

**EXAMPLE
BASELINE MONITORING REPORT
XYZ MANUFACTURING, INC.**

Located at:

**1275 West Fourth Street
Waukesha, WI 53186**

May 18, 2006

**Prepared by:
John M. Doe**

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ANALYTICAL REPORTS

I. FACILITY INFORMATION

Facility Location: 1275 West Fourth Street
Waukesha, WI 53186

Facility Contact: John M. Doe, Manager – Safety & Environmental Affairs
Paul J. Jones (alt.), Vice President – Human Resources
(262) 524-3625 Fax (262) 524-3632

Mailing Address: XYZ Manufacturing, Inc.
P. O. Box 415
Waukesha, WI 53186-0415

SIC or NAICS Code: 3524

Principal Product: Outdoor power equipment

Number of Employees: 178 first shift, 110 second shift; 288 total

Operating Schedule: 16 hours/day, 5 days/week, 50 weeks/year
(manufacturing)

Scheduled Shutdowns: Week of July 4, Thanksgiving week, Christmas week

Facility Environmental Permits: Air Permit: Mandatory Operating Permit#: 248003570-3
U. S. EPA ID #: WID001796137
Wis. DNR FID #: 246003658
City of Waukesha Industrial Wastewater Discharge Permit #: 73

II. DESCRIPTION OF OPERATIONS

XYZ Manufacturing, Inc. is a producer of powered outdoor equipment including lawn, garden, grounds equipment and snow throwers. Annual production of XYZ varies according to product demand. Manufacturing, assembly and shipment of products is carried out in a 212,000 square foot facility (Attachments, Figure 1) located on 9.5 acres of land.

Major purchased materials and parts include low to high carbon mild steel, castings and forgings of mild steel, engines, wheels and tires, transmissions, hydraulic pumps, hardware, wire form parts, pulleys and chains. A nominal percentage of miscellaneous smaller parts are aluminum.

The general order of production begins with the stamping facility where all of the sheet metal components are formed using 14 punch presses. Over 4,000 dies are stored in this area and a tool room is used for making jigs, fixtures and small dies.

Machined parts are produced in the machine shop equipped with approximately 40 machines including screw machines, cutoff machines, lathes and chuckers, boring machines, drill presses, milling machines and grinders. Chips generated by the screw machines go through a chip spinner, where cutting oils are spun off to be cleaned and reused. A vibratory deburrer processes many types of small machined parts (see Section III). Service parts are warehoused in this area as well.

Mild steel parts and castings are washed prior to welding in an automatic spray washer or a manual wash booth (Section III) and pass through a dry-off oven. Frames, decks, and other component parts pass through the sub-assembly area and welding department with approximately 15 welding booths. Parts then proceed through the finishing area consisting of a 7-stage washer (Section III), dry-off oven, automated electrostatic powder paint booths and a 395° F. curing oven. All painted parts are then inspected and routed to the final assembly, testing and shipping areas. An alkaline strip tank (Section III) is used to remove paint from parts which do not pass inspection.

III. REGULATED PROCESSES

XYZ is regulated under the metal finishing wastewater pretreatment category (40 CFR Part 433). Two cleaning processes employ phosphating, thus rendering the facility subject to regulation under the conversion coating subcategory. A list of all regulated categorical operations includes:

1. Welding
2. Painting
3. Assembly
4. Impact deformation
5. Pressure deformation
6. Shearing
7. Electrostatic painting
8. Machining
9. Grinding
10. Heat treating
11. Tumbling (deburring)
12. Paint stripping
13. Cleaning

The original baseline monitoring report (BMR) for XYZ was submitted in May 1984. This report updates the original BMR and also addresses a recent operational change whereby the original 3-stage and 5-stage spray washers have been replaced by a 7-stage spray washer.

Operations 1 through 7 are dry. The machining, grinding and heat treating operations employ self-contained recirculating coolant which is sent off-site for recycling when it is spent. There are no wastewater discharges relative to the grinding, machining and heat treating coolants. Approximately 300 gpd of boiler blowdown are also discharged to the sanitary sewer.

Regulated categorical operations which generate wastewater include:

1. Vibratory deburring (tumbling)
2. Automatic spray washer (cleaning)
3. Manual wash booth (phosphating)
4. 7-stage washer (phosphating)
5. Paint stripping

A general process flow diagram and schematic diagrams of these five operations are included under Attachments, Figures 2 and 3. All of the categorically regulated wastewaters above, except the alkaline paint stripping bath and stages 1 & 2 of the 7-stage washer, are discharged to the City of Waukesha Wastewater Treatment Plant. The stripping bath is hauled off-site for treatment and disposal by Treat-All Environmental and Dispo-Waste.

