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1. BFI Maintenance Policy

The Metro Central Station is a materials recovery facility and waste transfer station. The structures and equipment necessary to operate the facility are maintained by BFI. BFI is committed to a preventive maintenance and inspection program that results in minimum major breakdowns. If breakdowns do occur, BFI has the ability to make necessary repairs.

Inspection

A key element to preventing costly failure is having a comprehensive inspection plan in place. All equipment operators are required to thoroughly inspect the primary and support equipment they operate. The operator inspection prevents damaged equipment from being used. Continued operation of broken equipment may result in serious breakdowns. Although equipment operators are not mechanics, they should be able to notice obvious mechanical problems. If the maintenance department is made aware of small problem when first observed, relatively minor repairs are usually made. To ensure the operator inspects and relates the inspection results to the maintenance department, inspection checklist are filled out by the operator. Each operating day the checklists are completed and turned in to the maintenance department for review. The maintenance review aids in deciding what maintenance work needs to be completed before the equipment is allowed to operate the following day.

Since equipment operators may have limited maintenance skills, equipment inspections are also performed by Journeyman Mechanics (JM). The inspection by the JM prevents maintenance problems from being overlooked. These inspections are more detailed and require more time to complete than do the operator inspection. For most equipment the JM follows daily, weekly, monthly, biannual and annual checklists. The checklists provide a step by step inspection process for each equipment.

Preventive Maintenance

Preventive maintenance schedules for each piece of equipment, line, system or building are vital to keeping maintenance costs low. Daily inspections, prior breakdown patterns and understanding the manufactures manuals allows BFI to successfully execute a preventive maintenance program. Daily, weekly, monthly, biannual and annual checklists are followed for most equipment. Replacing wear parts on a regular basis will reduce major breakdowns. The proper tracking of all equipment repairs and continual inspection is necessary to know when these parts need to be replaced. Each piece of equipment has a file containing all repairs completed.

Equally important is the daily greasing and lubrication of moving parts. It is necessary to use the appropriate grease or lubrication. Equipment failure may occur only because the wrong fluid was used.

The Maintenance Manual provides an overview of BFI's procedures for maintaining all buildings, lines, machines and systems. The maintenance process section is an overview of the maintenance paper trail. An inventory of the equipment necessary to operate the facility is included in section 3. Section 4 itemizes replacement parts for each piece of equipment. Section 5 shows what fluids are used at the facility. Section 6 breaks down each building, line, machine and system. Included is a system overview, the inspection and preventive maintenance schedule the cleaning schedule and any schematics and checklists.

2. Daily Maintenance Procedures

Essential to a successful Inspection and Preventive Maintenance program is having standard daily procedures in place for all equipment maintenance. Seven standard steps are followed for each operating piece of equipment.

1. Equipment Operators and/or Mechanics fill out a daily inspection check sheets.
2. The Operators turn in the inspection sheets daily to the maintenance department.
3. If repairs are needed on a piece of equipment, maintenance will evaluate the problem and order the necessary parts.
4. Repairs are completed and a work order is filled out. If a project takes more than one (1) day to complete, a work order is still completed for each day's work. Work orders are also filled out for the daily inspections and preventive maintenance completed by the mechanics.
5. Completed work orders are given to the Maintenance Manager. The Maintenance Manager examines each work order for completeness.
6. The Maintenance Manager approves and signs each work order. All work orders are turned over to the office support staff for processing.
7. The office staff calculates labor hour totals, replacement part expenses and labor charges for each work order.

3. Equipment Inventory

Metro Supplied Equipment:

2 SSI Densifiers (newer 2001)
1 SSI old densifier (1990)
1 C& M Baler (rebuilt 2001)
1 Wood and Demolition Processing Line
1 Quincy 1000 Air Compressor
1 Caterpillar Standby Generator
1 Wheeled grapple 318 cat
1 Foam Box 48yd
2 Foam Tipper 3.8yd
1 Pump for Pit #2 infeed
Phone System

BFI Owned and Operated Equipment:

4 Front End Loaders

- 1 380 Komatsu
- 3 950 Cats

3 Case Unloaders (skidloaders)
4 Forklifts
Radios (hand held and base units)
Containers (Plastic roll carts, Tilt hoppers, Roll off boxes)
Office furniture, computers, conference room furniture, lunch room tables and chairs, 3 microwaves, 1 refrigerator, time clocks, security equipment, copier and fax machine.

Shop equipment (Welders, Bandsaw, Piranha Ironworker, Drill press, Plasma cutter, pipe threader, Misc. racks, Ramps and hand tools, parts shelving).

John Deere Sweeper
2 Pickup trucks
Wheeled magnet
1 HPU for walking off wood loads in an emergency
3 Pumps for pumping out pits

REPLACEMENT PARTS INVENTORY

PARTS FOR METRO OWNED EQUIPMENT:

NEW SSI COMPACTORS:

Pressure Filter # 932670QZG (2)
Pressure Filter #932679Q1QZG (2)
Return Filters #MP 750-1A10HB (1)
Return Filters #MP 750-1A25HB (4)

OLD SSI COMPACTOR:

Filter #MF4003P10HB (2)
Filter #MF4003P25HB (4)

ALL COMPACTORS:

Hose Clamps
Proximity Switch #PNS221A
Electrical Interlocks
Frequency Controller
EDEL Photo Emitter

WOODLINE:

Grid Line Coupling #006752
Grid Line Coupling #6952
Filter #HS51145
Reliance Gear #07916363EH
Gear Reducer #307024
Dodge Gear Reducer Mount
Hammer Scale
Nuts for Slow Speed Shredder
Shredder Spacers
Full End Spacers
One Set Spare Teeth

WOODLINE AND ALL COMPACTORS:

320-IBM-F Microwave

WOODLINE AND ALL COMPACTORS CONTAINED:

Microwave Lens

WOODLINE:

Turnbuckles:

20" x 1"

¾" x 8"

Anchors

160 Roller Chain

Link Repair Kits #120

60-2 Roller Chain

R-60 Master Links

Pillow Block 1 7/6"

Ball Bearing Take up Frame:

#038118

#038114

Take Up Bearings:

135-105 1 7/6"

2 3/16"

2 15/16"

Motors:

5hp

3hp

10hp

1hp

1 1/2hp

Double Belts:

58"

62"

64"

Shafts:

1 9/16"

WOODLINE CONTINUED:

1 "ID 2" OD Bushing (6')

Prism PN2950 8003

Laser PN9250 8003

CONVEYOR INFEED LINES:

Chain Links #30428

120-2 Roller Chain

WOODLINE/400 LINE/CONVEYOR INFEED LINES:

Belting:

24"

60"

48"

48" Mag

42"

Belt Splicing:

R-S (60")

R-S (48")

#187

125 (60")

125 (24")

48" Pins

Tail Rolls:

26"

38"

48"

63"

Head Rolls:

26"

63"

48"

51"

WOODLINE/400 LINE/CONVEYOR INFEED LINES CONTINUED:

44"

38"

Return Rolls:

27"

51"

63"

45"

#125 Alligator (125')

R-5 Alligator

#185 Alligator (10')

BALER:

Bolts 2 ½" x 12"

2 ½" Nuts/Lockwashers

Filters

4 #932670Q10QZG

1 #MP 750 1A 10 HB

4 #MP 750 1A 25 HB

COMPRESSOR:

Filter #PT-288-HD

Filter #PT-489-10

OPERATIONS BUILDING:

Turbo Fan

Exhaust Fan

UNIVERSAL PARTS:

Bushings:

SH 1 1/8

SDS 1 3/8

SDS 1 ¼

E 2 ¼

HE 2 3/16

UNIVERSAL PARTS CONTINUED:

SDS 1 1/8

HE 1 7/16

SK 1 1/4

SH 1 3/8

Couplers:

#5018

#6020

Sprockets/Pulleys:

2B74SK

2B60SDS

2B56SDS

2B52SDS

2B50SDS

2B42SH

2B40SH

2B38SH

2B80SK

8CBS14 1/58

2B200SD

6.000C7

60B21

2B70SK

2B36SH

60BS20HT

2B2SDS

Steel:

1/4" x 2/3" Angle

6" Channel

1 7/16" Round

4'x8'x3/16" Plate

UNIVERSAL PARTS CONTINUED:

1" Square

5'x10'x1 1/4" Plate

**** Belts:**

900H150

20008M50

854200

B-58

4430V910

B-62

24008M50

B-66

B-37

960-8M

B-64

B-78

3580

8L8984

533453

5M8137

1257778H1

13"x9"x1/2"

2P7333

5VX320

BP-78

B-107

VBS C 90

Fuses:

900H150

20008M50

854200

UNIVERSAL PARTS CONTINUED:

B-58

4430V910

B-62

24008M50

B-66

B37

960-8M

B-64

B-78

3580

8L8984

533453

5M8137

1257778H1

13"x9'x1/2"

2P7333

5VX320

BP-78

B-107

VBS C 90

Fuses:

FRN-R-50

FRN-R-1

FRS-R-200

FRS-R-15

FRS-R-40

FRS-R-1

FRS-R-12

FRS-R-10

FRS-R-2

UNIVERSAL PARTS CONTINUED:

FRS-R-4
ECS-R-40
FRN-7
FRN-R-200
FRS-6
A50R1200-4
TR 1/2R
TR 3 2/10R
A50P1000-4
KRP-C-800
A50P40-4
TRS 200R
TRS 20R
TRS 30R
ATMR1
ATMR2
TRS 35R
TRM 10
A50P60-4
ATQ ½
TRS 40R
TRS 50R
TRS 15R
TRS 45R
FLNR 2
FNQR 6/10
FNQR ½
KTK-R-1/2
KTK-R-4
KTK-R-5

UNIVERSAL PARTS CONTINUED:

KTK-R-3
KTK-R-1
KTK-R-10
MSL-2
MSL-4
KWH 80
MDL-4
GGC-3
MP20
FWH-80
FNQ-15
FNQ-R-1
FWH 60

Lighting:

100W Bulb
1000W Bulb
400W Bulb
215W Fluorescent
Fixture Hoods
1000W Ballast
400W Ballast
Ballast Housing

Electrical:

065874 Coupling
Terminal Bug Kit
065975 Coupling (3/4")
065802 Coupling (1")
0066411 Coupling (1/2")
066492 Coupling (3/4")

UNIVERSAL PARTS CONTINUED:

Connectors:

0066491 ¾”
0066410 ½”
089217 ½”
066772 ½” 90D
066774 ¾” 90D
066769 1”
0089214 1” 90D

Conduit:

1” Rigid
½” EMT

Conduit Straps:

030995 ½”
1 ¼”
1 ½”
2”

003042 ¾” Cond. Body

003281 ¾” Cond. Body

057173 Conduit Cover

057166 ¾” Gasket

043759 ½” Hub

0043765 ¾” Hub

30-073 Wire Nuts

Wire:

#8
#14
#12
#10
#16
#18

5. Lubricant Inventory

Lubricant Type

Equipment Use

Chevron 15W40 Oil

All rolling stock engines

Welder Engines

Portable Pump engines

Caterpillar Forklift transmission

Front End Loader transmission

Chevron AW 46 Hydraulic Oil

All Hydraulic oil tanks

Hyster transmission

Sweeper transmission

Chevron 80/90 Wt

Front End Loader differentials

Gear Boxes on all conveyors

Slow Speed Shredder

Chevron NL Gear Compound 220

Skidloader chain drives

Chevron Ultra Duty Grease #2

All grease zerts

Antifreeze

All equipment

Chevron Rotella 20 Wt

Compressor

6A. Shredding System (SSI) Compactors

I. System Overview

Residual waste derived from the recycling process is densified by compactors. Metro Central is equipped with two types of solid waste compactors: (3) SSI compactors, (1) 1991 compactor which is a two bale system, and (2) 2001 compactors which are a one bale system.

The compactor is fed by an in-feed conveyor. The conveyor system transfers waste from the transfer station floor to the compactor. Conveyor belts are smooth rubber with angle iron attached every four (4) feet. A heavy gauge chain link is attached to both sides of the rubber wherever angle iron is attached. The conveyor originates approximately three feet below the transfer station floor. Waste is transferred to the top of the compactor where it falls into the compactor chamber. SSI #1 (South East corner of building) operates with a main conveyor and a transfer conveyor. SSI #2 and the SSI #3 operate with one conveyor.

II. Inspection and Prevention Maintenance of System

The SSI compactors are inspected by journeymen mechanics on a daily, weekly, monthly, biannual and annual basis. The adjoining conveyor system is inspected by a Mechanic on a daily basis. The equipment operator inspects the compactor and conveyor system on a daily basis. The inspections keep us aware of conditions that change due to wear, pressure and vibration. Inspections also aid in the ongoing prevention maintenance performed, which prolongs the equipment's life and ensures a safe operating environment.

Prior to the beginning of each working day, a Journeyman Mechanic (JM) inspects the compactor. The JM first reads and reviews the Operators Daily Inspection Report (from the previous day) and is alerted to any unusual conditions or wear. During inspections, a lockout/tagout is always used and placed on the control panel in the operation shack so there is no possibility of starting the machine while it is being serviced. Once the

inspection/maintenance is completed, the lockout/tagout tag is removed. (The tag removal is an indication to the operators that the compactor is ready for operation.) Upon completion of the Daily inspection, the JM fills out a Daily Inspection CheckList for the compactor and conveyor system and files it with the maintenance supervisor.

Also prior to the beginning of each working day, a Mechanic inspects, lubes, and cleans head and track pulleys of the conveyor system. Lockout/tagout procedures are followed. Upon completion, the Mechanic completes an inspection checklist for the conveyor and files it with the maintenance supervisor.

Prior to use, the compactor operator completes the Compactor Daily Inspection Sheet. If there is a change in the operator during the day, another inspection is performed and logged by the new operator.

