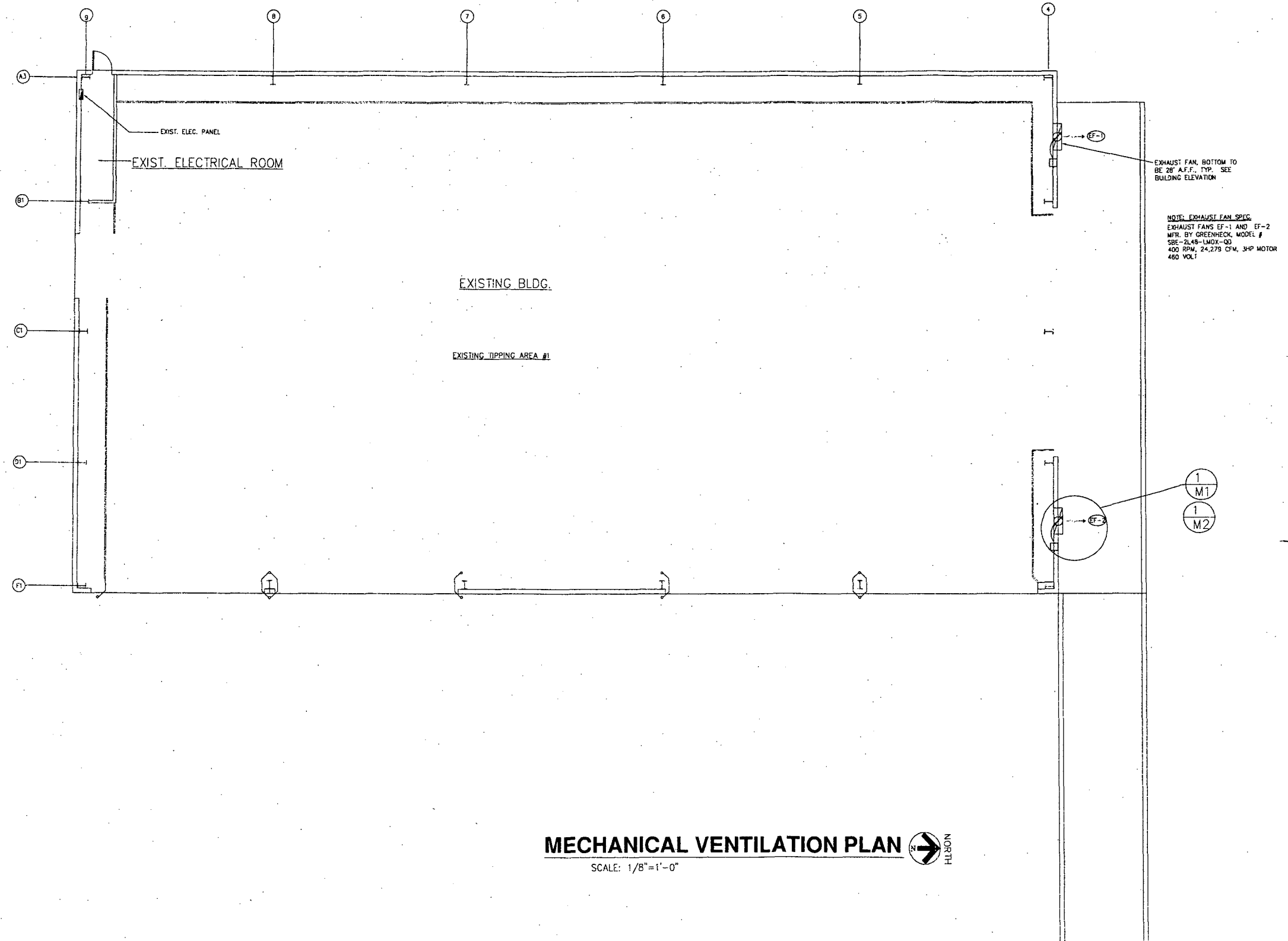
LEACHATE CATCH BASIN DETAIL  
(TYPE "C" PER FDOT INDEX 232) 2  
SCALE: N.T.S. P2

PLUMBING NOTES:

- ALL PLUMBING SHALL BE IN ACCORDANCE WITH LATEST SBCC PLUMBING CODE AND ALL APPLICABLE STATE, COUNTY, AND LOCAL CODES, F.B.C. 2001 ED.
- ALL PER FLA. PLUMBING CODE 2001 ED.