IV. WASTEWATER CONSTITUENTS AND CHARACTERISTICS

The following constituents are normally present in the untreated wastewater from the above processes:

Constituent	Average (mg/l)	Daily Maximum (mg/l)
Cadmium	0.003	0.010
Chromium	1.63	1.85
Copper	1.87	2.32
Lead	0.25	0.39
Nickel	0.77	1.40
Silver	<0.01	0.03
Zinc	4.64	7.12
Total cyanides	<0.0012	0.0016
Oil & grease (hydrocarbon)	63	82
pH (s.u.)	5.8	Range 4.8 – 9.5
BOD	785	1170
TSS	214	363
Total phosphorus	11.5	15.1
TKN	18	23

No other constituents of concern are believed to be present in XYZ's wastewater in greater than negligible amounts, including heat, color, incompatible or interfering substances, or any other constituent prohibited or limited under Chapter 29 of the City of Waukesha Municipal Code.

V. PRETREATMENT

XYZ pretreats wastewater from the automatic spray washer, the manual spray wash booth, and stages 5 – 7 of the 7-stage washer to remove metals (primarily zinc) from the waste stream and meet permit limits. Oils are skimmed off the spray wash waters prior to pretreatment. The average volume treated is 7,500 gallons-per-day (gpd) and the maximum is 16,000 gpd, treated as a continuous flow. Process wastewater influent enters a 20,000-gallon holding tank (Attachments, Figure 4) and is fed to a pH adjustment tank where optimum treatment pH of 9.3 – 9.5 is achieved by the addition of sodium hydroxide or sulfuric acid. Next, liquid anionic polymer is metered into the wastewater just before it enters a coagulation tank. The polymer aids in coagulation and the production of floc particles that will settle readily. The metal hydroxide floc is removed in a settling tank (clarifier). The supernatant passes through a pH neutralization tank before the final effluent is discharged through flow monitoring and sampling point 73A.

Sludge from the flocculation and settling tanks is piped to a plate-and-frame filter press. Filtrate water is returned to the holding tank, and the sludge cake (non-hazardous) is stored indoors in a roll-off dumpster for disposal by Dispo-Waste at a licensed disposal facility.

VI. MONITORING

A facility diagram, Figure 1, is attached. A stainless monitoring weir box equipped with a 90° V-notch weir (sample point 73A) is located in the pretreatment room downstream of the final pH neutralization tank. Sample point 73B is located in a trench next to the 7-stage washer and receives the stage 3 and 4 rinse waters. Sample point 73C is located in a cleanout which receives the deburring wastewater after the settling basin. Municipal and self monitoring samples for pretreatment reporting are collected semiannually at all three sample points. All plant wastewater, including all process, boiler blowdown, floor drains, and sanitary wastewater, is discharged to the sanitary sewer along the west side of the plant.

Composite samples (24-hour) for metals analysis were collected from all three sample points, with grab samples for cyanides, pH and oil & grease. The samples were collected, preserved and analyzed by Analyzers, Inc., a State of Wisconsin certified laboratory. A copy of the laboratory report is attached. The attached monitoring results indicate that all sample points are in compliance with the metal finishing new source discharge standards and the City of Waukesha local limits.

VII. TOXIC ORGANIC MANAGEMENT

All MSDS and disposal manifests at the plant were reviewed, and a visual inspection of process and storage areas was conducted to determine whether any materials containing toxic organic compounds (TTO) regulated by 40 CFR Part 433 were present on-site. As a result of that review and inspection, the following materials were found which contain regulated toxic organic constituents. The regulated constituents are identified in parentheses:

14. Dry lube (1,1,1-trichloroethane, methylene chloride)
15. Textured black aerosol paint (toluene)
16. Layout fluid remover (toluene)
17. Varsol (toluene, ethylbenzene)
18. Tri-flow lubricant (1,1,1-trichloroethane)
19. Hi-gear lubricant (1,1,1-trichloroethane)
20. Molykote metal protector (perchloroethylene)