In addition to the daily inspection and maintenance, the JM follows the weekly, bi-annual and annual Preventive Maintenance checklist.

III. Cleaning Schedule

The compactor and conveyor system is cleaned at the conclusion of each operating day. The work is performed by laborers and the compactor operator. The compactor and surrounding area is cleaned of all debris (Brooms shovels). Any excess water is pumped out of the compactor area. The pit beneath the infeed belt is cleaned by manually removing conveyor tailings with a vacuum truck. The pit is pumped clean. Debris on the conveyor belt and chain is removed. Material that has collected around the motor and rollers is removed.

IV. SSI #2 1991 Schematic and Checklists

- SSI Schematic (Table 6A-1)
- SSI Compactor Operator Daily Inspection Sheet (Table 6A-2)
- SSI Inspection and Preventive Maintenance Checklist – Daily (Table 6A-3)
- SSI Inspection and Preventive Maintenance Checklist – Weekly (Table 6A-4)

- SSI Inspection and Preventive Maintenance Checklist – Monthly (Table 6A-5)
- SSI Inspection and Preventive Maintenance Checklist – Biannual (Table 6A-6)
- SSI Inspection and Preventive Maintenance Checklist – Annual (Table 6A-7)
- Compactor Infeed System Inspection and Prevention Maintenance Checklist – Daily (Table 6A-8)

V. SSI Compactor model 4500SPH 2001

- Operator Standard Procedures C-9 + 9A
- Daily Maintenance Checklist C-10
- Weekly Maintenance Checklist C-11
- Monthly Maintenance Checklist C-12
- Maintenance Repair list C-13
- Compactor Operator Daily Inspection Central C-14
- Compactor Operator Daily Inspection South C-15

NEWER SSI CHANGES

The maintenance on the Newer SSI is done with the same steps as the older ones with just a few changes. There are a few more points to look at as covered by the new check sheet. Adjusting the new one is very similar to the old ones and can be found in the manual.

SSI
Weekly Preventive Maintenance Check List

DATE: _____

1. Measure knife at 1/16" or less (adjust as required)					
2. Inspect platen bottom face to floor clearance (If longer than 1/4" add shims to bottom plate)					

Comments: _____

SSI
Monthly Preventive Maintenance Check List

DATE: _____

1. Inspect and change or hard face platen and chamber knives					
2. Inspect and adjust if required the carriage height					
3. Inspect and adjust if required the carriage side brass					
4. Inspect and record gate track wear strip thickness					
5. Inspect trunnion mount for loose fitting trunnion pins and bolts					
6. Record Mileage					
7. Grease Zerts					

Comments: _____

BFI

COMPACTOR DAILY INSPECTION SHEET

DATE: _____

COMPACTOR #: _____

HOURS: _____

	1 st OP	2 nd OP	3 rd OP	COMMENTS
1. Check Limit Switches				
2. Check/Clean Top Of Gate (Free Of Debris) & Check Rollers				
3. Check Top Rear Of Compactor For Wood, Metal & Garbage				
4. Check/Clean Hopper Micro Eye				
5. Check Oil Level With Ram Home				
6. Check For Oil Leaks (Hoses & Rams)				
7. Check Load Cells For Broken Wires/Cracks				
8. Check All Safety Covers Keep Closed				
9. Check Emergency Stops (Operational)				
10. Check Tracks, Hoses On SSI (Free Of Debris)				
11. Check Cables, Hoses, Lid Latch & Reel On SSI (Free Of Debris)				
12. Check For Rips/Bent Bars On Belt				
13. Compactor Panels (Any Computer Errors?)				
14. Clean Area At End Of Shift				
15. CPU Battery				

Additional Comments: _____

SSI Compactor

Operators Equipment Inspection

Date _____

Name _____

(Enter Time of Inspection)

	Initials	Comp. #1		Comp. #2	
		Pre Run	Post Run	Pre Run	Post Run
Limit Switches Working Properly?	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Clean Top of Gate	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect Gate Cylinders and Hoses	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect Truck Latch, Cylinder and Hoses	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect Load Cells for Broken Wires	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect Load Cells for Twisting	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect C-Ram and E-Ram for Excessive Oil Leaks and Damage	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect C-Ram and E-Ram Hoses and Hard Pipe for Damage/Leaks	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect Condition of Hose Track	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect HPU for Oil Leaks	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Check Hydraulic Oil Level with Rams In Home Position	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Machine and Work Area Cleaned from Previous Shift?	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inspect/Clean Lazer	_____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Detailed Comments: _____

BFI Of Oregon
SSI COMPACTOR OPERATOR DAILY INSPECTION SHEET

DATE: _____ COMPACTOR # _____ HOURS: _____

	1 ST OP.	2 ND OP.	3 RD OP.	COMMENTS
1. Check limit switches (see D10)				
2. Check/clean top of gate (free of debris) & check rollers (see W8)				
3. Check top rear of compactor for wood, metal & garbage				
4. Check/clean hopper micro eye (see W11)				
5. Check oil level with ram home (see D4)				
6. Check for oil leaks (hoses & ram) (see D8)				
7. Check load cells for broken wires/cracks (see W13)				
8. Check all safety covers keep closed				
9. Check emergency stops (operational)				
10. Check tracks, & hoses (free of debris) (see D6)				
11. Check for rips/bent bars on belt				
12. Compactor panels (any computer errors?)				
13. Clean area at end of shift				
14. CPU battery				

Additional Comments: _____

BFI Of Oregon
SSI Inspection and Preventive
Maintenance Check List
--Daily--

DATE: _____

D1. Read operators daily inspection report.					
D2. Talk to current operator to find out about any new conditions that maintenance needs to be aware of					
D3. Inspect all hoses, piping, fittings and valves for leaks, loose bolts & slippage at clamps (not shown on drawing)					
D4. Inspect Hydraulic Power Unit, oil cooler & reservoir for leaks, electrical connections for tightness, temperature & level of hydraulic fluid at sight glass					
D5. Check filter condition located at Hydraulic Power Unit. Change filters as required or less than 500 hours, take sample & analyze oil at each filter change					
D6. Inspect hydraulic hose track for loose end connections & damage (located behind carriage)					
D7. Inspect trunnion for loose nuts, bolts, & cracks.					
D8. Inspect cylinder packing for leaks, compaction, ejection, gate & truck latch cylinders. Check for good connections & alignment to end coupling.					
D9. Inspect ejection cylinders for cracks in hold down ears, tightness of nuts & bolts at hold downs, cylinder plug for leaks.					
D10. Inspect limit switches for good connections, debris. (Gate, rear of platen, & compaction cylinder)					
D11. Inspect hopper door & proximity switch at hopper door. Is indicator light on?					
D12. Inspect safety chain on top of compactor for breaks					
D13. Inspect control console for burned out light bulbs					
D14. Record hour meter reading					