Seventh Street Properties  
375 SEVENTH STREET  
TAFT, FLORIDA

DRAWN: V.S.  
CHECKED: C.E./D.P.  
DATE: 12-30-04  
SCALE: NONE  
JOB NO.: 17-04  
SHEET  
RISER DIAG.  
DETAILS &  
NOTES  
P2  
OF SHEETS



**1**  
**M1** **DETAIL AT EXH. FAN**  
N.T.S.

**MECHANICAL VENTILATION PLAN**  
SCALE: 1/8"=1'-0"

SEVENTH STREET PROPERTIES  
375 SEVENTH STREET  
TAFT, FLORIDA

David J. Harris Jr. & Associates  
Mechanical, Electrical, and Architect  
453 Atlantic Springs Pl. SE  
Atlanta, GA 30316  
404.525.1111

DRAWN: V.S.  
CHECKED: C.E./D.P.  
DATE: 12-30-04  
SCALE: NOTED  
JOB NO.: 17-04

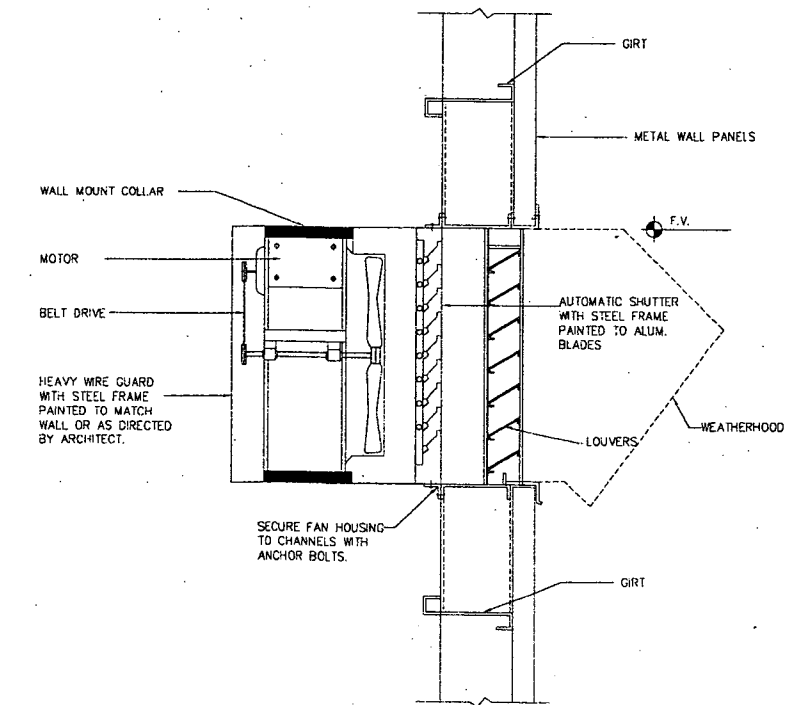
MECHANICAL  
VENTILATION  
PLAN

SHEET

**M1**

OF SHEETS

## FAN SCHEDULE

[illegible]

WALL MTD. PROPELLER EXHAUST FAN DETAIL (1)

NOTE: EXHAUST FANS SHOULD BE WATERTIGHT IN ACCORDANCE WITH MBM RECOMMENDATIONS.

N.T.S.

1  
M2

Hyde eads jr. & associates  
interior designers, planners, and architects  
2000 North 4th, Altamonte Springs, Fl 32715  
Member of: A.S.I.A., A.S.I.D., S.B.C.C.I., A.P.A., C.S.I.

