

June 8, 1994

Mr. Don Hoffman
Birdsall and Serbin, Inc.
2021 32nd Avenue NW
Rochester, MN 55902

Subj: Petroleum Storage Tank Release Investigation and Corrective Action
Rochester School Bus
LEAK#5617

Dear Mr. Hoffman:

This report presents the results from the additional investigation work performed by Huntingdon Engineering & Environmental. This work was requested by the MPCA and approved by you. The following items requested have been completed:

1. Incomplete Vapor Risk Survey

A vapor risk survey was completed on May 9, 1994. The vapor risk survey involved the use of a PID and an explosimeter instrument (%Lower Explosive Limit (LEL) and % oxygen (O₂)) in a survey of available subsurface utilities near the site (sanitary sewer, storm sewer) and any underground structures. In the area of this assessment, the sewer flow in a southwest direction. Readings were taken via vent holes at the sampling points shown on the site map. Low level organic vapors of 2.0 ppm over a background of .1 were detected in one of the locations. It appears that there has been little or no impact of vapors migrating off-site along nearby utility lines. Please see attached site map and table for utility access points and corresponding vapor readings on the table.

2. Incomplete Hydrogeologic Setting and Ground Water Contamination Characterization Worksheet

Please see attached completed MPCA fact sheet #24

3. Explain why initial Phase I Phase II work was completed

A Phase I Phase II was initially completed for Laidlaw Transit, Inc. to determine if the use of the underground storage tanks had caused any hydrocarbon contamination to the soil and groundwater at the project site. This Phase I was completed by IT Corporation on August 27, 1992.


4. Table explaining tanks removed/tanks remaining

There were no tanks removed from the site. The location of the existing tanks are shown on Figure 2. In addition the location of the Day Care center is provided on the Vapor Risk Survey Site Map.

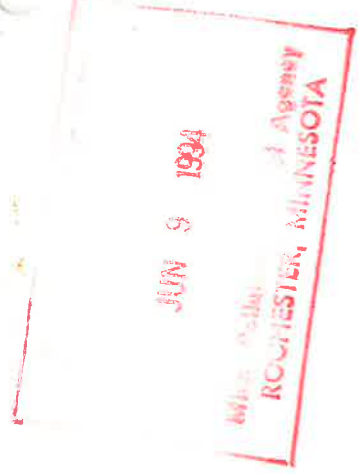
We appreciate the opportunity to have been of service to you on this project. If you have any questions regarding the information presented in this report, or if we can be of additional service, please contact us at your convenience. I can be reached at (507) 288-7060.

Sincerely,

HUNTINGDON ENGINEERING & ENVIRONMENTAL


Barry J. Hentz
Environmental Project Manager

cc: Jeil Abdella - Minnesota Pollution Control Agency, Rochester, MN



HYDROGEOLOGIC SETTING AND GROUND WATER CONTAMINATION WORKSHEET

Fact Sheet #24

Minnesota Pollution Control Agency

LUST Cleanup Program

April 1993

Complete this worksheet for all sites with ground water contamination. The worksheet has several purposes. It summarizes remedial investigation (RI) results and conclusions for use by Minnesota Pollution Control Agency (MPCA) staff when reviewing the site to determine whether corrective action will be required to remediate ground water contamination. It also provides supplementary information on investigation, design and reporting requirements (presented in bold type) for sites with ground water contamination. Review this worksheet and all other relevant MPCA documents when developing RI work plans to ensure the investigation meets all RI requirements.

Base answers to the following questions on the results of the ground water receptor survey, RI activities, and published geologic literature. Answer the questions in the space provided, and attach additional sheets if necessary.

Include this worksheet as an appendix to the RI/corrective action design (CAD) report. RI/CAD reports submitted without this worksheet or with an incomplete worksheet will be rejected as inadequate.

LEAK # 5617

SITE NAME RSB Coaches

SITE LOCATION 2101 32nd Ave. NW Rochester, MN 55901

1. Geology. Describe the geologic units in which ground water has been impacted by the petroleum release, the thickness, and estimated lateral extent of the impacted unit.

Geologic description: the soils encountered at the site were primarrily silt

and clayey silt with a sand lens approximately 15 feet below ground surface. The soils were generally soft with increasing stiffness at depth

Thickness of impacted unit: No readings were detected on the 10.2 eV hNu

Estimated lateral extent: No readings were detected on the 10.2 eV hNu

2. Aquifer parameters. At all sites with ground water monitoring wells, include an estimate of hydraulic conductivity, and provide estimates of the ground water velocity in the impacted unit. Explain how you arrived at these estimates. Also provide estimated values for porosity, flow direction, and horizontal and vertical gradients. (No wells present at the site)

K = _____ porosity = _____ dh/dl = _____
v = _____ flow direction: _____ dv/dl = _____

3. Maximum concentrations (onsite). Please list the following maximum contaminant concentrations (ppb) for contaminants detected onsite:
(water sampled through auger)

Benzene ND Total Hydrocarbons as gasoline 71 ppbin B1
(Well No. _____, Date _____) (Well No. _____, Date _____) 35 ppb in B2

Hydrogeologic Setting and Ground Water Contamination Worksheet

Page 2

April 1993

4. Maximum concentrations (offsite). Please list the following maximum contaminant concentrations (ppb) for contaminants detected offsite:

Benzene	Total Hydrocarbons
(Well No. _____, Date _____)	(Well No. _____, Date _____)
5. Drinking water criteria. Do contaminant concentrations for any compound exceed the Recommended Allowable Limits (RALs), at or beyond the site boundaries? (Yes/No)..... No	

Compound _____ (Well No. _____, Date _____)

6. Source. Do sources of contamination (including contaminated soil) remain at the site? (Yes/No).....| No |
If Yes, briefly describe.

7. Municipal water supply available. Is municipal water supply available at the site and within one mile downgradient of the site? (Yes/No).....| No |

8. Drinking water wells. Are there presently any drinking water wells which use the impacted aquifer located within one half mile downgradient of the site, or one mile downgradient of the site if the aquifer material is fractured? (Yes/No).....| No |

9. Water development. Are there any plans for ground water development in the impacted aquifer within one half mile downgradient of the site, or one mile downgradient of the site if the aquifer material is fractured? (Yes/No).....| No |

If you answered No to questions 8 AND 9, please skip to question 10 and continue.

If you answered Yes to question 8 OR 9, AND Yes to question 5, corrective action will likely be required to remediate ground water contamination at the site. The RI report should include a proposed corrective action design to meet the following cleanup goal and compliance point.

Cleanup goal: The RALs for volatile organic compounds (VOCs) and 1 part per million total hydrocarbons. Collect free product where technically feasible.

Compliance point: At and beyond the site boundaries.

At some LUST sites corrective actions may not be technically capable of achieving remediation to RALs. For a discussion of the options which should be considered when designing corrective actions for sites of this type please see "LUST Program Cleanup Strategy" (fact sheet #16).