The Dry Lube product is used on occasion during maintenance throughout the plant and is supplied in 16 ounce aerosol cans. Cans of Dry Lube are not stored in process areas. Textured black aerosol paint is supplied in 16 ounce aerosol cans and stored in fireproof cabinets away from process areas. This product is not used in the plant but is shipped to dealers on request. Layout fluid remover is supplied in 5-gallon cans and stored in fireproof cabinets for use in stamping and machining, at least 100 feet from any drains or process areas. Varsol is used only in the maintenance department for parts cleaning and is present as one 5-gallon can in the maintenance department, well away from any floor drains or process discharge points. Tri-flow is an aerosol lubricant/cleaner used on machinery in areas remote from process discharges. An average of five 16 ounce cans is kept on hand in the maintenance department.

Hi-gear lubricant is used to lubricate the links of the overhead conveyor system. The product is drawn from a sealed drum and automatically applied in short pressurized spray bursts as a preset number of links passes an electronic counter. After application the solvent volatilizes leaving a film of grease behind. This product is applied about 20 feet from the 7-stage washer. The conveyor system runs on a track which is well above the water spray contact zone in the washer. TTO sampling and analysis of the washer (attached) showed no detectable 1,1,1-trichloroethane in the discharge.

Molykote metal protector is an aerosol lubricant used on the conveyor system in manual application as needed by maintenance personnel. An average of five, 16 ounce cans are kept on-site in the maintenance department. No TTO compounds were detected in the 7-stage washer discharge. This would be the only point where the conveyor lubricants could possibly contact an aqueous process.

XYZ also has two manual solvent parts washing stations located in the maintenance and machining departments, both of which are remote from floor drains and other sewer access points. Dyna-Scrub provides and recycles the mineral spirits used at the stations.

It appears that regulated toxic organics are managed in a way that prevents them from contacting wastewater. All products containing regulated toxic organics are stored and used in areas remote from wastewater except for Molykote and Hi-gear, which are used on conveyors passing above the 7-stage washer. However, TTO compounds were not detected in the washer discharge (analytical report attached).

VIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that compliance is being achieved with Chapter 29 of the City of Waukesha Municipal Code on a consistent basis.

Signed by:

Paul J. Jones, Vice President

ATTACHMENTS

12" MUNICIPAL SANITARY SEWER

PARK STREET

FOURTH STREET



73A PRETREATMENT SYSTEM

HAZ. WASTE

CHEMICAL STORAGE

7-STAGE WASHER

DRY-OFF OVEN

DRY-OFF OVEN

POWDER PAINTING

CURING OVEN

MAINTENANCE

SUB-ASSEMBLY & WELDING

73B

FINAL ASSEMBLY

ALKALINE STRIP TANK - PRIVATE DISPOSAL FIRM

BOILER ROOM

AUTOMATIC SPRAY WASHER



73C

INSPECTION

MACHINING

VIBRATORY DEBURRER

TESTING

SHIPPING

STAMPING



OFFICES

RECEIVING



FIGURE 1 - FACILITY DIAGRAM
XYZ MANUFACTURING, INC.
PERMIT #73
NOT TO SCALE
MAY 2006

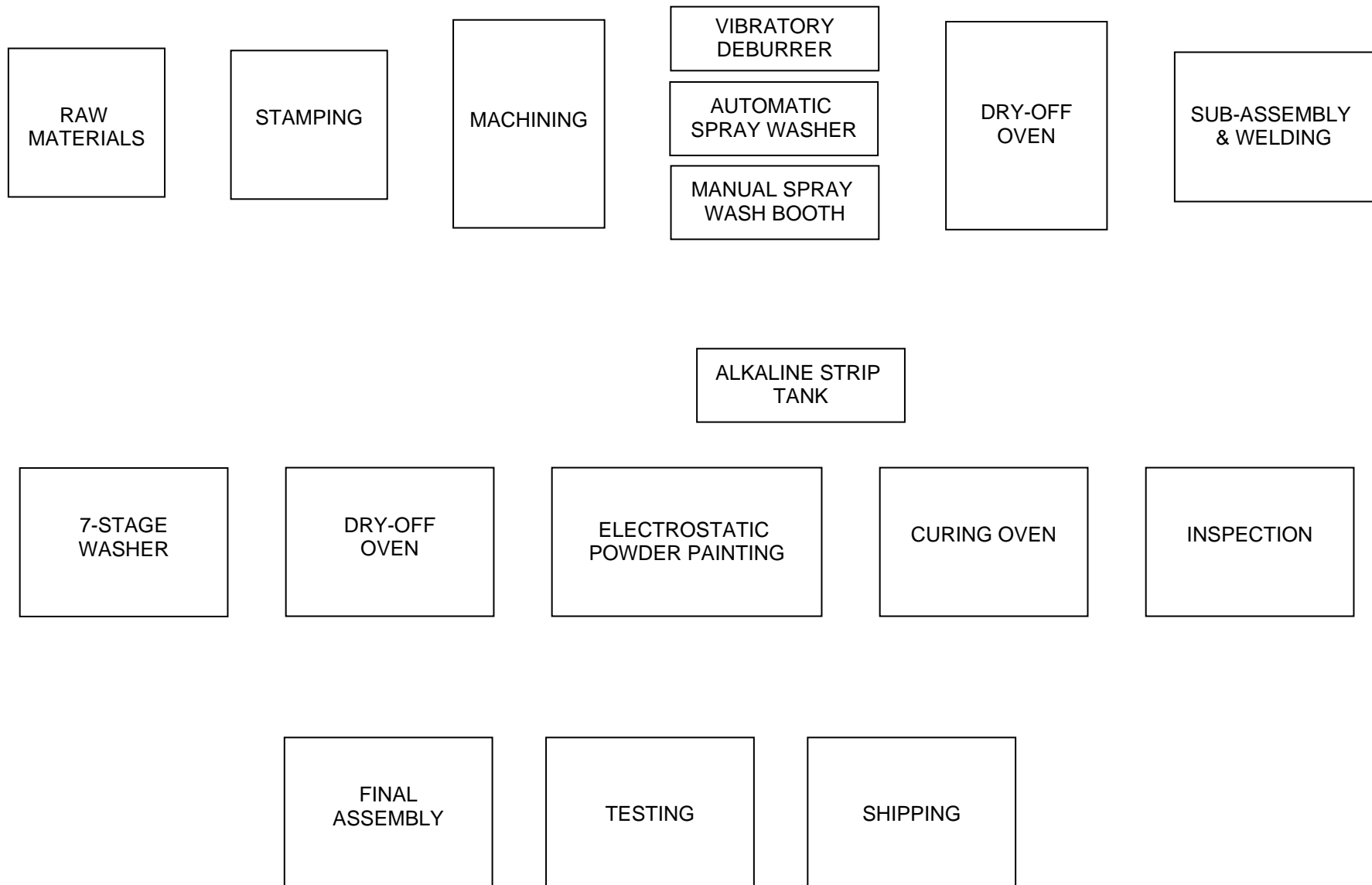
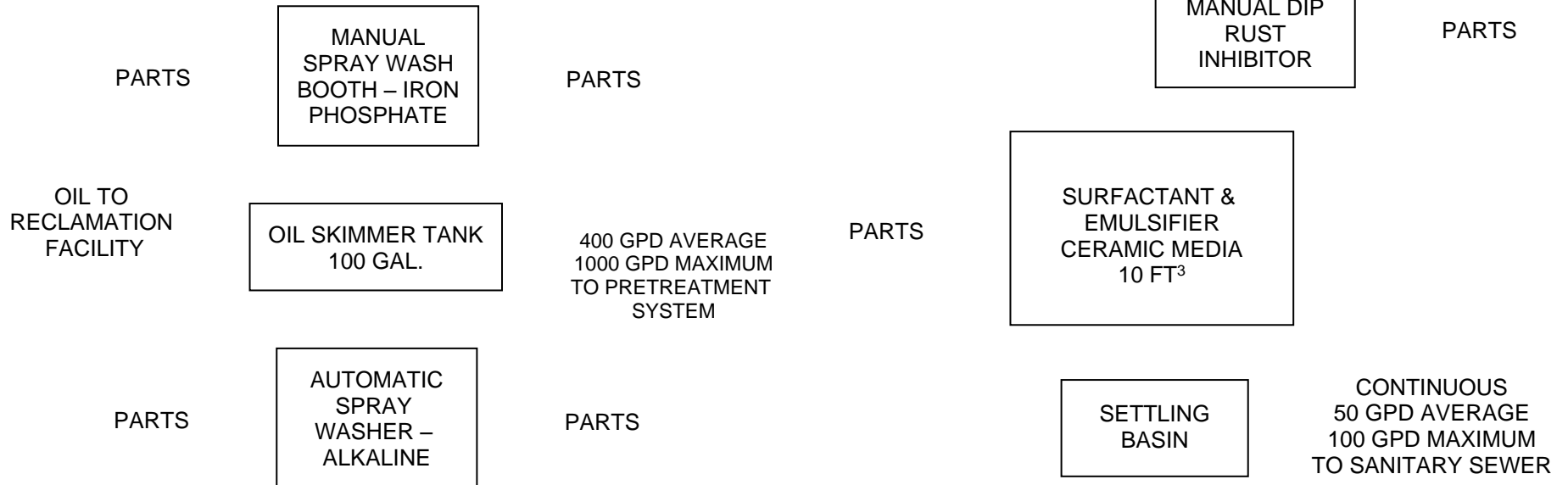