SEVENTH STREET PROPERTIES  
375 SEVENTH STREET  
TAFT, FLORIDA

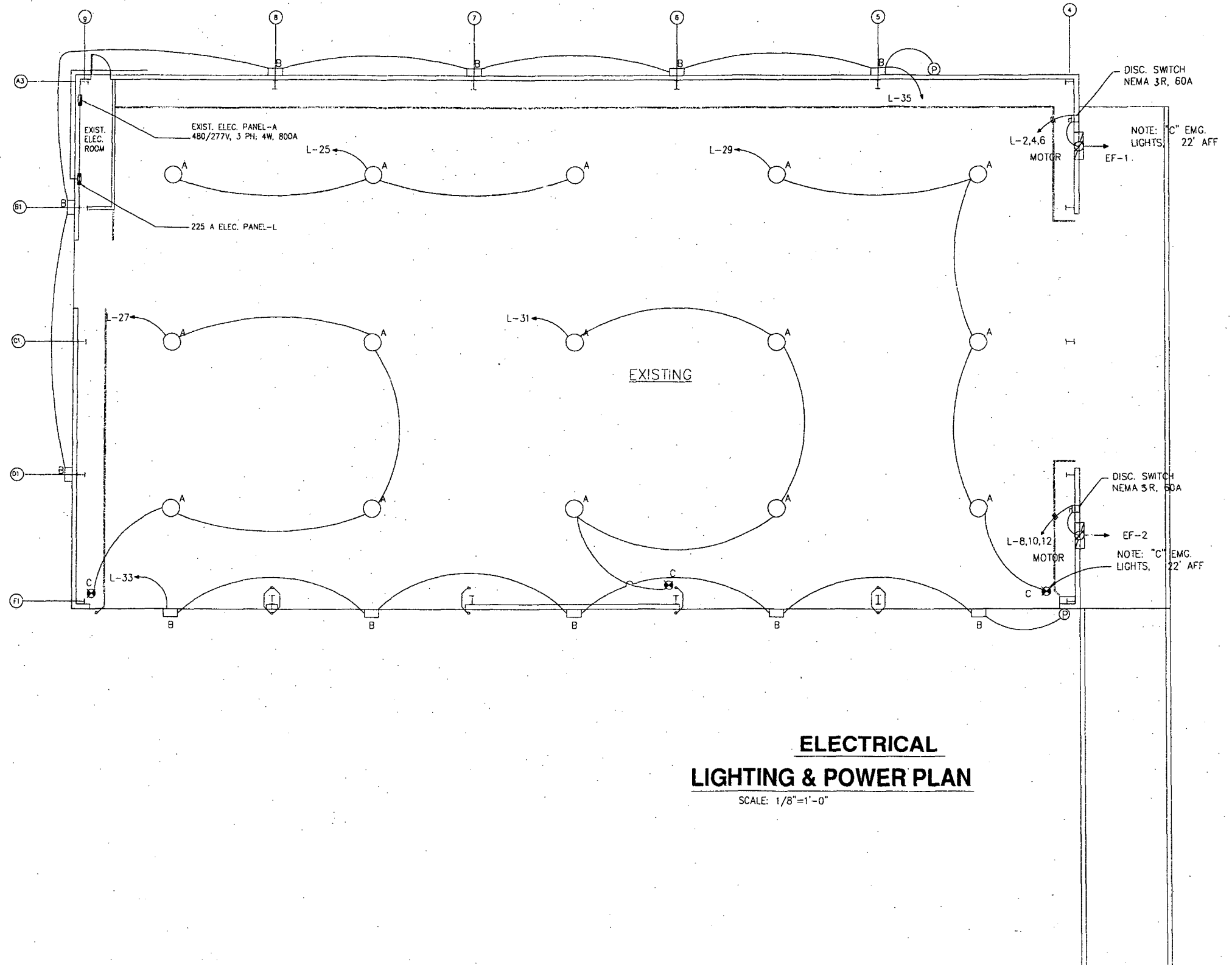
DRAWN:	V.S.
CHECKED:	C.E./D.P.
DATE:	12-30-04
SCALE:	NOTED
JOB NO.:	17-04