10. Are there nonpotable water supply wells which use the impacted unit within one-half mile downgradient of the site? (Yes/No).....| No |
11. Does the plume currently discharge to surface water? (Yes/No).....| No |
If yes, what is the estimated width of the plume at the shore of the surface water body, and what are the estimated concentrations of the following contaminants at the shore of the surface water body: (The estimation method should be described in the text of the RI report.)

Benzene _____, Ethyl Benzene _____, Toluene _____, Xylenes _____,
Total Hydrocarbons _____

If the answer to question number 11 is yes, determine and report the use category of the surface water body, in accordance with Minn. Rules ch. 7050. Call _____ for help.

12. Does the plume have a projected point of entry to surface water? (Yes/No).....| No |
If yes, what is the distance from the downgradient edge of the plume to the surface water body? _____

If you answered yes to question 12, the RI report should characterize the hydrogeologic conditions and land use between the site and the surface water body, and should assess the potential for the plume to discharge to surface water and the likelihood of future ground water use in the vicinity of the plume.

13. Is the impacted unit a bedrock aquifer? (Yes/No).....| No |
14. Has contamination from the site impacted a quaternary surficial or buried aquifer that is presently used as a drinking water aquifer anywhere within two miles of the site? (Yes/No).....| No |

15. Uppermost drinking water aquifer.

geologic description St. Peter Aquifer
depth to top 200' below grade
water level 13'-15' below grade
karst? (yes/no).....| No |
sole source? (yes/no).....| yes |

16. Confining unit. Is there a confining unit between the impacted unit and the uppermost drinking water aquifer? (yes/no).....| yes |

If yes: thickness 50'

extent over entire site

formation name or material description
Decorah Shale

17. Are there any abandoned wells within approximately 1,000 feet downgradient of the site? (yes/no).....| No |

If yes, describe:

18. List other site specific conditions which increase the risk of cross contamination from the impacted unit to a drinking water aquifer.

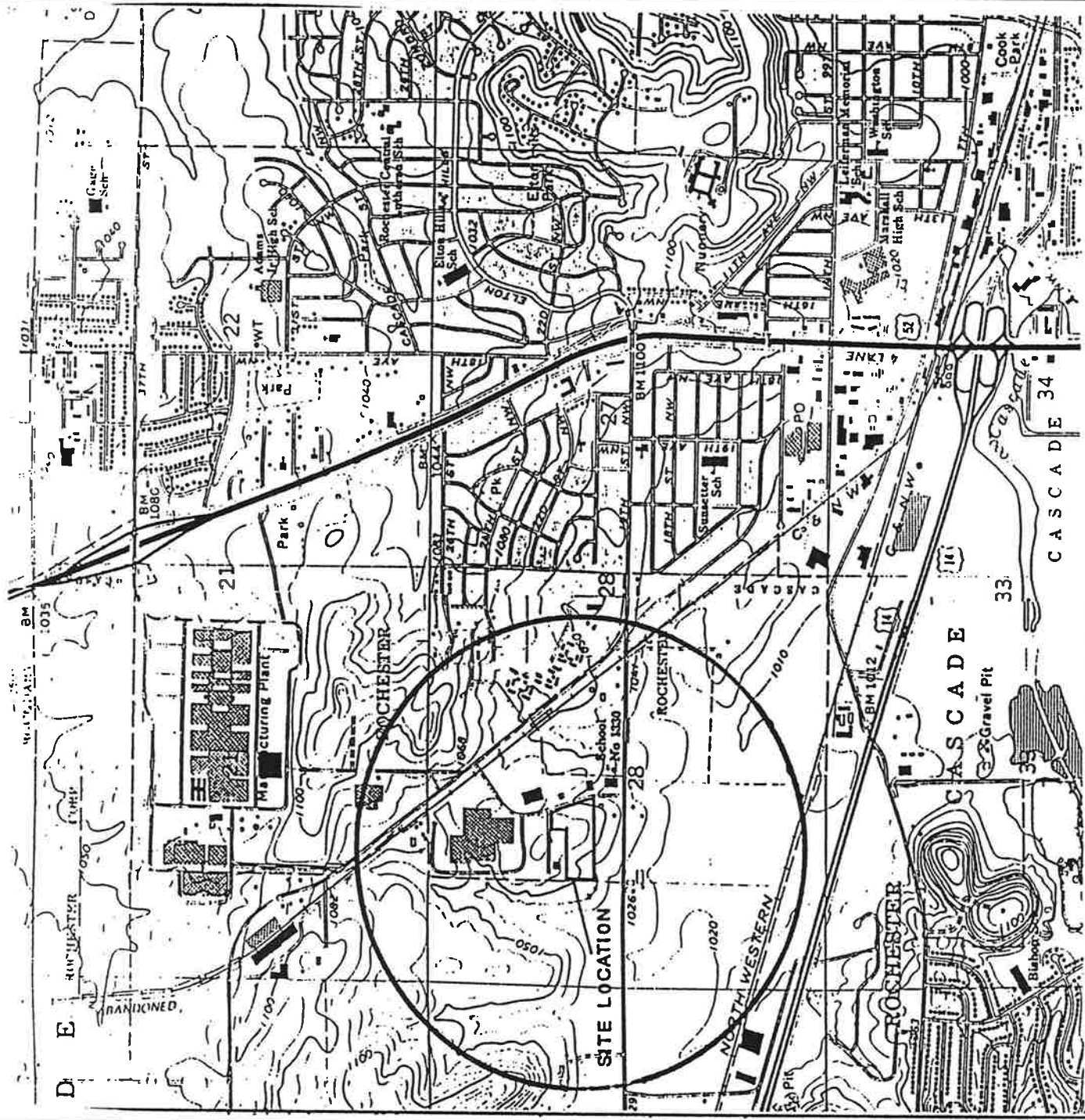
There are no other apparent risks of contamination crossing from the impacted unit to the drinking water aquifer at this time.

19. Based on the answers to questions 14 through 17 and any other site specific information available, summarize and assess the risk of cross contamination from the impacted unit to the uppermost drinking water aquifer.

The

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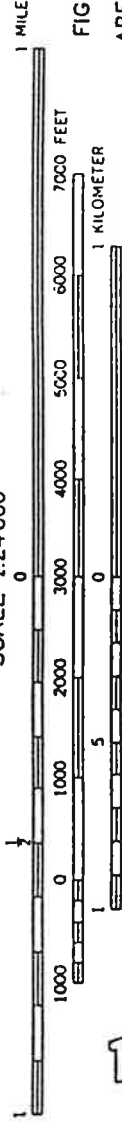
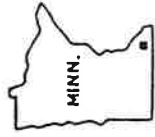


FIGURE 1

AREA MAP
ROCHESTER SCHOOL BUS



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION

SOURCE: USGS 7.5 MINUTE SERIES
DOUGLAS, MN AND ROCHESTER MN QUADRANGLE MAPS
(REVISED 1982 AND 1979, RESPECTIVELY)