FIGURE 2
GENERAL PROCESS FLOW CHART
XYZ MANUFACTURING, INC.
MAY 2006

MANUAL SPRAY WASH BOOTH & AUTOMATIC SPRAY WASHER

VIBRATORY DEBURRER

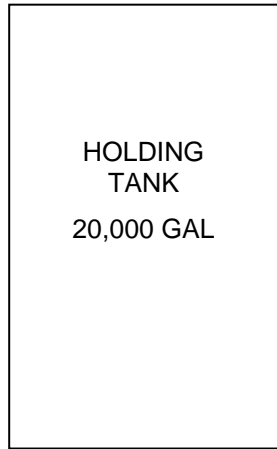


7-STAGE SPRAY WASHER

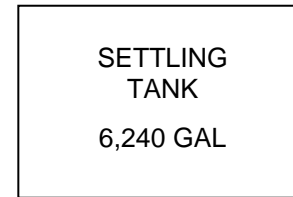
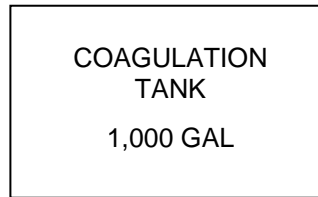
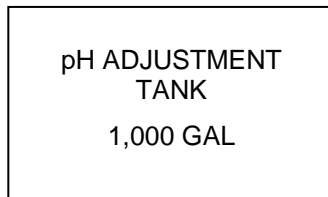
<p>STAGE 1 4600 GALLON ALKALINE NaOH 130°</p>	<p>STAGE 2 3900 GALLON NaOH 160°</p>	<p>STAGE 3 1000 GALLON RINSE COLD</p>	<p>STAGE 4 1000 GALLON RINSE COLD</p>	<p>STAGE 5 3100 GALLON IRON PHOSPHATE 140°</p>	<p>STAGE 6 2000 GALLON RINSE COLD</p>	<p>STAGE 7 2084 GALLON NON-CHROME SEAL IRON PHOSPHATE</p>
<p>PRIVATE DISPOSAL FIRM, ONE TO TWO TIMES PER YEAR BATCH</p>	<p>PRIVATE DISPOSAL FIRM, ONE TO TWO TIMES PER YEAR BATCH</p>	<p>4,000 GPD AVG 8,000 GPD MAX CONTINUOUS TO SANITARY SEWER</p>	<p>4,000 GPD AVG 8,000 GPD MAX CONTINUOUS TO SANITARY SEWER</p>	<p>BATCH EVERY 2 WEEKS TO PRETREATMENT SYSTEM</p>	<p>6,000 GPD AVG 10,000 GPD MAX CONTINUOUS TO PRETREATMENT SYSTEM</p>	<p>BATCH EVERY 4 WEEKS TO PRETREATMENT SYSTEM</p>

PROCESS WASTEWATER

OPTIONAL
RECIRCULATE



SODIUM HYDROXIDE SULFURIC ACID
POLYMER



SULFURIC ACID
pH ADJUST
WEIR BOX
SAMPLE POINT
73A



SLUDGE

6,400 GPD AVG
16,180 GPD MAX
3 PM – 11 PM
AVG 13 GPM

FILTRATE

SLUDGE CAKE
TO LICENSED
DISPOSAL
FACILITY

TO CITY SANITARY
SEWER
20,500 GPD AVG
38,300 GPD MAX
PEAK FLOW 50 GPM

FIGURE 4
PRETREATMENT SYSTEM SCHEMATIC
XYZ MANUFACTURING, INC.
MAY 2006

ANALYTICAL REPORTS