FAN SCHEDULE  
& FAN DETAIL

SHEET

M2

OF SHEETS



# **ELECTRICAL LIGHTING & POWER PLAN**

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

SEVENTH STREET PROPERTIES  
375 SEVENTH STREET  
TAFT, FLORIDA

SEVENTH STREET PROPERTIES  
375 SEVENTH STREET  
TAFT, FLORIDA

DRAWN: V.S.  
CHECKED: C.E./D.P.  
DATE: 12-30-04  
SCALE: NOTED  
JOB NO.: 17-04  
ELECTRICAL  
LIGHTING PLAN

SHEET  
**E1**  
OF SHEETS

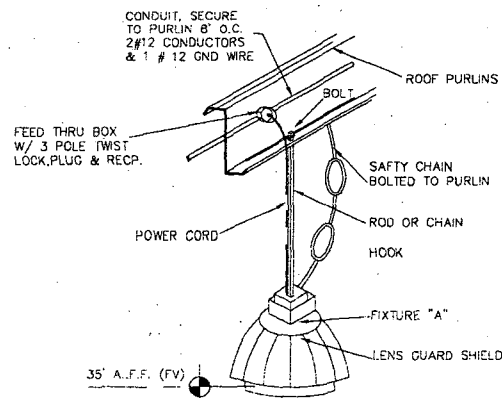
LIGHT FIXTURE SCHEDULE								
MARK	DESCRIPTION	MANUFACTURE	LAMPS	VOLT	FIN.	MOUNTING	REMARKS	LOCATION
A	METAL HALIDE HID-BAY	LUMARK HPS55A15M400W-D-LL-DLL	400W MH	277	ALUM	PENDANT 35" F.V.	SET ON TIMER	TIPPING AREA
B	WALL PACK	ATLAS WLMC 175 MHOPK	175W WATT MH	277	BRONZE	WALL, 30" AFF	SET ON PHOTOCELL	EXTERIOR WALL 30" A.F.F.
C	BATTERY EMERGENCY-LIGHT	LITHONIA ELM 2	W/FIXTURE	277	WHITE	WALL		
FIXTURE SCHEDULE NOTES: 1. ALL FIXTURES SHALL BE COMPLETE WITH AUXILIARIES, ACCESSORIES, HANGERS, SUPPORTS, LAMPS, ETC. AS REQUIRED FOR COMPLETE INSTALLATION READY FOR OPERATION 2. LIGHTING FIXTURES SHALL NOT BE LIMITED TO THE MANUFACTURES SHOWN IN FIXTURE SCHEDULE. LIGHTING FIXTURES OF EQUAL QUALITY ARE ACCEPTABLE APPROVE BY P.E. ONLY.								

PANEL L LOCATION: EXIST. ELECTRIC ROOM 225 MLD											
VOLTAGE 480/277V			PHASE 3A, 4 W.			MLD 225 A			SURF. MOUNTED		
MFG. GE OR 50-0			CMT. NO. 125			A/G. 22,000					
CR. NO.	EQUIP.	LOAD KVA	DEMAND KVA	WIRE SIZE	POLE CB TRIP	POLE CB TRIP	POLE WIRE SIZE	DEMAND KVA	LOAD KVA	EQUIP.	CR. NO.
1	GRINDER PUMP	3.98	3.98	12	3	20	20	3	10	3.98	EF-1
3	3 H.P.	-	-	12	-	-	-	10	-	3 H.P.	4
5	-	-	-	12	-	-	-	10	-	-	6
7	LIFT STATION	2.82	2.82	10	3	20	20	3	10	3.98	EF-2
9	2 H.P.	-	-	10	-	-	-	10	-	3 H.P.	10
11	-	-	-	10	-	-	-	10	-	-	12
13	SUMP PUMP	2.82	2.82	10	3	20	20	3	10	3.98	EF-3
15	2 H.P.	-	-	10	-	-	-	10	-	3 H.P.	16
17	-	-	-	10	-	-	-	10	-	-	18
19	SUMP PUMP	2.82	2.82	10	3	20	20	3	10	3.98	EF-4
21	2 H.P.	-	-	10	-	-	-	10	-	3 H.P.	22
23	-	-	-	10	-	-	-	10	-	-	24
25	LIGHTS	1.2	1.5	12	1	20	20	3	10	3.98	EF-5
27	LIGHTS	1.6	2.0	12	1	20	-	-	-	3 H.P.	28
29	LIGHTS	1.6	2.0	12	1	20	-	-	-	-	30
31	LIGHTS	1.6	2.0	12	1	20	-	-	-	-	32
33	LIGHTS	1.6	2.0	12	1	20	-	-	-	-	34
35	LIGHTS	1.6	2.0	12	1	20	-	-	-	-	36
37	PHOTOCELL/LIGHTS	1.23	1.53	12	1	20	-	-	-	-	38
39	PHOTOCELL/LIGHTS	1.58	1.97	12	1	20	-	-	-	-	40
41	TOTALS	24.45	27.44					19.90	19.90		42