Comments: _____

BFI Of Oregon
SSI Inspection and Preventive
Maintenance Check List
--Weekly--

DATE: _____

W1. Inspect/adjust platen wedge blocks (thickness & damage) See Progress Line Book 1 for details.				
W2. Inspect carriage wear blocks for thickness & adjust if necessary. See Progress Line Book 1 for details.				
W3. Inspect to make sure jam nuts aren't backing off. (Platen & carriage). Tighten if needed.				
W4. Inspect platen & carriage for cracks in welds. Check platen face & edges for wear/damage.				
W5. Inspect knife condition, mounting bolts & verify gap at 1/8" in the shearing position.				
W6. Inspect for knicks, & abrasions on surface of exposed cylinder rods. (Gate compaction, ejections & truck latch).				
W7. Check & record hydraulic pressures: SSI #1 Compaction (2500 psi) Left _____ Right _____ Ejection (1500 psi) Left _____ Right _____ Gate (2500 psi) Left _____ Right _____ Pilot (250 psi) Left _____ Right _____ SSI #2 Compaction (2500 psi) Left _____ Right _____ Ejection (1500 psi) Left _____ Right _____ Gate (2500 psi) Left _____ Right _____ Pilot (250 psi) Left _____ Right _____				
W8. Inspect gate operation for smoothness, rollers, guide & gate track for wear & overall condition of gate surfaces.				
W9. Inspect gap between lid & knife (1/16" clearance).				
W10. Inspect wiper & clean/adjust as needed.				
W11. Inspect hopper eye lenses for damage. See Process Line Book 1				
W12. Inspect counter, free of debris, knicks in wire (located on chamber sides of compactor).				
W13. Inspect load cells & brackets for cracks.				

Comments: _____

BFI Of Oregon
SSI Inspection and Preventive
Maintenance Check List
--Monthly--

DATE: _____

M1. Record meter reading.					
M2. Tighten cylinder packing, (compaction, ejection & gate). See Process Line Book 1 for details					
M3. Inspect end coupling welds for cracks (compaction & gate)					
M4. Inspect wear strips in gate track. (Repair or replace).					
M5. Lube wiper bearings & inspect wear strip condition.					
M6. Inspect floor strips where wear strips make contact. Check for removed material (gouging/damage).					
M7. Check Hydraulic Power Unit valve bridge for loose nuts & bolts.					

Comments: _____

BFI Of Oregon
SSI Inspection and Preventive
Maintenance Check List
--Biannual--

DATE: _____

6M1. Replace program control.					
6M2. Replace hydraulic fluid (otherwise clean with dialysis machine).					
6M3. Inspect walls, floor, roof & all related assemblies including embeds for structural integrity.					
6M4. Replace all brass alloy wedge bearings that are worn beyond further adjustment.					
6M5. Inspect electrical motors for carbon tracking.					

Comments: _____

BFI Of Oregon
SSI Inspection and Preventive
Maintenance Check List
--Annual--

DATE: _____

A1. Replace or clean suction strainers (located on lower front of Hydraulic Power Unit).				
A2. Inspect Hydraulic Power Unit & cooling system (elements, thermostat & fan) & motor for leaks & bad connections.				
A3. Change hydraulic fluid.				

Comments: _____

BFI Of Oregon

Compactor Infeed System Inspection and Preventive Maintenance Check List

--Daily--

1. Pit Conveyors:	1	2	3
Clean/lube head pulleys	___	___	___
Clean/lube tail pulleys	___	___	___
Inspect & lube reducer as required	___	___	___
Inspect drive chain and sprocket	___	___	___
Inspect conveyor belt & chain	___	___	___
Lube conveyor chain	___	___	___
Inspect chain tension	___	___	___
Inspect belt skirting	___	___	___
Inspect drive belt tension & condition	___	___	___
Inspect & replace restraints	___	___	___

2. Transfer Conveyor (SSI #1 only):			
Clean/lube head pulley	___		
Clean/lube tail pulley	___		
Clean/lube return rollers	___		
Inspect conveyor belt	___		
Inspect & lube reducer as required	___		
Inspect drive belt	___		
Belt tracking	___		

Each pit conveyor is to be inspected and lubricated daily. Perform the inspection and lubricate as required and initial the appropriate space below.

List all problems encountered with any pit conveyor in the comment section.

COMMENTS: _____



Standard Operating Procedures – Metro Central Densifier Operators

Equipment Inspection

- Inspect your densifier before starting machine and start “Compactor Daily Inspection Sheet”.
- Inspect your densifier periodically during shift. Look for magnets on machine that have come from trash.
- Inspect your densifier at the end of your shift and complete “Compactor Daily Inspection Sheet” (leave sheet in shack for next operator or mechanic).
- Last shift turns in all paper work.

Equipment Operation

- Control screen should read as follows:
 - Weight targets 61,000 lbs.
 - Weight accepts 1%
 - Hopper target 7,000
 - Length target 29.0 feet
 - Compacts per bale 3
- Make sure density mode is on. (turn off to increase density)
- If adjustments need to be made notify a supervisor or fulltime operator.

Loading Densifier – SSI

- Communicate with loader operator. Each bale is different. Densifier operator needs to work with loader operator to make a uniform bale in size and weight.
- Allow densifier to operate in automatic mode, and leave in radio.
- If bale does not reach target weight of 61,000 because of length, compact to full pressure several times.
- Monitor control panel while machine is running.

Loading CSU Trailers

- Inspect all CSU trailers inside and out for damaged Bows, Floors, Decks, Uprights, and Roof.
- Lock trailer with truck latch.
- Before loading trailer, write truck scale weight of previous load on log and compare to densifier weight. This should be done at least every 3rd load.
- Adjust target weight if densifier scale is off.
- Push garbage into trailer if video cameras are in place.
- Take load to four feet from front of trailer – first push.
- Retract ram five feet and push load to three feet from front of trailer.
- Retract ram five feet and push load to two feet from front of trailer.
- Ideal load should be three feet from back of trailer. If load is longer, ideal load will be two feet from front and three feet from back or one foot from front and two feet from back.
- Retract ram and lower gate.
- Signal driver to pull forward
- Inspect trailer for fall back. If stable set machine to AUTO MODE, shut door.
- If garbage is not stable. It may be necessary for trailer to back up to the densifier several times.



Standard Operating Procedures – Metro Central Densifier Operators

Loading CSU Trailers (continued)

- After trailer comes to a full stop and trailer breaks have been set; unhook trailer doors from side of trailer. Use Mobile stairs to get on trailer deck.
- Clean off trailer deck by shoveling material back into truck (do not shovel deck as trailer is being pulled forward). Sweep off small material.
- Close doors on trailer one door at a time starting with the left door. Position yourself to the side of the door when closing (stand to the left of the left door, and to the right of the right door). Be certain to have proper balance and footing while closing doors.
- Make sure trailer doors are latched with latch hooks and metal seal is attached.
- Cleanup area after each load. Watch for buildup where truck wheels rest. Call for a skidloader to help with big spills.