**VAPOR SURVEY
 ROCHESTER SCHOOL BUS
 ROCHESTER, MINNESOTA
 #4800 93-040**

Location of vapor readings	Readings				
	PID/ background (ppm)	LEL (%)	Oxygen (%)	H ₂ S (ppm)	
1	0.1/0.1	0	21.3	0	
2	0.1/0.1	0	21.3	0	
3	0.1/0.1	0	21.3	0	
4	0.1/0.1	0	21.2	0	
5	0.1/0.1	0	21.2	0	
6	0.1/0.1	0	21.2	0	
7	2.0/0.1	1	21.1	0	
8	0.1/0.1	0	21.2	0	
9	0.1/0.1	0	21.2	0	
10	0.1/0.1	0	21.2	0	
11	0.1/0.1	0	21.2	0	
12	0.1/0.1	0	21.2	0	
13	0.1/0.1	0	21.2	0	
14	0.1/0.1	0	21.2	0	
15	0.3/0.1	0	21.2	0	
16	0.1/0.1	0	21.2	0	
17	0.1/0.1	0	21.2	0	
18	0.1/0.1	0	21.2	0	
19	0.1/0.1	0	21.2	0	
20	0.1/0.1	0	21.2	0	
21	0.1/0.1	0	21.2	0	
22	0.1/0.1	0	21.2	0	
23	0.1/0.1	0	21.2	0	
24	0.1/0.1	0	21.2	0	
25	0.1/0.1	0	21.3	0	
26	0.1/0.1	0	21.2	0	
27	0.1/0.1	0	21.2	0	
28	0.1/0.1	0	21.2	0	
29	0.1/0.1	0	21.2	0	

ppm = parts-per-million

PID = photoionization detector (hNu)

LEL = lower explosive limit

H₂S = hydrogen sulfide



TWIN CITY TESTING CORPORATION

480093040

RSB COACHES VAPOR RISK SURVEY ROCHESTER, MN.

GAUTHIER IND.

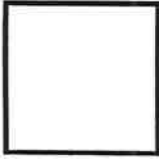
26
27

22ND ST NW

25

28

DAY CARE



24 22 23 21

LEND LEASE TRUCKING



ROCHESTER
SCHOOL BUS OFFICES



19 20 18 17

QUAST TRANSFER



BARRY SCREEN PRINTING



14 13 15 16

ROCHESTER DELIVERY, INC.



● MANHOLE (STORM)

■ STORM DRAIN

○ MANHOLE (SANITARY)

11 12 10 9

MEDIX/HOSP SUPPLY



5 4 3 2 1

19TH ST NW

6 7 8

RSB COACHES

JOB NO. 480093040

SCALE: NOT TO

DRAWN BY RS

CHECKED BY BH



twin city testing
CORPORATION

SITE MAP

EXIST. DAY CARE

97'

LUBRICATING OIL USTs

WASTE OIL UST

GASOLINE UST

DIESEL UST



NORTH

FIGURE 3

JOB NO. **4800-93-040**

SCALE: **1"=50'**

DRAWN BY _____

CHECKED BY _____

NOTREQ

February 17, 1993

Minnesota Pollution Control Agency
2116 Campus Drive SE
Rochester, MN 55904

ATTN: Ms. Kris Coe

Subject: Rochester School Bus
2021 32nd Ave NW
Rochester, MN
LEAK #5617
TCT #4800 93-040

Dear Ms. Coe:

Please find enclosed the report you requested on February 17, 1993, regarding the above referenced site.

If you have any questions or require additional information, please contact me at (507) 288-7060.

Sincerely,


Lin M. Nelson

Environmental Project Manager

/lmn

RECEIVED

FEB 18 1993

Min. Pollution Control Agency
ROCHESTER, MINNESOTA



INTERNATIONAL
TECHNOLOGY
CORPORATION

Mr. Don MacFeely
Laidlaw Transit, Inc.
7501 So. Quincy, Unit L
Willowbrook, IL 60521

August 27, 1992

Project No. 302824

Letter Report
Phase I and II Environmental Site Assessment
Rochester School Bus
2021 32nd Avenue N.W.
Rochester, Minnesota

Dear Mr. MacFeely:

IT Corporation (IT) is pleased to submit the following information in response to authorization by Laidlaw Transit, Inc. to perform a Phase I and Phase II Environmental Site Assessment (ESA). The purpose of the ESA is to discover the potential for contamination or other environmental liability on the property or within the immediate vicinity of the property.

The property included in this investigation is described as 2021 32nd Avenue N.W. (site), in the City of Rochester, Minnesota (Figure 1). The site is located adjacent to (south of) and includes the Children's Home Society Day Care Center. The general area contains industrial property and farmland (Figure 2). The property is located approximately 1.15 mile west of the intersection of U.S. Route 52 and 19th Street N.W. and approximately 1.3 mile north of Cascade Creek.

The results presented in this report are based on visual inspection of the site and interviews with public agencies and interviews with Mr. Don Hoffman, owner of Rochester School Bus. Agency interviews included City of Rochester and Olmsted County personnel. Other interviews were conducted with representatives of Rochester Disposal and Recycling. A personal review was completed of ownership records maintained by Olmsted County, the City of Rochester, and historical aerial photographs.

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Mr. Don MacFeely

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August 27, 1992

1.0 Ownership/Land Use

The site is currently owned by Birdsall and Serbin, Inc. which operates as Rochester School Bus Company. Children's Home Society Day Care Center operates on a portion of the land owned by Birdsall and Serbin. The School Bus site has an office and bus repair and bus parking facilities. A review of public documents determined that the site is found in the City of Rochester. Public document review was based upon address and name of the business addressed at the site.

The site was included as part of Hendricks Subdivision Lot 5, Block 1 until 1975 when the lot was subdivided. The lot was further subdivided in 1978. The land currently owned by Birdsall and Serbin consists of six lots described as follows:

- Hendricks Replat, Block 1, Lots 1, 2, and 3.
- Hendricks Subdivision, Replat of a Part of Lot 5 and all of Lot 6, Block 1, Lots 7, 8, and 15-03.

Because of the complexity of the full lot descriptions, future references in this report will be made by current lot number only (i.e., Lots 1, 2, 3, 7, 8, and 15-03).

The property is located in the southeast quadrant of the northwest quarter of Section 28, Township 107 north, Range 14 west.

1.1 Historical Ownership

Site ownership records were reviewed at the Olmsted County court house in Rochester, Minnesota. Records were available through 1970. The following people are listed as owners:

- Lots 1, 2, and 7:
 - November 1981 to present: Birdsall and Serbin, Inc.
 - March 1981 to November 1981: Pepsi-Cola Bottling Company.
 - Prior to March 1981: Industrial Opportunity, Inc.
- Lot 3:
 - November 1987 to present: Birdsall and Serbin, Inc.
 - October 1980 to November 1987: Dennis Barry.
 - Prior to October 1980: Industrial Opportunity, Inc.
- Lot 8:
 - May 1981 to present: Birdsall and Serbin, Inc.
 - Prior to May 1981: Industrial Opportunity, Inc.

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August 27, 1992

- Lot 15-03:

- November 1981 to present: Birdsall and Serbin, Inc. In 1987, Lot 15 was subdivided and a portion acquired by Dennis Barry. Birdsall and Serbin retained Lot 15-03.
- October 1987 to November 1981: Pepsi-Cola Bottling Company.
- Prior to October 1987: Industrial Opportunity, Inc.