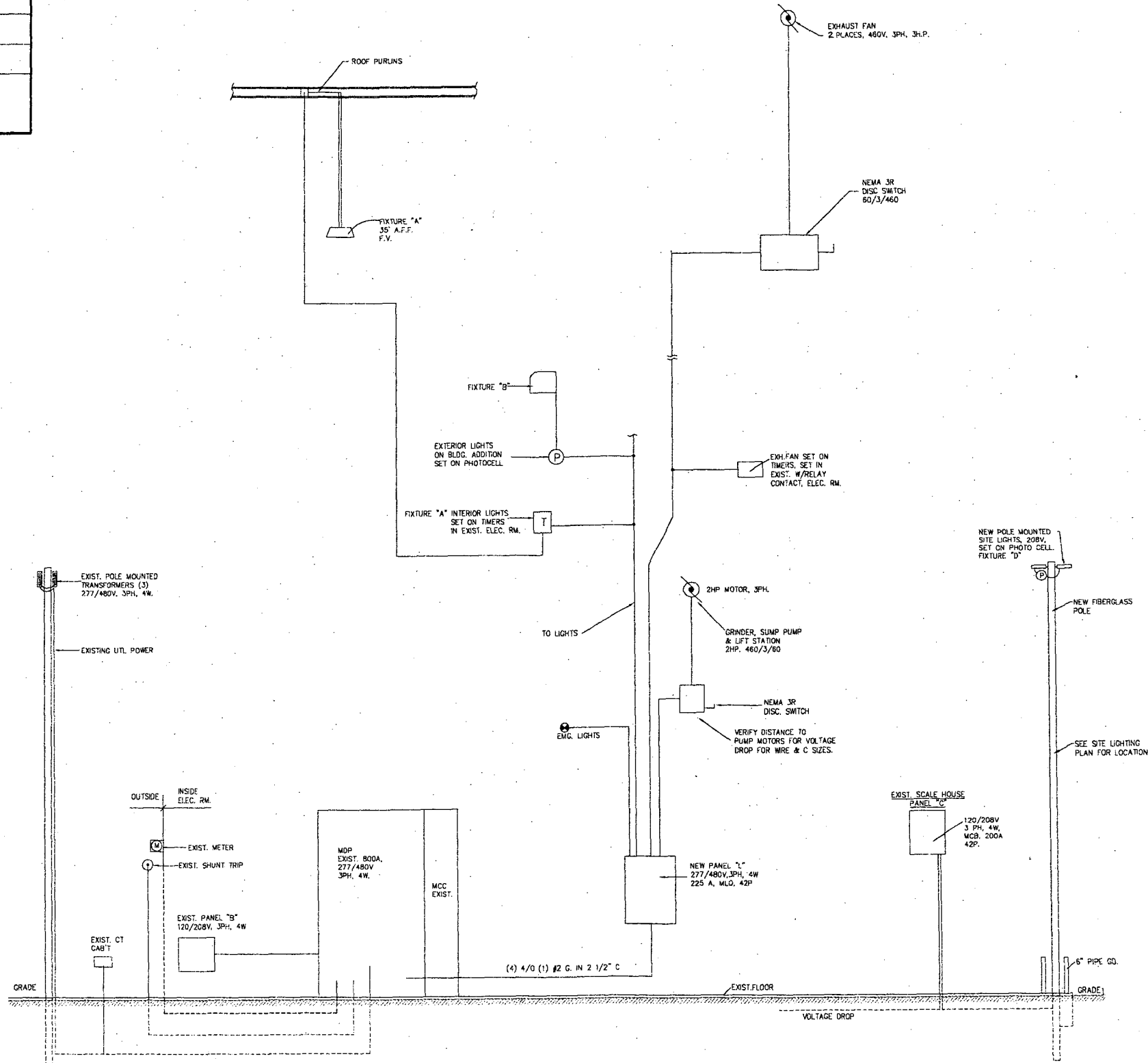
CONNECTED LOAD = 44.35 KVA  
 DEMAND LOAD/MDP = 47.34 KVA x 1000/480 x 1.732 = 57.03 AMPS  
 DEMAND LOAD/25% of Largest Motor = 3hp 3.98kva KVA x 25% = 4975/830 = 0.59 AMPS  
 TOTAL MINIMUM SERVICE SIZE = 57.62 AMPS

