CITY OF CAMBRIDGE
ENVIRONMENTAL PROGRAM
57 Inman Street • Cambridge MA 02139 • 617.349.4604

February 8, 1994

To: Robert W. Healy, City Manager

From: Elizabeth Epstein, Environmental Program
Melvin H. Chalfen, M.D., Department of Health and Hospitals

Re: Response to Council Order #20, dated 11/7/94, Chemical Applications at Raymond Park playlot and areas near Soccer Fields on the Common.

In response to Council Order #20, we have reviewed with the Department of Public Works maintenance practices and chemical applications on the above referenced sites. Two compounds are applied to the fields at Raymond Park and the Cambridge Common: a Nitrogen, Phosphorus, Potassium Fertilizer Solution manufactured by Agriturf, Inc. of Hatfield, Massachusetts and Riverdale Tri-Power Selective Herbicide manufactured by Riverdale Chemical Company of Glenwood, Illinois. The fertilizer is applied in the spring and fall, primarily, with some spot applications to address specific needs during the summer months. Raymond Park has not been treated with an herbicide. Since this facility is newly renovated, the turf conditions have not necessitated any such treatments to date and is unlikely in the coming year. Other sites in the City are treated with herbicides approximately once per year.

Most lawn treatments in the City are done by a contractor. The Massachusetts Department of Food and Agriculture's Pesticide Board confirms that application of this particular herbicide does not require a pesticide application license. However, it is the policy of DPW that any employee applying pesticides be licensed by the Pesticide Board. This is to avoid environmental problems as well as to protect the worker's health from mishandled chemicals. Lee Corpe-Real of the Pesticide Board stated that although pesticides may exhibit some toxicity, the one in use at these locations is not particularly hazardous. He emphasized this point by explaining that a homeowner could purchase essentially the same chemical and apply it around their home without restriction. Chemicals available for individual home use tend to be less concentrated than those applied commercially. Mr. Corpe-Real explained that

properly placed signage around an area recently treated should be sufficient to protect the public. When pesticide application is done by either DPW or its contractor, yellow signs are prominently displayed for approximately twenty-four hours warning that children be kept off of recently treated areas. Furthermore, any spraying of compounds is scheduled for quite early in the morning when fewer people are likely to be present in the park.

Material Safety Data Sheets (MSDSs) for each compound describe the chemical makeup and any safety precautions or use for those substances. According to the MSDSs, proper use and application of the compounds as occurs under DPW's maintenance program, does not pose a concern for public health. The fertilizer solution has a pH range from 6.4 to 7.6, possibly making it corrosive. The only potential health effects associated with the fertilizer solution are eye irritation, mucous membrane irritation, and coughing if inhaled. These health effects are associated directly with the compound as it is produced by the manufacturer in bulk. The fertilizer solution is then applied by a contractor and could only pose such problems while still wet. For application of the fertilizer solution, gloves and long sleeves or other protective clothing are recommended only if skin contact causes irritation. According to the MSDS respiratory equipment is not deemed necessary for workers applying the chemical.

There are no recommended Threshold Limit Values (TLVs) or Permissible Exposure Limits (PELs) for any of the compounds. TLVs and PELs are exposure limits for particular chemicals above which workers should not be exposed regularly during the course of their work. TLVs are limits established by the American Association of Governmental Industrial Hygienists (AAGIH), are commonly accepted in occupational settings. PELs are similar exposure limits put forth by the Occupational Safety and Health Administration (OSHA). The lack of either a TLV or a PEL for any of the chemicals listed for either compound may indicate that neither entity (AAGIH or OSHA) considers them to be a potential health threat requiring detailed study.

According to Russ Sawyer of Riverdale Chemical Corporation, the herbicide manufacturer, Tri-Power is included in the same class of chemicals that includes the commonly used 2-4-D. He stated that this category has been tested extensively in both the U.S. and Canada, and no tests have resulted in skin or inhalation exposure after the substance has dried. Mr. Sawyer explained that the pesticide has a "Danger" rating solely because of eye corrosivity of the raw product prior to dilution. Dilution is often on a scale of up to 50 parts water to every one part pesticide. Mr. Sawyer is quite convinced that the herbicide is safe, citing the company's studies which found no toxicity through inhalation or dermal routes of entry. He further pointed out that at a dilution of 50:1, one can ingest the substance without fear of illness. The only characteristic of concern is eye damage due to corrosivity, which is not a threat once the substance is dry. Furthermore, cordoning off treated areas, such as with rope, was viewed as excessive by both the Pesticide Board and Riverdale Chemical.

While there does not appear to be any public health threat associated with either of these products, environmental considerations may be something to discuss further. However, it appears that the City uses pesticides and fertilizers quite sparingly, making them an unlikely cause of significant water pollution. The primary problem with using pesticides and fertilizers is that runoff from treated areas can cause high levels of nutrients and chemicals in stormwater which eventually finds its way to the Charles River. Since City sites are relatively few in number in comparison to residences, we are interested in pursuing how we can educate the public about minimizing their use of lawn chemicals.

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EXECUTIVE DEPARTMENT
ROBERT W. HEALY
City Manager

RICHARD C. ROSSI
Deputy City Manager

February 13, 1995

To The Honorable, The City Council:

Please find attached a response to Awaiting Report Item No. 11, regarding chemical applications at Raymond Park playlot and areas near the soccer fields on the Common, received from Elizabeth Epstein, Director of the Environmental Program as well as Dr. Melvin Chalfen, Department of Health and Hospitals.

Very truly yours,

Robert W. Healy
City Manager

RWH/mev

Consent Agenda # 9

S-0062

Response to Awaiting Report Item Number Eleven regarding chemical applications at Raymond Park playlot and areas near the soccerfields on the Common.

for original file 1994
City Manager Request
389.

In City Council,

February 13,1995

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