According to an employee at the County court house, Industrial Opportunity, Inc. owned all of the property near the subject site at one time and had held it for some time prior to selling it. The area was reportedly agricultural fields during the 1970s, prior to the current development.

1.2 Site Land Use

Current land use includes the operation of a bus service company on Lots 1, 2, 3, and 15-03, and a child day care center on Lots 7 and 8. Activities at the bus service company include the repair and maintenance of buses, a bus washing bay, bus maintenance materials storage, office facilities, and a bus driver lounge contained in a single structure located in the eastern portion of the site. Photographs are presented in Attachment A.

Other site activities and site features include three bus storage garages located west of the office/shop building. Buses were also observed parked on the property outside of the garages on a packed gravel surface. There are two bus fueling islands located south of the office/shop building which dispense both unleaded gasoline and diesel fuel from two 10,000 gallon underground storage tanks (USTs). Three other USTs are present at the site, along the western edge of the office/shop building: two lubricating oil tanks (one 560 gallon tank and one 1000 gallon tank) and one 560 gallon waste oil tank.

A LP fueling station is present in the southeastern portion of the site, however it is no longer in use. According to Mr. Hoffman, an aboveground LP tank was removed from the site approximately two years ago.

The office/shop building faces 32nd Avenue N.W. to the east. The portion of the site adjacent to the office/shop building is primarily covered in asphalt, with some landscaping, and concrete pads over the USTs. Another concrete pad is located in the central part of the site, apparently because of water ponding in that area and breaking up the asphalt that had been there previously. The western portion of the site is covered with compacted sand and gravel.

The site perimeter is bounded by a wooded ditch followed by agricultural fields to the west, a warehouse and grassy field to the north, a truck rental and leasing facility and a delivery operation across 32nd Avenue N.W. to the east, and a screen print company and agricultural

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fields to the south.

The storage garage roofs are sloped for precipitation to runoff along the northern and southern perimeter of the site. The surface grading in the western portion of the site is sloped to the south and southeast for runoff to flow towards the drainage ditch west of the site. The site is sloped to the east along the eastern margin of the property, from the office building to the street.

Previous land use at the site was agricultural. A review of aerial photographs from 1940, 1951, 1958, 1964, and 1971 all show evidence of agricultural land use at the site and surrounding area. What appears to be a warehouse is visible approximately 0.2 mile north of the site in the 1971 photograph. No evidence of dumping, drum storage or excavation was identified in the aerial photo review of the site.

1.3 Surrounding Land Use

Surrounding area land use is industrial and agricultural. A zone of property on either side of 32nd Avenue N.W. is part of the City of Rochester and is zoned M-2 for industrial use (see Figure 2). The land surrounding most of this industrial park is part of Olmsted County and is zoned A-4 which is considered an agricultural urban expansion zoning district.

Businesses in the industrial park include:

- Crenlo, Inc.: This facility appeared to be a distribution location for cabs for construction and agricultural equipment.
- A&W/RC Cola: This appeared to be a distribution warehouse. An underground storage tank (UST) fueling station was observed at this location. The fuel dispenser indicated the product was leaded gasoline.
- Lend Lease Truck Rental & Leasing: There was evidence of an UST at this site, however product type was not indicated.
- Quast Delivery: This facility appeared to be a parking/dispatch location for semi-trucks.
- Rochester City Delivery, Inc.
- Medix - Rochester Hospital Supply.
- Barry Screen Print Company.

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- A warehouse without identification markings - the facility appeared well kept and clean.

Figure 2 illustrates the site area and Attachment A contains photographs of adjacent land use.

1.4 Site Structures

The site currently has four permanent structures which consist of three bus storage garages and an office/shop building which contains a bus repair and maintenance area, a bus washing area, office space, restrooms, and a lounge area. The office/shop building is divided into two areas: office and lounge space and the maintenance and repair shop. The office and lounge are in a single story building and the shop consists of a first floor and mezzanine area for storage. Two of the storage garages and the office/shop building contain concrete flooring.

The office and lounge areas are located in the eastern portion of the office/shop building.

The shop area contains maintenance and storage space and has concrete flooring. A trench floor drain runs most of the length of the shop area, along the western side of the building. According to Mr. Hoffman, all floor drains are connected to the sanitary sewer. Additionally, there is no oil/water separator for waste from the drains to pass through prior to entering the sewer system. A waste oil drain is located inside the shop building, just east of the waste oil UST. An above ground storage tank is located in the northern most bay and holds waste oil for burning. Waste oil is burned at the site for heat. The bus washing bay is separated from the maintenance area by a wall and also contains a trench floor drain running most of the length of the bay. The maintenance and storage areas appeared to be fairly well maintained.

Two fueling stations are located adjacent to the office/shop building. One of the stations is a concrete island with gasoline and diesel fuel dispensers. A surface stain on the concrete island was observed adjacent to the diesel dispenser. The other fuel dispensing location is located on a concrete sidewalk adjacent to the bus washing bay and two USTs. This location contains three dispensers: two diesel and one gasoline. The concrete above the USTs appeared to be in fairly good condition with minor surface spillage apparent, presumably from bus overfilling.

The western-most bus storage garage contains concrete flooring on the northern and southern sides of the garage and compacted sand and gravel flooring throughout the remainder. There was no floor drain present in this garage. Storage other than buses observed in this garage included two empty, rusted storage tanks (both approximately 200 gallons in size). Small black surface stains were observed below some of the buses parked in this garage, both on the dirt floor and on the concrete.

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The two remaining bus storage garages contain concrete flooring. Both garages have trench floor drains running most of their lengths. Storage other than buses observed in the northern of these two garages (Bays 7-15) included tires, buckets of gear lube, drums of isopropyl alcohol, motor oil, wax and grease remover, hydraulic oil, diesel fuel supplement and conditioner, antifreeze, a Case front-end loader, and a Caterpillar plow. Both pieces of equipment appeared to have leaked oil onto the concrete floor. However, no oil was observed entering the floor drain. The southern garage contained miscellaneous parts and old bus seats in addition to buses.

Five 55-gallon drums and one 5-gallon bucket were observed adjacent to the northeastern corner of the western storage garage (see photo in Attachment A). Two of the drums were partially coated with a black substance which appeared to have pooled on top of the drums, run down the sides, and dried. None of the drums had markings indicating contents. Soil and vegetation below and adjacent to the drums did not appear to be stained or stressed.

The Day Care Center was built two years ago according to Mr. Hoffman. The property is used for Day Care employee and client vehicle parking and for the Day Care facility.

1.5 Permitting/Zoning

Five building permit applications for the present structures at the Rochester School Bus site were filed with the City of Rochester Building Safety Department. Three of the applications were for two storage garages and one office and shop building were dated 1981 and indicated Pepsi-Cola was the property owner at the time. The fourth and fifth applications were dated 1983 for an additional bus storage garage and for a new footing, foundation, and slab. A site observation report from a geotechnical firm dated June 23, 1981 was also on file which indicated the subsurface soils consist of silt and clayey silt.