NOTE: EXHAUST FAN SPEC.  
 EXHAUST FANS EF-1 TO EF-5  
 MFR. BY GREENHECK, MODEL #  
 SBE-2L48-LMDX-QD  
 400 RPM, 24,279 CFM, 3HP MOTOR  
 460 VOLT

NOTE:  
 USE ONLY LIGHTING CIRCUITS:  
 L-25, L-27, L-29, L-31, L-33 & L-37  
 EXHAUST FANS, L-2,4,6, AND L-8,10,12



1  
 E3  
 FIXTURE MOUNTING DET.  
 SCALE: 3/4"=1'-0"



ELEC. POWER RISER SINGLE LINE DIAG.  
 SCALE: NTS

Seventh Street Properties  
 375 SEVENTH STREET  
 TAFT, FLORIDA

DRAWN: V.S.  
 CHECKED: C.E./D.P.  
 DATE: 12-30-04  
 SCALE: NOTED  
 JOB NO.: 17-04  
 POWER RISER, FIXTURE SCHEDULE  
 SHEET  
 E2

## LEGEND

PANELS & POWER	MISCELLANEOUS
POWER PANEL BOARDS SEE PANEL SCHEDULES	AFF ABOVE FINISH FLOOR
LIGHTINGS PANEL BOARD	WP WEATHERPROOF
TOGGLE TYPE MANUAL MOTOR CONTROLLER	TRANSFORMER
NON-FUSIBLE DISCONNECT SWITCH	WATER PROOF PHOTO CELL
FUSIBLE DISCONNECT SWITCH	SMOKE DETECTOR
DRY TYPE TRANSFORMER	
WATT/OUR/DEMAND METER	
FUSED COMBINATION MOTOR STARTER W/SIZE AS REQ.	
EXHAUST FAN	
SURGE SUPPRESSER	
SHUNT TRIP DEVICE	
WIRE CONCEALED "EMT"	
WIRE EXPOSED CONDUIT	