Communication

- Use radios to communicate. Be professional when talking.
- Keep stationary and hand held radio on channel two.
- Inform the loader operator about overloads and what the overload was (front, back, gross, etc.)
- Inform the loader operator when servicing densifier (Use Lockout/Tagout as necessary).
- Don't be afraid to ask for help.
- Teach other operators your operating techniques.
- Report problems to your supervisor. Don't delay in reporting important or serious problems to your supervisor. If a supervisor is not available, report problem to a manager.

End of Shift

- Conveyor belt should be empty at the end of the day.
- Clean up area around densifier, shack and wall.
- Leave notes to the morning densifier operator if needed.
- Make sure all logs and reports are complete and accurate.

Safety Procedures

- Always wear proper PPE - Hardhat, Safety Goggles, Gloves, Ear Protection, Uniform, Work boots with metal inserts, and Safety vest.
- Follow Lockout/Tagout procedures when cleaning, servicing or inspecting (or any other time as required by Lockout/Tagout procedures).
- Use proper hand signals when directing CSU driver.
- Only approach back of trailer after CSU driver sets parking breaks.

6B. Wood and Demolition Line

I. System Overview

Construction debris, yard debris, and other wood products are removed from the waste stream and transferred to the Wood and Demolition Line (Woodline) to be processed into hog fuel. The process grinds bulk pieces of wood into small sized wood chips suitable for fuel.

Acceptable material is loaded by a grapple onto an infeed belt. The wood is conveyed to a Slow Speed Shredder, which reduces the material to between 12 and 18 inches. The reduced wood is conveyed under a magnetic separator, which removes all ferrous material. The conveyor continues past a manual picking station where remaining contaminants are removed. A series of conveyors transfers the material to a 1200 rpm High Speed Hammer Mill where desired final sizing is completed. The material passes underneath a magnetic separator to remove nails, screws and similar small ferrous material.

The finished product is conveyed to a chain drag system. This system drags the product into an open top trailer filling the trailer rear to front. The product is transported by truck to mills for fuel.

II. Inspection

Inspections are done by the operator and helper before each shift. Any problems are reported to maintenance.

Before each operating day, the JM inspects the grapple for problems with hoses, fittings and welds. The hydraulic oil is inspected for low levels. The entire woodline system is checked for obvious problems. The High Speed Hammer Mill is inspected for loose, broken or cracked bearing cap bolts

After the woodline system has begun operation, periodic inspections are completed to ensure continued proper operation. Debris that has collected around the grapple must be removed after each trailer is loaded. After ten trailer loads have run through the system, the High Speed Hammer Mill bearings must be greased at all grease zerts.

III. Cleaning Schedule

The woodline is cleaned at the conclusion of each operating day. The work is performed by laborers and an equipment operator. Debris collection bins are removed and emptied using a forklift. All floor surfaces under the lines are cleared of fallout debris by shoveling and sweeping material to a location where a skidloader can remove the material. Collection bins are then returned to their proper locations. The pit beneath the infeed belt is cleaned weekly by manually removing conveyor tailing with buckets. The pit is washed and pumped clean.

IV. Woodline Schematic and Checklists

- Wood and Demolition Line Schematic (Table 6B-1)
- Woodline Conveyor Schematic (Table 6B-2)
- Woodline Inspection and Preventive Maintenance Checklist – Daily (Table 6B-3)
- Woodline Inspection and Preventive Maintenance Checklist – Weekly (Table 6B-4)
- Woodline Inspection and Preventive Maintenance Checklist – Misc. (Table 6B-5)

BFI Of Oregon
Woodline Inspection and Preventive
Maintenance Check List
--Daily--

DATE: _____

D1. Inspect grapple and check oil level					
D2. General walk around inspection before starting and while running					
D3. Check hammer mill bearing temperature					
D4. Keep grapple hoses apart and free of debris					

Comments: _____

BFI Of Oregon
Woodline Inspection and Preventive
Maintenance Check List
--Weekly--

DATE: _____

W1. Grease all head and tail pulleys					
W2. Clean all bearings, shafts, and tail pulleys					
W3. Clean out build up under belts					
W4. Make sure all belts are in good shape and are tracking properly					
W5. Check high speed shredder for wear on inside hammers, grates and anvil wear plates					
W6. Check teeth on slow speed teeth anvil electrical sensor for tightness					
W7. Lube infeed chain and chain drag					
W8. Blow off motors and gear boxes					
W9. Check paddles on infeed for possible replacement. Check infeed washers					
W10. Change gear box in slow speed shredder					

Comments: _____

BFI Of Oregon
Woodline Inspection and Preventive
Maintenance Check List
--Miscellaneous--

DATE: _____

M1. Twice a week grease high speed shredder bearings					
M2. Every four weeks weld build up on new hammers					
M3. Every six months replace grapple hydraulic oil filter					
M4. Once a year change gear box oil in all gear reduces					
M5. Every three months analyze oil on slow speed shredder					

Comments: _____

6C. C & M Baler

I. System Overview

Certain material that is recovered from the waste stream for recycling must be baled for shipping purposes. Material to be baled is stored in a staging area adjacent to the baler. When enough material is staged to justify operation, the system begins production for a specific commodity.

Material is pushed onto a conveyor belt by a skidloader or loader. Pickers pull contaminates from the belt as the material passes by. The conveyor drops the material into a large hopper located on top of the baler. The baler operator controls the operation of the baler and conveyor by looking through a plexiglass covered opening in the hopper. A single hydraulic ram compacts the product that has fallen into the hopper. After each stroke of the ram, the bale of material increases in size. When the chamber is full, a finished bale is ejected by smaller hydraulic rams located on the side of the baler. As the bale leaves the chamber, a strapping mechanism wraps wire around the bale to prevent breakage. A new bale is begun when the chamber is empty.

II. Inspection and Preventive Maintenance of System

The baler is inspected by journeymen mechanics on a daily, weekly, monthly, biannual and annual basis. The equipment operator inspects the baler on a daily basis. Inspections aid in the ongoing preventive maintenance performed which prolongs the equipment's life and ensures a safe operating environment.

Prior to the beginning of each working day, a Journeyman Mechanic (JM) inspects the baler. The JM first reads and reviews the Baler Operators Daily Inspection Report (from the previous day) and is alerted to any unusual conditions or wear. During inspections, a lockout/tagout tag is removed. (The tag removal is an indication to the operators that the compactor is ready for operation).

Prior to use, the baler operator completes the Daily Inspection Report. If there is a change in the operator during the day, another inspection is performed and logged by the new operator.

In addition to the daily inspection and maintenance, the JM follows the weekly, bi-annual and annual Preventive Maintenance Checklist.

III. Cleaning Schedule

The baler and conveyor system is cleaned at the conclusion of each operating day. The work is performed by laborers. Debris around the baler is removed using brooms and shovels. The pit beneath the infeed belt is cleaned monthly by manually removing conveyor tailings. Debris on the conveyor belt and chain is removed. A mechanics Helper cleans material buildup on the baler itself.