The site is zoned M-2 - Non-Residence District/Industrial. Although no records were seen concerning the five underground storage tanks, Mr. Hoffman provided a copy of the completed State of Minnesota (State) Underground Storage Tank Notification Form, which identifies the presence of five USTs (Attachment B). An electrical permit application dated 1983 was reviewed at the City Building Safety Office for the wiring of an LP tank pump and control. Mr. Hoffman indicated the aboveground LP tank was removed a few years ago.

According to Mr. Hoffman, the site currently does not have a U.S. EPA Hazardous Waste Generators ID number. However, an application for an ID number has recently been submitted in an effort to dispose of less than 100 gallons of paint waste.

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2.0 Toxic/Hazardous Substances

2.1 Asbestos/Urea Formaldehyde

Since asbestos containing building materials were phased out in the 1970s and the buildings were constructed in the 1980s, there is no suspected asbestos at the subject site. There was no evidence of asbestos containing materials at the Rochester School Bus facility or the Day Care facility at the time of the site visit.

2.2 Solvents

A parts cleaner is used at the site. According to Mr. Hoffman, waste from the parts cleaner is burned with the waste oil.

2.3 Fuel/Lubricant Storage Tanks

The site has five underground storage tanks and one aboveground storage tank. The State UST notification form indicates that the USTs were installed in September 1982. The State notification form listed the content and size of the USTs as follows:

- 1 - 10,000 gallon leaded gasoline (According to Mr. Hoffman this tank was switched to unleaded gasoline a few years ago.)
- 1 - 10,000 gallon diesel
- 1 - 500 gallon waste oil
- 1 - 500 gallon lubricating oil
- 1 - 1000 gallon lubricating oil.

The form states the tanks are painted steel, unlined, contain cathodic protection, and do not have any secondary containment. The notification form further indicates the pipes are steel. Although the form states the piping is suction, the piping for the two 10,000 gallon tanks is pressurized and do not have leak detectors. Red-jacket pumps are used in these tanks. The two lubricating oil tanks have suction piping.

According to Mr. Hoffman the tanks have not been tightness tested. Four of the tanks and their associated piping were tested on August 25, 1992 by Tanknology using a vacuum test. Initial verbal reports indicate that the two 10,000 gallon tanks and the 500 gallon lubricating oil tank and associated piping systems are tight. The 1000 gallon lubricating oil tank did not pass the test due to a ullage leak. This leak is above the product line and may be indicative of a loose fitting or a corrosion hole on the top of the tank. The waste oil tank was unable to be testing because of 2.5 inches of sludge and one inch of water on the bottom of the tank. The tank must be cleaned prior to future testing.

A copy of the official tightness testing results will be forwarded to Laidlaw when the results are verified and the report is completed. A preliminary field test report is included as Attachment C for reference.

illegal
N.B.

\$4000
Need

N.B.
status

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Mr. Don MacFeely

One aboveground tank (approximately 250 gallons) is located on concrete flooring in the northern maintenance bay in the office/shop building. There is no secondary containment around this tank, however it appeared to be in good condition. According to Mr. Hoffman this tank is used to store waste oil for the burner. \$1,000

Normal motor vehicle maintenance products were also found at the site. The materials stored in their original containers ranging in size from 5 to 55 gallons were located throughout the maintenance area and in the bus storage garage containing bays numbered 7 through 15. The products included:

- Motor oil
- Gear lube
- Antifreeze
- Grease
- Diesel additive
- Isopropyl alcohol
- Mineral Spirits
- Freon cylinders
- Acrylic enamel and enamel remover
- Epoxy primer
- Polyurethane primer
- Acrylic lacquer thinner.

2.4 Batteries

According to Mr. Hoffman, used batteries are picked up by Rochester School Bus' new battery supplier. No documentation was reviewed concerning disposal of batteries at the site.

2.5 Polychlorinated Biphenols (PCBs)

A pole mounted transformer and a surface transformer were observed at the site. Both appeared to be in good condition. According to a representative of Rochester Public Utilities, PCB transformers were not on the market in 1981 as far as the utility is concerned. The representative did not believe any of the transformers in the industrial park where the subject site is located would contain PCBs.

2.6 Radon

According to personnel at the Minnesota Department of Health, a study in Olmsted County revealed 53% of homes containing radon levels above the U.S. EPA action level of 4 pico curies.

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3.0 General Waste

Trash is removed from the property by Rochester Disposal and Recycling. All garbage in Olmsted County is taken to the County Incinerator. In instances when the incinerator is not operational (such as for maintenance), garbage is sent to the Olmsted County Landfill. The landfill has been operational for one year and has not had any environmental problems according to a County representative. Mr. Hoffman indicated that used oil filters are taken by Rochester Disposal and Recycling. However, Rochester School Bus personnel separate the filters from the normal trash and the filters are only picked up when the incinerator is operational.

The County landfill which operated prior to the current one is, however, on the National Priorities List. According to County personnel, the former landfill is under a consent order. The County has agreed to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the site and has completed the RI. The FS is schedule to begin this year. The Minnesota Pollution Control Agency (MPCA) is leading this cleanup and has named some responsible parties (RPs) and is investigating other potentially responsible parties.

N.B.

Amy
Exposure?

4.0 Agency Review

An agency data base search has been performed as part of this ESA. Environmental Risk and Information Imaging Services (ERIS) was contracted to perform the data base search for the site. Listings in the 55901 zip code area were reviewed. The following data bases were searched:

Federal

- National Priorities List (NPL)
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- Toxic Release Inventory (TRI)
- RCRA Non-Compliance List
- Resource Conservation and Recovery Act (RCRA) Notification System
- Facility Index System (FINDS)
- Emergency Response Notification System (ERNS)

State

- Underground Storage Tank List
- Leaking Underground Storage Tank List
- Solid Waste/Landfill Facility Information
- Minnesota Spills and Leaks Log.

The Federal agency review for the zip code are 55901 identified no NPL sites, no CERCLIS sites, and no RCRA Non-compliance sites. Two sites were identified within a one mile

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radius of Rochester School Bus on the TRI list:

- Pace Dairy Foods Co., 2700 Valleyhigh Drive N.W., two phosphoric acid releases were reported in 1989. This facility is approximately 0.75 mile north of the subject site.
- Crenlo, Inc., 2501 Valleyhigh Drive N.W., xylene, 1,2,4-trimethylbenzene, n-butyl alcohol, methyl ethyl ketone, and toluene air releases were reported in 1989. There was no data reported on quantities released. The ERIS report located the Crenlo facility 0.5 mile north-northwest of the subject site.