## SECTION 16010 GENERAL PROVISIONS - ELECTRICAL

- 1.01 Scope of Work:  
Work included under this division shall include all materials, labor and auxiliaries required to install a complete and properly operating electrical system as indicated on the drawings and as specified herein.
- 1.02 Codes and Standards:  
A. National Electric Code  
B. Life Safety Code  
C. All local codes and ordinances
- 1.03 Substitutions:  
Any items other than those specified shall be submitted in writing to the engineer a minimum of ten (10) days before bid date. If approved, these items shall appear in an addendum to the specifications prior to bid date. If not submitted 10 days prior to bid date, the contractor shall bid the items specified.
- 1.04 Special Requirements:  
A. Appurtenances and Accessories: This contractor shall furnish all appurtenances and accessories necessary for a complete and properly operating systems.  
B. Layout of Work: Drawing are diagrammatic. Correlate final equipment locations with governing architectural and structural drawings. Lay out work before installation so that all trades may install equipment in space available. Provide coordination as required to finish in neat and workmanlike manner.  
C. Investigation or Site: Check site and existing conditions thoroughly before bidding. Advise architect of discrepancies or questions noted.  
D. Coordination: Provide all required coordination and supervision where work connects to or is affected by others' work.  
E. Excavation and Backfilling: The contractor shall provide all labor and material for necessary excavating and backfilling for the installation of his system, including any paving repairs necessary.  
F. Protection and Clean-up: Suitably protect all equipment furnished under this division during construction. Restore all damaged surfaces and items to "like new" condition before a request for final acceptance.  
G. Technical Information Brochure:  
1. Submit before start of construction or within ten (10) days after award of contract. Each brochure shall consist of an adequately sized hard-cover, 3-ring binder, 8-1/2" x 11" sheets. Provide correct designation on outside cover and on ends of brochures.  
H. Record Drawings: The contractor shall keep two (2) sets of blue-line prints on the job, clean and neatly marked with red pencil. The contractor shall daily mark these prints to show the actual locations if where items are installed, this contractor shall be marked to show correct date. At completion of project, this contractor shall sign both sets of prints certifying that these prints show actual record conditions and turn them over to the architect. One set shall remain in the architect's record file and one set shall be given to the owner.  
I. Preliminary Inspection: When this contractor is completed with project he shall request a preliminary inspection from the engineer. The engineer shall make a preliminary inspection and prepare a punch list of incomplete items.  
J. Final Inspection and Owner's Inspection: After the items from the preliminary inspection have been completed, this contractor shall submit a request for a final inspection and owner's instructions in writing to the architect. A meeting will be arranged at the job site between the architect, engineer, general contractor, and owner for a final walk-through and owner's operating instructions.  
K. System Test: The contractor shall test the system for ground continuity, shorts, polarity, and wiring errors upon completion of the project and prior to calling for an inspection by the engineer.
- 1.05 Materials and Workmanship:  
A. All materials supplied and installed on this project shall be new and shall be approved by the Underwriter's Laboratories, Inc. Defective materials damaged during installation shall be replaced or repaired subject to the architect's or engineer's approval.  
B. All work shall be performed in neat workmanlike manner subject to the architect's or engineer's approval.  
C. The contractor shall field-verify by inspection of the equipment nameplates the electrical characteristics of said equipment are in fact compatible with the circuit breaker, wire and conduit distribution as indicated. The contractor shall notify the engineer immediately of any deviation of electrical characteristics or equipment incompatibility with the system as indicated on the drawings. The cost of any repair or rework of any equipment installed which is found to be in violation of the electrical code shall be incurred by this contractor.
- 2.05 Wiring Devices:  
Device Plate: All device plates shall be as manufactured by Arrow-Hart, Bryant, Pass and Seymour, General Electric and Hubbell.
- 2.06 Raceway Systems:  
A. Raceways as shown on the drawings are partly diagrammatic, however, the contractor shall run the conduit in general where shown on the drawings in straight. Exposed raceways shall run parallel or at right angles to building lines.  
B. All raceways shall be concealed unless specifically permitted otherwise. Concealed raceways shall be run in a direct line with long sweep bends and offsets. Exposed raceways shall run parallel or at right angles to building lines.  
C. Raceway ends shall be capped with a metal fitting to prevent entrance of foreign material during construction.  
D. Where required to suit field conditions, contractor shall shift the location of raceway runs from the location shown on the drawings at no increase in cost to the others.  
E. All underground service entrance feeders to panels and branch conduits shall be installed in schedule 40, PVC conduit buried 24" deep under grade of paving and buried 12" deep under slabs.  
F. All aboveground service entrance feeders to panels shall be rigid galvanized conduit or type PVC conduit.  
G. All branch circuits run above the ceiling or in wall shall be type EMT conduit or type MC cable. MC cable may also be used for final connections to light fixtures and equipment. All EMT fittings shall be DIE cast set screw.  
H. Connection to motors or vibrating equipment shall be made with not less than 12" of flexible zinc-coated steel conduit. Flexible conduit shall be liquid-tight in wet or damp locations.  
I. Raceways shall be kept clear of plumbing fixtures to facilitate future repair or replacement of said fixtures without disturbing wiring. Except where it is necessary for control purposes, all raceways shall be kept away from items producing heat.  
J. Raceways shall be run from outlet to outlet as shown on the drawings.  
K. Exterior underground raceways shall be installed 24" minimum below the finished grade line.  
L. Raceways shall run in neat and workmanlike manner and shall be properly supported with approved conduit clamps, hanger rods, and structural fasteners. Tying with wire is not approved. All raceways, except those from surface mounted switches, outlets boxes, or panels, shall be run concealed from view. Exposed raceways shall be supported with clamp fasteners with toggle bolts on hollow walls, and with lead expansion shields on masonry. Rigid steel box connections shall be made with double locknuts and bushings. Transition from rigid conduit or EMT to PVC shall be made at outlet box only. PVC shall not be stubbed above floor from underground in combustible walls.  
M. Outlets shall be mounted so that covers and plates will finish flush with finished surfaces without the use of shims or nuts. Plates shall not support wiring devices. Gang switches with common plate where two or more are indicated in the same location. Wall mounted devices for different systems (switches, thermostats, etc.) shall be coordinated for symmetry when located near each other on the same wall.  
Height of wall outlets to bottom above finish floors shall be as follows, unless specifically noted otherwise. Verify with architectural plan and shop drawings before installing.
- |                         |                                |
|-------------------------|--------------------------------|
| Thermostats             | 4'-0"                          |
| Light Switches          | 4'-0"                          |
| Receptacles             | 1'-4" (unless noted otherwise) |
| Power & Lighting Panels | 6'-6" (top of panel)           |
- 2.07 Grounding System:  
In general, all new electrical equipment (metallic conduit, motor frames, panelboards, etc.) and main switchboard shall be bonded together with a green insulated system grounding conductor in accordance with specific rules of article 250 of the NEC. Bonding conductor through the raceway system shall be continuous from main switch ground bus to panel ground bar or each panelboard to each branch circuit outlet. System shall be grounded at main switch equipment with copper conductor with sizes as shown on the drawings.