IV. Baler Schematic and Checklists

- Baler Schematic (Table 6C-1)
- Baler Operator Daily Inspection Report (Table 6C-2)
- Baler Inspection and Preventive Maintenance Checklist – Daily (Table 6C-3)
- Baler Inspection and Preventive Maintenance Checklist – Weekly (Table 6C-4)
- Baler Inspection and Preventive Maintenance Checklist – Monthly (Table 6C-5)
- Baler Inspection and Preventive Maintenance Checklist – Biannual (Table 6C-6)
- Baler Inspection and Preventive Maintenance Checklist – Annual (Table 6C-7)

BFI Of Oregon
C & M Baler Inspection and Preventive
Maintenance Check List
-- Daily—

DATE: _____

D1. Check shear ram knife clearance (1/16").					
D2A. Clean material build up behind ram					
D2B. Clean material build up around penetration eyes					
D2C. Clean material build up behind ejection ram					
D2D. Clean material build up below strapper track					
D2E. Clean material build up on reservoir top					
D2F. Clean material build up in air cooler fins					
D3. Check conduit and wiring connections (not shown in drawing)					
D4. Hopper door, safety interlock, check for lit indicator light.					
D5. Reservoir oil level (check site glass).					
D6. Check return filter condition (located on side of hydraulic reservoir).					
D7. Check hydraulic hose connections, pipe connections and flanges for leaks (not shown in drawing).					
D8. Operate Ram to verify proper function					
D9. Record hour meter reading.					
D10. Check all limit switches for secure mounting and condition.					
D11. Visually check main ram and mount bolts for breakage.					
D12. Check temperature of hydraulic fluid (should be between 120 and 130 degrees).					

Comments: _____

BFI Of Oregon
C & M Baler Inspection and Preventive
Maintenance Check List
--Weekly--

DATE: _____

W1. Visually inspect ram hold down clearance (not shown in drawing)				
W2. Visually inspect ram wiper assembly				
W3. Check main ram mounting bolts for tightness				
W4. Check main cylinder mount bolts for tightness				
W5. Check shear bar bolts for tightness				
W6. Check Probable Logical Control (PLC) low battery light				
W7. Clean or replace reservoir breather filter				
W8. Check hydraulic system pressure (while operating machine)				
W9. Check cylinder rod seals (main, ejection, strapper for leaks)				
W10. Check ejection ram and cylinder mounting bolts for tightness				
W11. Check knife hold down bolts for tightness				

Comments: _____

BFI Of Oregon
C & M Baler Inspection and Preventive
Maintenance Check List
--Monthly--

DATE: _____

Perform Daily and Weekly Services Then:

M1. Check main ram guide rails for excessive wear.						
M2. Check ejection ram guide bar for excessive wear.						
M3. Check ejector ram wear surfaces for excessive wear.						
M4. Check feed chamber liner plates for excessive wear.						
M5. Check ram's guide bar bolts for tightness.						
M6. Check ram guide rail (top and side).						
M7. Check hydraulic flange bolts, motor mount bolts etc. for tightness.						
M8. Check welded areas for cracks.						

Comments: _____

BFI Of Oregon
C & M Baler Inspection and Preventive
Maintenance Check List
--Biannual--

DATE: _____

Perform Daily, Weekly, and Monthly services then:

6M1. Check safety cover bolts for tightness and missing bolts.						
6M2. Change return filters (located inside Hydraulic Power Unit).						
6M3. Grease electric motors.						
6M4. Clean hydraulic fluid using dialysis machine.						

Comments: _____

BFI Of Oregon
C & M Baler Inspection and Preventive
Maintenance Check List
--Annual--

DATE: _____

Perform Daily, Weekly, Monthly and 6 Month services then:

A1. Clean suction strainers						
A2. Clean reservoir.						
A3. Change hydraulic fluid.						
A4. Inspect walls, floor, roof and all related assemblies for structural integrity (cracks, warped areas, etc.).						

Comments: _____

6D. Caterpillar Standby Generator

I. System Overview

An auxiliary generator provides backup electrical support in the event of a power failure. The system will power emergency lights throughout the facility and will power the scalehouse and office buildings. The generator is powered by 449 horsepower Caterpillar engine and is capable of producing 451 amps. The engine is fueled by an underground fuel tank located outside the operations plant. The system is set to automatically run once a week for a period of fifteen (15) minutes.

II. Inspection and Preventive Maintenance of System

A Journeymen Mechanic inspects and services the generator once a month. All fluids are checked for proper levels including oil, antifreeze and battery acid. Belts are inspected for cracks and wear. All switches are inspected for breakage and to ensure they are on the automatic settings. The radiator is inspected for dust buildup and is cleaned with compressed air if needed. The air filter is blown clean monthly. The oil and antifreeze is changed every six months.

III. Cleaning Schedule

The generator room is cleaned weekly by a Mechanics helper. The room vents are cleaned with compressed air and the floor is swept or blown clean.

IV. Generator Schematic and Checklists

- Generator Inspection and Prevention Maintenance Checklist (Table 6D-1)

BFI Of Oregon
Caterpillar Generator Inspection and Preventive
Maintenance Check List
--Monthly--

DATE: _____

M1. Check oil level					
M2. Check antifreeze level					
M3. Check battery level					
M4. Inspect belts for cracks and wear					
M5. Inspect switches for breakage					
M6. Ensure switches are set on "automatic" mode					
M7. Inspect radiator for dust buildup					
M8. Clean air filter					
M9. Every six months change oil and antifreeze					

Comments: _____

6E. Quincy 1000 Air Compressor

I. System Overview

Compressed air is available in the transfer station to facilitate maintenance tasks. The Quincy 1000 is a single stage, positive displacement oil-flooded helical screw type unit. Air is compressed into piping located throughout the transfer station. This allows mechanical work to be done in the designated maintenance area as well as locations away from the shop. Compressed air is used to power air tools. Another function of the compressor is to clean dust and buildup from rolling stock, stationary equipment and the transfer station building.

II. Inspection and Preventive Maintenance of System

Maintenance work on the compressor unit and attached piping is performed by a Journeyman Mechanic (JM). Inspection and preventive maintenance is completed on a weekly basis. A 20-gallon oil reservoir is checked for proper oil levels. It is necessary to drain the main compressor tank of moisture every twenty (20) hours or approximately every week. When the 400 line is operating, the main compressor tank needs to be drained each day. The air filter, cooler fins and after cooler is cleaned with air on a weekly basis. The oil and double filters are changed every six months.

The piping routed throughout the transfer station is inspected monthly. Valves on the ends of piping are inspected for cracking, leaks and general wear. The pipes are also checked for cracks and air leaks. Each valve outlet is opened monthly to remove moisture buildup in the pipes. In colder weather the releases are more frequent to prevent freezing.

III. Cleaning Schedule

The compressor generator room is cleaned weekly by a Mechanic. The room vents are cleaned with compressed air and the floor is swept or blown clean.