The U.S. EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities listing is a compilation of reporting facilities that generate, store, transport, treat, or dispose of hazardous waste. Several RCRA facilities were reported in the vicinity of Rochester School Bus including:

<u>Company</u>	<u>Address</u>	<u>Waste</u>
IBM	2915 Valleyhigh DR. N.W.	Wastewater treatment sludge from electroplating operations.
Professional Instruments	2905 Valleyhigh Rd.	Ignitable waste
Pepsi-Cola	1307 Valleyhigh Dr. N.W.	Ignitable and toxic waste
Schmidt Printing, Inc.	1416 Valleyhigh Dr. N.W.	Toxic waste
Gauthier Industries Inc.	3105 22 nd Street N.W.	Ignitable waste
7UP Bottling Co.	2222 32 nd Ave. N.W.	No code reported
Lend Lease Trucks	2112 32 nd Ave. N.W.	Ignitable waste
G.F. Business Equip., Crenlo Div.	2501 Co. Rd. 4 N.W.	No code reported

In addition to the RCRA facilities above, the FINDS data base lists all facilities that are regulated or tracked by the EPA. The FINDS listing indicated several facilities, including:

<u>Company</u>	<u>Address</u>	<u>Program(s)</u>
Crenlo, Inc.	same as above	HWDMs/RCRIS, CDS/AIRS, TRIS
Pepsi-Cola	same as above	HWDMs/RCRIS, TRIS
Schmidt Printing, Inc.	same as above	HWDMs/RCRIS, CDS/AIRS

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<u>Company</u>	<u>Address</u>	<u>Program(s)</u>
Pace Dairy Foods	2700 Valleyhigh Dr. N.W.	HWDMMS/RCRIS, TRIS
IBM	same as above	HWDMMS/RCRIS
Professional Instruments	same as above	HWDMMS/RCRIS
Gauthler Industries	same as above	HWDMMS/RCRIS
Lend Lease Trucks	same as above	HWDMMS/RCRIS
7UP Bottling	same as above	HWDMMS/RCRIS

The program acronyms listed above stand for:

- **HWDMMS/RCRIS**
- Hazardous Waste Data Management System tracks hazardous waste treatment, storage, or disposal facilities and generators or transporters of hazardous materials.
- Resource Conservation Recovery Act Information System lists sites which are in compliance with RCRA regulations.
- **CDS/AIRS**
- Aerometric Information Retrieval System contains information on sites which submit air emissions reports.
- Compliance Data System contains compliance information and was developed in conjunction with AIRS.
- **TRIS: Toxic Release Inventory** lists site registered with the EPA that manufacture, process, or import more than 25,000 pounds of toxic chemicals per year.

The Emergency Response Notification System (ERNS) contains information concerning hazardous material releases to the environment. The only facility included on this system and reported by ERIIS is the IBM site located at Highway 52 and 37th Street N.W. Releases included hydrochloric acid, alodine, caustic rinses/nitric acid, methyl chloroform, 1900 pounds of Freon 11,4, waste water from process, and 3000 gallons of hydrochloric acid solution.

A State agency review for the site identified several underground storage tank sites (including the five tanks at Rochester School Bus), and two Permitted Solid Waste Facilities for the area included in zip code 55901. The UST list identified the tank on the Lend Lease property as being a 10,000 gallon diesel tank. There were no sites on the Spills and Leaks Report for the site area and there were three solid waste/landfill sites within Olmsted County but not in the 55901 zip code area.

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The leaking UST sites search has identified four sites of potential concern to this project:

- Madonna Towers, Inc., 4001 19th Ave. N.W.
- PDQ/Hillcrest Service, 1720 19th Street N.W.
- Pepsi-Cola, 1307 Valleyhigh Drive N.W.

5.0 Phase II Investigation

5.1 Soil Boring Installation and Sampling Procedures

Four soil borings were installed at the site to characterize shallow subsurface soil conditions in the vicinity of the USTs. Soil boring locations are depicted on Figure 4. Drilling was conducted using a hollow stem auger drill rig equipped with 7-inch outside diameter augers. Augers were introduced into the subsurface and advanced in five (5) foot intervals to boring termination. A split-spoon soil sampler was introduced through the augers at 5 foot intervals and advanced two feet below the lead auger. Soil samples collected with the split spoon were screened for volatile organic compounds (VOCs) using a photoionization detector (PID) and jar headspace techniques.

Because VOCs were not detected in any of the soil samples, the soil sample corresponding to the water table (9-11 foot samples) in three of the borings was sent to a laboratory for analysis. The soil boring adjacent to the 10,000 gallon gasoline UST (SB02) was sampled at 14 to 16 feet in order to capture hydrocarbons potentially leaking from the bottom of the diesel or gasoline USTs.

IT attempted to sample groundwater at 9 to 13 feet, however, sufficient water did not enter the borehole for sampling purposes. Because the bottom of the diesel and gasoline USTs is likely below the water table, groundwater samples were collected through the augers from the soil borings at 13 to 16 feet adjacent to these tanks. However, groundwater was not collected adjacent to the remaining three tanks. Because these three tanks are likely entirely above the water table, the soil sample collected should indicate if a leak has occurred from any of the USTs.

5.2 Site Geology and Hydrogeology

Surficial deposits at the site consisted primarily of silt and clayey silt, with a sand lens of varying width at approximately 15 feet below ground surface. The soils were generally soft with increasing stiffness at depth. Subsurface conditions encountered in the soil borings are shown on the boring logs presented in Attachment D.

Groundwater was encountered at the site at approximately 9 to 10 feet below grade. This depth is approximate as it is based on soil conditions portrayed in the split-spoon sampler, which are often difficult to assess in silts and clays. Although no groundwater monitoring wells exist at the site or were observed nearby, it is likely that groundwater in the surficial

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aquifer flows towards the south, towards Cascade Creek. The presence of the Creek and the topography of the area suggest this southerly flow direction.

5.3 Soil Sample Analytical Results

One soil sample from each boring was sent to the laboratory for chemical analysis. All four samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) via EPA Method 8020. In addition, the sample from SB04 was analyzed for total petroleum hydrocarbons (TPH) by infra-red method and quantified as lubricating oil, the sample from SB03 was analyzed for TPH and methyl-tert butyl ether (MTBE), the sample from SB02 was analyzed for TPH as gasoline and MTBE, and the sample from SB01 was analyzed for TPH as diesel fuel and MTBE.

Laboratory analytical results indicate that BTEX and MTBE were nondetectable in all four soil samples. Soil samples from SB01, SB02, and SB03 did not contain detectable levels of TPH. The soil sample from boring SB04, adjacent to the lubricating oil tanks contained 37 ppm TPH. TPH action levels in the state of Minnesota are 50 ppm TPH in sands and gravel and 100 ppm TPH in silts and clays (however, the TPH analytical method used for this project is not the same as that required by the State of Minnesota). The finalized laboratory result will be sent under separate cover at a later date.

5.4 Groundwater Sample Analytical Results

Groundwater samples were collected from soil borings SB01 and SB02 for laboratory analysis. The sample from SB01 was analyzed for BTEX and MTBE via EPA Method 8020 and total petroleum hydrocarbons quantitated as diesel fuel and the sample from SB02 was analyzed for BTEX and MTBE via EPA Method 8020 and TPH quantitated as gasoline.

Laboratory analytical results indicate nondetectable concentrations of BTEX and MTBE in both groundwater samples. The sample from SB02, adjacent to the gasoline UST also contained nondetectable levels of TPH quantitated as gasoline. However, the groundwater sample from SB01 contained 290 ppb TPH quantitated as diesel fuel. There are no action levels in Minnesota for TPH in groundwater. These results were transmitted verbally by laboratory personnel. The finalized laboratory result will be sent under separate cover at a later date.

