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August, 2005

TO: ALL USERS OF AUTOMATIC FILM PROCESSORS
FROM: ROY DUNCAN, PRESIDENT LWA

SUBJECT: MEETING FEDERAL (EPA) AND LOCAL WASTE WATER
STANDARDS AS REQUIRED BY THE DEPARTMENT OF ECOLOGY AND
LOCAL HAZARDOUS WASTE MANAGERS

BACKGROUND: Present Federal standards for the discharge of fixer into a sewer system is 5 PPM of silver. Local METRO standards are 3 PPM and include the METRO area around Seattle. Your local sewer authority may impose higher standards than the EPA so you must check with your local sewer officials to verify your standards.

COMPLIANCE: It is the responsibility of the owners of facilities using automatic film processors to verify their installation is in compliance with their local sewer authorities and to assure safe fixer disposal.
Processors may not be discharged into septic tanks.

LWA (Les Wilkins & ASSC.) is dedicated to providing you the means of meeting compliance standards and staying in compliance in the future. We offer the following programs for your consideration that address on site discharge into the sewer system.

Program #1 is for the low volume generator and would include one or two doctor veterinary practices, Podiatrists and single doctor Chiropractors that do not take more than 80 – 100 films per month.

Program #2 is for larger practices, University or Research Facilities, 24 hour facilities and Orthopedic clinics taking up to several hundred films per month. Estimated product costs and anticipated ongoing costs are included for your budgeting.

Please note that the **State of Washington Department of Ecology** has advocated the use of Program #1 as a minimum for *any* film processor installation when on-site treatment and discharge to the sanitary sewer is required. Based on their latest information, any of our recommendations in the past are now considered outdated and are to be replaced by the use of one of the above programs as a minimum. We offer even more extensive treatment systems for specific cases if necessary. **King County also currently offers a Voucher Incentive Program (VIP) that can earn 50% matching funds (up to \$500) and can pay 100% of the costs of testing and 50% of disposal costs. King Co businesses may call Parick Hoermann (VIP Manager) at 206-263-3038 for additional details.**

We believe all of this information to be accurate; however this information is furnished without warranty of any kind. We offer a more complete brochure, "The Discharge of x-ray Processing Chemicals" from White Mountain Imaging upon request.

PROGRAM #1

This program has been recommended for “small users” who choose on-site fixer treatment. In accordance with guidance from King County Water and Land Resources Division and the State of Washington Department of Ecology, it includes two (CRC) Chemical Recovery Cartridges in series and is to have a sampling port between the cartridges for checking the silver content. It is offered with a test kit and is designed to limit discharge to 3ppm or less. Cartridges will have to be replaced at 9 months from installation or sooner, as testing requires.

KIT #1

2 ea	ST-WD silver trap window disposable cell	\$84.95	\$169.90
2 ea	WM Wall mount bracket for same	34.95	69.90
1 ea	STF-50 Silver test kit		<u>31.95</u>

Total above equipment, initial investment			\$271.75
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Expected replacement parts required at 9 months.

2 ea	ST-WR Replacement cartridge only for cell	54.95	\$109.90
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We recommend saving a number of cell cores (10 max) for refining at one time. You may phone 1-262-334-3000 for shipping assistance and program details regarding refining of consumed silver cartridges. (See additional phone numbers at the end of this memo.)

The above package addresses only silver in fixer solution. If your sewer district requires treatment of developer for iron and ph, you can expect to add an E-Pan chamber.

EP-4	3.5 gal E-Pan chamber (would connect downstream of the ST-WD silver traps)		\$255.00
EP-7	6.5 gal E-Pan chamber		255.00
EP-1K	Initial installation kit		49.95

Installation is extra and will be billed at our prevailing processor service rates of \$70 per hour.

You may also elect to have your waste fixer collected in a container and “hailed off” by a hazardous waste vendor. **We offer no recommendations at this time regarding vendors, but LWA does not accept spent fixer or silver cartridges for disposal.**

SEPTIC TANKS Since we are not aware of any County that **allows** the discharge of developer or fixer (treated or untreated) into septic tanks, we are assuming that all fixer and developer must be collected and may not be put into septic tanks under any circumstances. Note that the **fixer** may be collected, treated and discharged into sewer systems. The developer may be discharged directly into the County Sewer System. Check with your local officials if you are located out of King County. Our definition of Sewer System is one that connects to a Publicly-Owned Treatment Works (POTW). Each POTW must have a State permit.

PROGRAM #2 “The Preferred Silver Eagle Treatment Package”

The following outlines a more thorough approach to the treatment and collection of silver in fixer. The “Silver Eagle Challenger” system includes the following:

ECO-CP-EP 3 stage compliance package including

ECO-SST-1 electronic solid state electrolytic silver recovery pail (3.5gal)

ST-MM4-GF Multi Media silver 3.5 gal extended use canister

EP-4 E-Pan chamber for treating developer & wash water

Total above package initial investment \$649.95

Note that additional ST-MM4-GF chambers may be connected in series in order to achieve levels below 3ppm Shipping charges, WA sales tax and installation are extra.

Estimated annual expenses:

The electrolytic ECO-SST-1 uses a completely disposable cathode that must be replaced every 12 months. The ST-MM4-GF must be replaced every 6 months.

SMG-3.5GR-SST “Fuel Rod” cathode \$61.95

ST-MM4-GF \$91.95 x 2 per year 183.90

Total “annual” estimated expenses \$245.85

You can expect additional shipping and sales tax charges, plus refining expenses. Prices are subject to change without notice but are in effect August, 2005. You should also see some return in pure silver that should defray some of the above costs. By collecting a number of canisters and silver for a one time batch shipment (rather than several small refinings) you will realize a better return.

TIPS;

Test your outflow monthly to be sure you meet local standards

Keep records of silver tests and a maintenance changeover log

Fill new CRCs with water first, then let fixer run into the filled CRC

Install a secondary containment system under silver reclaimers e.g. rubbermaid tubs

Phone numbers to keep on file;

Refining Services USSI Corp of WI	262-334-3000	All silver refining
Hallmark Refining Corp (Mt Vernon, WA)	800-255-1895	All silver refining
Agco Metalex, Mukilteo, WA	888-743-7887	Cartridges & old film
	425-743-7886	local phone
Pyromet	610-497-1743	All silver refining

King Co Business Waste Line 206-296-3976

King Co On-Site Consultations 206-263-3090

King Co Voucher Incentive Program 206-263-3038

Thurston Co “Pollution Hotline” 360-786-5457

Thurston Co Business Pollution Protection 360-786-4111 x 6451 Brad Zulewski (Oct 2004)

Sincerely,

LES WILKINS & ASSOC., INC.

Roy M. Duncan, President

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