## PART III - EXECUTION

- 3.01 Testing:  
The electrical contractor shall be responsible for testing all wiring circuits. Proper connection prior to calling for an inspection.
- 3.02 Guarantee:  
This contractor shall provide the owner with certification of guarantee for one (1) year (including labor and materials) on all equipment.

## SECTION 16400 ELECTRICAL

### PART I - GENERAL

- 1.01 Scope of Work:  
The work covered this section of Specifications consists of furnishing all materials, labor and equipment, and performing all work for the complete installation of electrical systems described herein and as shown on the drawings.
- 1.02 Work Included:  
The work to be furnished and installed in this section of the Specifications is in general (but not limited to) the following list:
- PART II - PRODUCTS AND MATERIALS
- 2.01 Panel Board - Sq. 'D' NQO plug in C/B type, in NEMA 1 enclosure of voltage, phase, as shown on drawings.
- 2.02 Lighting Fixtures - shall be as shown in the lighting fixture schedule on the drawing.
- 2.03 Disconnect Switches:  
A. Disconnect Switches: Shall be general duty type and or the size and type noted on the drawings and-or required by the National Electric Code. All switches shall be permanently, neatly legible, and conspicuously marked to indicate the size and type of fuse required for replacement purposes.  
B. Fuses: Provide two (2) complete sets of fuses for all switches requiring fuses. Install one (1) set and deliver the second set to the owner with proper identification. All fuses shall be the BUSS type "KYN" as specified. All fuses not so specified shall be element "Fusetron".
- 2.04 Nameplates:  
For all disconnect switches, panelboards, motor starters, each component of switchboards and other items of electrical equipment, including spares, provide black bak-c-like nameplates engraved with white letters. Tags shall be applied with sweetmetal screws. Continuous roll type nameplates applied with adhesive will not be acceptable. Designation on the labels will be the same as that shown on the progress drawings.

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CHECKED: C.E./D.P.  
DATE: 7-30-04  
SCALE: NTS  
JOB NO.: 17-04  
LEGEND AND ELECTRICAL SPECIFICATIONS  
SHEET  
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