6.0 Summary and Conclusions Waste Oil/USTs

The site has numerous barrels stored on site, inside and outside. These barrels may pose a potential environmental concern if leaking and/or spilling were to occur through their use and storage on site. IT recommends better management of barrel storage on site be implemented by reducing/disposing/removing unused barrels and disposing of waste products currently contained in these barrels.

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The waste oil being burned should be sampled and analyzed to ensure that the waste oil is of the proper composition for burning.

IT recommends that the 1000 gallon lubricating oil tank be uncovered and that the cause of the tank tightness test failure be determined and fixed. At that time the tank should be retested. Additionally, the waste oil UST should be cleaned and tightness tested. The two 10,000 gallon USTs should be equipped with leak detectors on the piping. Beau
N.C.

Soil and groundwater analytical data from soil borings installed adjacent to the five USTs on site revealed potential releases from the diesel UST and from the lubricating oil USTs. In both cases, the TPH detected is generally considered below that requiring corrective action. However, further investigation and confirmation may be warranted.

Radon

Radon levels are above EPA action levels in approximately 50% of the homes throughout Olmsted County and the presence of significant levels of radon gas in all of the buildings can not be determine without testing. The buildings are all slab-on-grade structures with potentially good ventilation with open garage doors. It is not likely that radon would be a problem in these areas.

Off-Site Areas of Potential Environmental Concern

The Environmental Agency File Review identified several properties in a one mile radius of the site. Most of the sites are located in an assumed upgradient or sidegradient location to the Rochester School Bus site. Some sites showed up on several of the Federal lists including Crenlo, Inc., 7UP Bottling, and Lend Lease Trucks, all located near the subject site.

At least two sites located across 32nd Avenue from Rochester School Bus have USTs. The condition of these tanks is unknown. There does not appear to be a leaking UST site within a one mile radius of the subject site.

This Phase I and Phase II ESA was performed in accordance with generally accepted engineering practices and principles. This report was prepared though reliance on and in accordance with information obtained from a visual inspection of the site and from relevant Federal, State and local agencies. Although IT believes that the information contained herein is reliable, a guarantee cannot be made as to the accuracy of the information provided to IT by others.

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IT appreciates the opportunity to complete this ESA for Laidlaw and trusts the information meets Laidlaw's needs. Please call with any questions concerning this report.

Respectfully submitted,

IT CORPORATION

 for:

William J. Max, CES

Attachments

cc. Mr. Brian Forrestal

FIGURES

DRAWN BY	L. LAPITZ	CHECKED BY	ALM	DRAWING NUMBER	302846-A6
BY	8-92	APPROVED BY	SL		
			9/27/92		

17-50-A-92-11 SPS 302846-A6-13

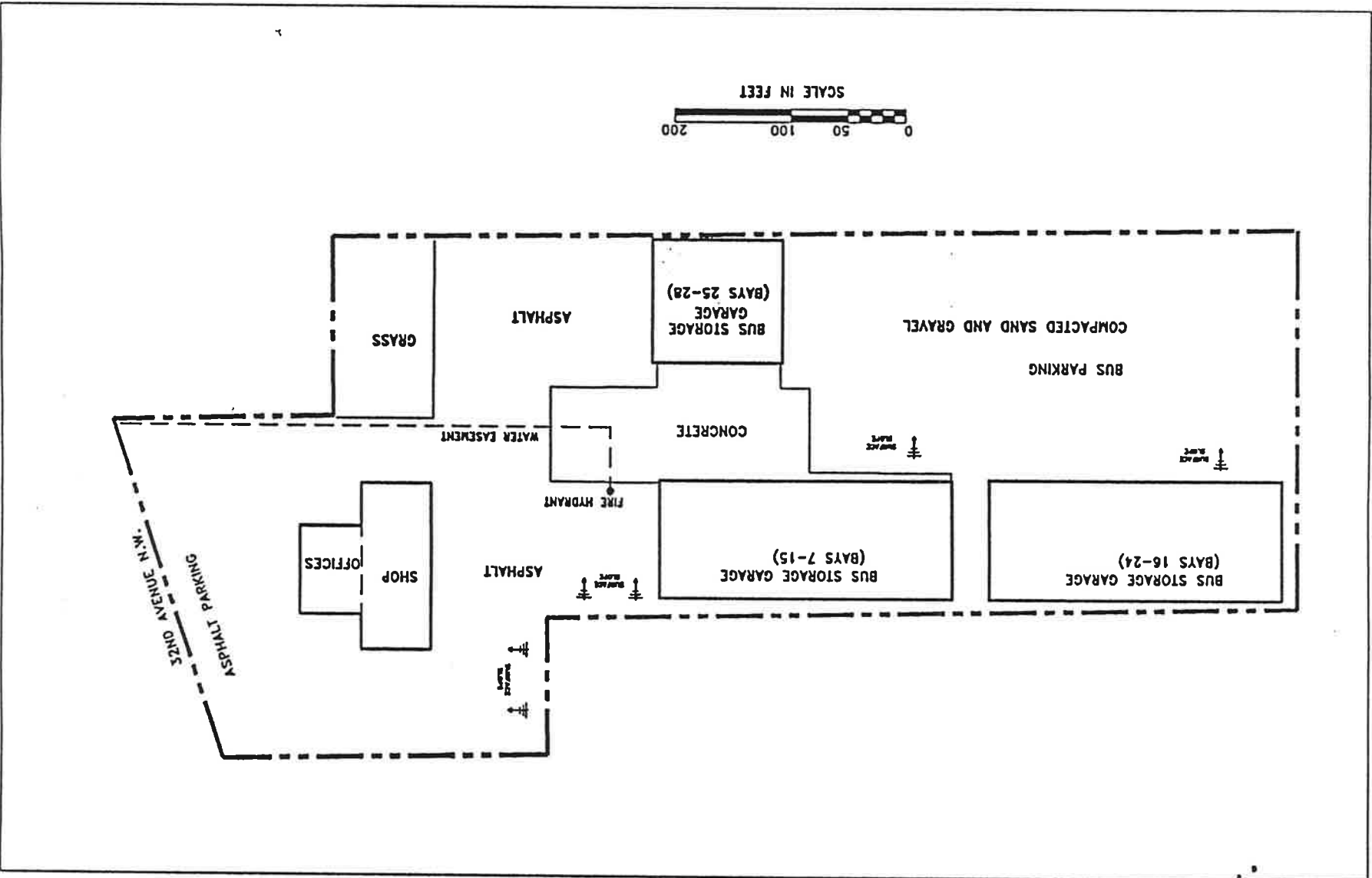
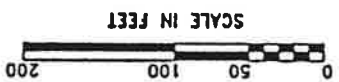
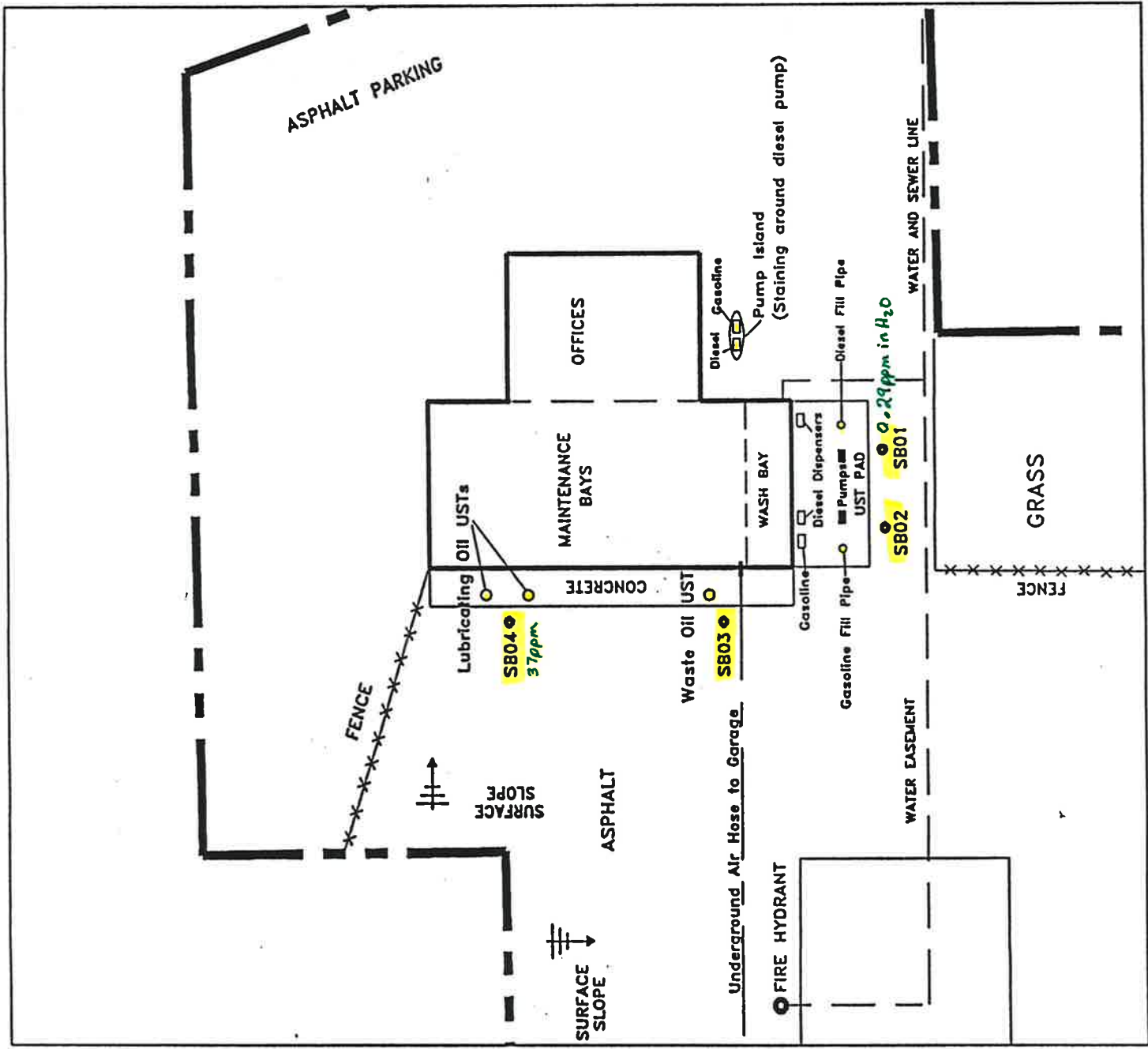