IV. Generator Schematic and Checklists

- Compressor Schematic (Table 6E-1)
- Compressor Inspection and Preventive Maintenance Checklist (Table 6E-2)

BFI Of Oregon
Quincy 1000 Inspection and Preventive
Maintenance Check List
--Monthly--

DATE: _____

M1. Check oil level located at the reservoir					
M2. Monitor all gauges and indicators					
M3. Drain main air tank of moisture					
M4. Blow out air filter					
M5. Blow out cooler fins					
M6. Blow out after cooler					
M7. Change oil filters every six months					
M8. Change double filters every six months					
M9. Inspect pipe valves for cracks and air leaks					
M10. Inspect all piping for cracks and air leaks					
M11. Vent moisture of all pipes monthly					

Comments: _____

6F. Electrical Panels

I. System Overview

Stationary equipment within the facility is powered by electricity. Each system utilizes a separate electrical system panel located in one of two electric rooms. Electrical room A (located in the maintenance area near the SSI compactor) houses panels for the all three compactors. Electrical room B (located next to the baler) houses panels for the woodline and baler.

Square D brand breakers and switches are located throughout the panels. High capacity circuits utilize bolted pressure contact switches located outside the panel walls. These circuits can produce amperage of up to 4000. Smaller circuits utilize small breaker switches located inside the panel walls.

II. Inspection and Prevention Maintenance of System

Only certified electricians are permitted to perform inspection and preventive maintenance on electrical panels. No work is started unless all breakers and switches are de-energized and lockout/tagout locks are securely in place. All panels are inspected monthly for loose wires and burn marks at connections. Extra steps that are required during inspection of panels are summarized below:

- Wire connections at compactor operator stations are inspected for loose wiring and burn marks

III. Cleaning Schedule

Only certified electricians are permitted to perform cleaning on electrical panels. No work is started unless all breakers and switches are de-energized and lockout/tagout locks are securely in place. Cleaning of panels is completed when needed unless the plant environment dictates more frequent cleaning. Upon completion of panel cleaning

procedures, lockout/tagout locks are removed and breakers and switches are returned to operating positions.

SSI Compactors:

Starting at the top of the panel, blow downward with low pressure dry air. After panel is clean, vacuum bottom of panel.

Baler:

Starting at the top of the panel, blow downward with low pressure dry air. Unscrew the holding screws on each logic board and blow off the male and female contacts – one board at a time. Reconnect logic board and ensure holding screws are secure. A loose logic board can cause erasing of the program. After panel is clean, vacuum bottom of panel.

IV. Electric Room Schematic

- Electrical Room A Schematic (Table 6F-1)
- Electrical Room B Schematic (Table 6F-2)

6G. Fire Protection System (Overhead Sprinkler)

I. System Overview

Fire protection for the facility is provided by a combination of overhead sprinklers, portable fire extinguishers, smoke detectors and heat detectors. The sprinkler system and smoke & heat detectors are monitored by T & L Communication. In this section we will deal only with the overhead sprinkler system, and specifically that portion of the system which provides coverage for the 168,000 square foot operations building.

The operations building is divided into four quadrants, each quadrant being fed by its own valve house. The attached schematic (table 6G-1) shows the location of valve houses #1, #2, #3 and #4.

-Valve House #1

This system provides water through a 6" line to the wood and demolition line, wash rack, and upper bay III. The 6" line is for overhead sprinklers. A 4" line is also fed from this system. The 4" line provides sprinkler protection to the equipment in the wood and demolition line and the baler infeed conveyor.

- Valve House #2

This system provides water through a 6" line to upper bay I, and upper bay II. The 6" line is for overhead sprinklers. A 4" line is also fed from this system.

- Valve House #3

This system provides water through a 6" line to lower bay I as well as half of lower Bay II and the #3 compactor. One leg comes off this system to provide protection to the electrical room near the baler.

- Valve House #4

This system provides water through a 6" line to lower bay I, public, half of lower bay II, new public building, and both SSI compactors 1-2. A 4" line is also fed from this system. This 4" line provides sprinkler protection to all three compactors, and the infeed pits for #1 and #2. This system also covers the south electrical room, the mechanical, and the bag house over the tool room.

The entire system is a “dry system” which when properly maintained eliminates all concern for broken pipes due to freezing. Each of the seven plumbed systems has its own riser, which supplies water to the system as needed. The water is kept in the riser and out of the system by pressurizing each system to 35 PSI – 45 PSI. This line pressure holds a “clapper valve” down, which in turn holds the water back. Activation of a sprinkler head releases the line pressure, the “clapper valve” is opened by the water pressure, and the water flows to/out the open sprinkler head. Turning off the water at the appropriate valve house shuts down the system. Two compressors provide the air pressure. One compressor in valve house #1 supplies air to valve house #1 and #2. One compressor in valve house #4 supplies air to valve house #3 and #4.

II. Inspection and Preventive Maintenance of System

A Journeyman Mechanic (JM) performs inspection and prevention maintenance of the sprinkler system. A series of bleed off valves are plumbed into the system and identified with x's on the schematic (table 6G-1). It is critical these valves be utilized monthly to bleed off all condensation that might have built up in the lines. Failure to do this will allow water to build-up in the lines and result in ruptured pipes when the temperatures drop below freezing.

If a sprinkler head is activated either by fire or by a break in the pipes, a JM responds to the alarm. When the alarm is tripped, the computer panel in the electrical room adjacent to compactor #3 will indicate where the system has been activated. If a fire is ruled out, the water and air mains in the appropriate valve house is shut off. The sprinkler monitoring company must be notified to avoid fire truck response. The broken sprinkler head or pipe needs to be repaired before the system can be activated. The auxiliary drains and open main drain in valve house are opened. Gauges should be zeroed out. The auxiliary drains should be closed after all water has been drained.

- Priming Procedures:

Priming with flapper down, pour water in primer bowl with both valves open until water comes from bleeder hole (about 2-3 gal.) and then shut off.

-Air to system:

Open main intake valve. It will go to around 35-40 lbs. Once the system stops feeding air, watch to see that the system is holding (air gauge not dropping).

-Feeding water to system:

Open main drain and start opening water valve slowly. As you hear water entering, start shutting drain valve. Open valve for water and shut drain (water pressure 75lbs.). With air and water gauges up, open alarm valve, reset computer and phone the sprinkler company.

On a daily basis a JM inspects each valve house.

III. Sprinkler System Schematic and Checklist

- Sprinkler System Schematic (Table 6G-1)
- Valve House Inspection Checklist (Table 6G-2)

6H. Office Building

I. Overview

The BFI office building is located on the Southwest corner of the transfer station facility. The building is separated into two distinct sections. Upon entering the building main doors, the employee break room is situated on the right side of the building. A large room is used for eating during lunches and breaks. The break room has separate men and women bathrooms, which include shower stalls in each room and lockers for personal storage.

Upon entering the building main doors, the BFI office is situated on the left side of the building. The office section has a large room used by the office support staff and supervisors. There are also four rooms used for management work areas. A separate conference room is located on the far left side of the building.

II. Inspection and Preventive Maintenance

Outside contractors perform scheduled preventive maintenance and inspections of the office building. The ventilation system filters are changed monthly. On a quarterly basis, the building is fumigated to prevent infestation of small pest (mainly cockroaches). Any additional maintenance work that arises is completed by a Journeyman Mechanic (JM). Additional maintenance may include roof repair, sink or plumbing repair, and lighting repair.

III. Cleaning Schedule

The building is cleaned by outside contractors. Six (6) days per week the building is vacuumed, dusted, phones and equipment are cleaned, and non-recyclable trash is emptied. On a monthly basis the floors are waxed in the break room and bathrooms. Each month the windows are cleaned, walkway carpets are steamed cleaned and chairs are steam cleaned. Each year all carpets are steam cleaned.

IV. Office Schematic and Checklists

Office Schematic (Table 6H-1)

6I. Operations Building

I. Overview

The operation building is a 163,000 square foot structure. All stationary equipment utilized for recycling, waste processing and maintenance is situated within the operations building. The North side of the building is segregated into open bay doors. Walls close the building on the West and East side with two open bay doors on the East side. The south portion has walls with four roll-up doors for the access to the compactors and the HazMat area.

The building has a metal roof with plastic skylights situated throughout the facility. Rain is funneled to eaves at the North and South ends of the building. Twenty-nine (29) Austin Mac fans are in place throughout the building. The fans are 36" airfoil impeller fans with 10 horsepower electric motors and are used to circulate air within the building. 400-watt hanging lights are used to illuminate work and travel areas.

Water runoff from the facility is diverted to 28 storm drains located immediately outside the operations building. The drains are equipped with catch basins that prevent sediment from entering the storm drain system.

II. Inspection and Preventive Maintenance

The building infrastructure is inspected on an ongoing basis. If damage to the building occurs, the person witnessing or doing the damage reports the incident to a supervisor. A JM assesses the damage and completes the repairs. Lights are replaced by a JM when they burn out. Rain gutters and piping is repaired when leaks are apparent.

Improvements to the facility as requested by Metro are completed when needed (speed bumps, public area exit).

III. Cleaning Schedule

Dust buildup from waste and recycling activities is removed from the buildings by compressed air annually. The storm water catch basins are monitored weekly and are pumped clean each month or as deemed necessary.

The tipping floor of the transfer station is cleaned after each operating day. Removal of debris is done by laborers manually sweeping the floor. A skidloader operator assists the laborers with larger debris and to move the material to the compactor staging area. Each day floor is wet down with water and is allowed to stand for thirty (30) minutes to loosening up the residue. All floor debris is swept towards the compactors by a tractor sweeper.

IV. Operations Building Schematic and Checklists

Operations Building Schematic (Table 6I-1)

6J. Scale Houses

I. Overview

Four scale houses are used at the transfer station. Three scale houses are utilized to weigh waste being dumped by commercial and public vehicles. These scale houses are commonly referred to as Scales A, B and C. The fourth scale house weighs outbound compacted trash destined for a landfill.

II. Inspection and Preventive Maintenance

Outside contractors perform scheduled preventive maintenance and inspections of the scale houses. The ventilation system filters are changed monthly. On a biweekly basis, rodent traps are inspected and bait is added if necessary. Any additional maintenance work that arises is completed by a Journeyman Mechanic (JM). Additional maintenance may include roof repair, sink or plumbing repair, and lighting repair.

III. Cleaning Schedule

The scale houses are cleaned by outside contractors. Six (6) days per week scale house “A” is vacuumed, dusted, phones and equipment are cleaned, and non-recyclable trash is emptied. The same work is completed on scale houses “B” and “C” three (3) times per week. On a monthly basis the floors are waxed. Each month the windows are cleaned.

IV. Scale house Schematic

Scale House Schematic (Table 6J-1)

6K. Truck Scales

I. System Overview

Scales at each scale house are used to weigh inbound and outbound waste. Scale house A has inbound and outbound scales. Scale house's B, C and the compacted outbound trash scale house are equipped with one scale per system.

II. Inspection and Preventive Maintenance

The scales are calibrated and maintained by Metro. BFI is involved in the monthly cleaning of each set of scales.

III. Cleaning Schedule

A Mechanic cleans buildup around the scale cells. This procedure is done monthly. The space below the scales is considered a confined space. Confined space safety regulations are followed whenever work is completed on the scales.

6L. Truck Washing System

I. System Overview

A three bay truck washing area is provided for commercial and residential waste haulers. Truck drivers are allowed to clean the inside and outside of their vehicles and have a ten minute time washing limit. A high volume hose is located in each bay.

A grated drain is located in each of the three bays. Each drain has a separate catch basket to collect large residue. Water that passes through the drain and catch basket is diverted to a 350-gallon oil/water separator. Heavy material and oils are collected in the separator to prevent contaminants from reaching the sewer system.

II. Inspection and Preventive Maintenance

The wash rack must be monitored daily to ensure water discharge integrity and to prevent unnecessary water use. A HazMat Technician tests the water in the oil/water separator for proper pH levels. If the pH is inappropriate, Sodium Bicarbonate is added until a desired pH level is achieved. Hoses are inspected for cracking and leaks. Water pipes and shutoff valves are inspected for breaks and leaks.

During extreme cold weather, it is necessary to drain the wash rack system to prevent pipe bursting. The main water valve is closed halting incoming water.

III. Cleaning Schedule

The drivers are instructed to clean the bay floor of large waste dislodged from their vehicles. 55-gallon barrels are in each bay for the drivers to deposit their waste. The barrels are emptied a minimum of twice per day. Smaller residue from the cleaning process is captured under the grated drains by catch basins. A minimum of twice each day the bays are swept and washed down and the catch basins are emptied. The oil/water separator is emptied by a Journeyman Mechanic once per week, and pumped by Water Truck Services once a month.

IV. Truck Wash Schematic and Checklists

- Truck Wash Schematic (Table 6L-1)
- Truck Wash pH Log (Table 6L-2)

6M. Diesel Fuel Tank

I. System Overview

A 2,000 gallon above ground diesel fuel tank is located on the North side of the facility. The tank was manufactured by ACE Tank and Equipment and complies with all applicable regulations. The tank is filled at the rear through a 6" locked orifice. Emergency vents are located on the front and top of the tank for pressure relief.

Two Tuthill Series 300 pumps are attached to the front of the tank. The pump is electric and produces up to 50 P.S.I. of pressure. A Tuthill Series 900 meter accompanies each pump. An emergency shut-off switch allows the operator to stop flow from the tank to the pumps and is located at the front of the tank. A main electric emergency shut-off switch is located behind the tank.

II. Diesel Fuel Tank Schematic and Checklists

- Diesel Fuel Tank Schematic (Table 6M-1)
- Above Ground Storage Tank Inspection Sheet (Table 6M-2)

6N. Grounds Maintenance

I. System Overview

The overall appearance of the Transfer Station is maintained by a grounds keeper on an ongoing basis. The grounds keeper ensures litter on the roads and grounds is removed. A magnet is used on driving surfaces to pull nails and other ferrous material from the roads. A vacuum removes material that has collected next to curbs and structures.