FIGURE 3

SITE PLAN
 ROCHESTER SCHOOL BUS
 PREPARED FOR
 LAIDLAW TRANSIT, INC.
 WILLOWBROOK, IL





↓ Improved
GW Flow



Scale in Feet



FIGURE 4
SHOP/OFFICE AREA
ROCHESTER SCHOOL BUS

PREPARED FOR

LIDLAW TRANSIT, INC.
WILLOWBROOK, IL

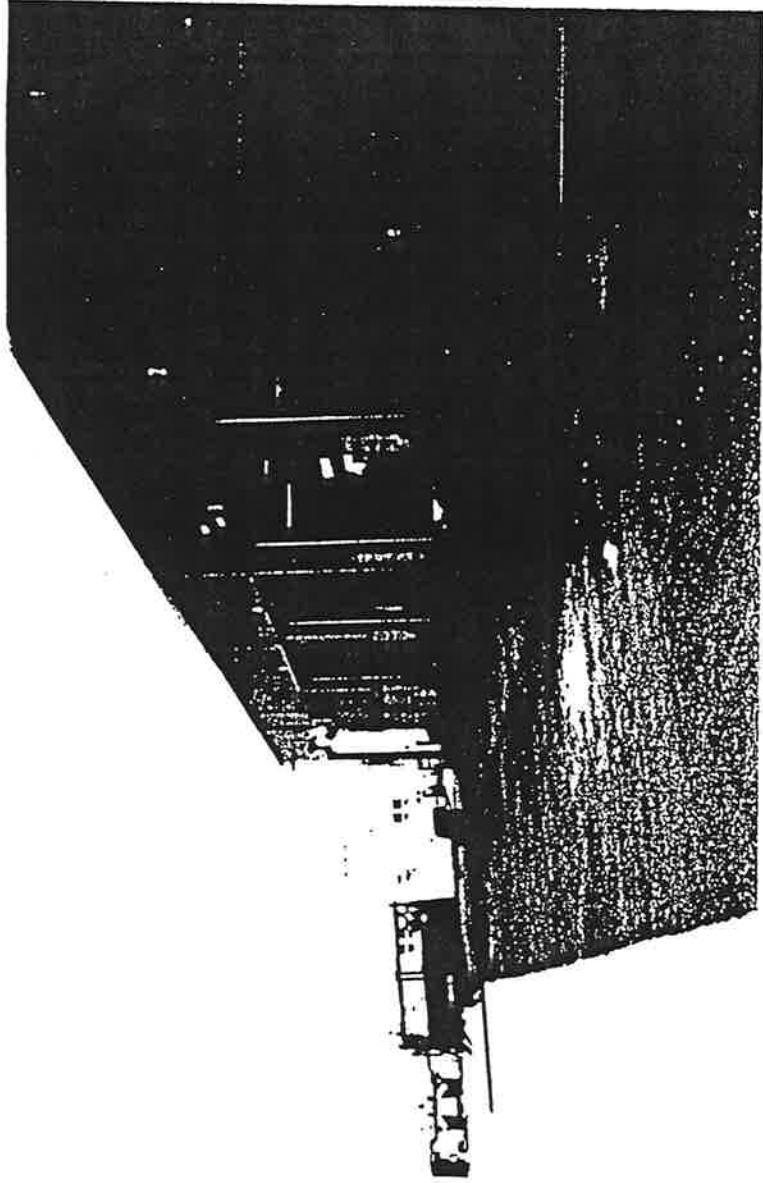


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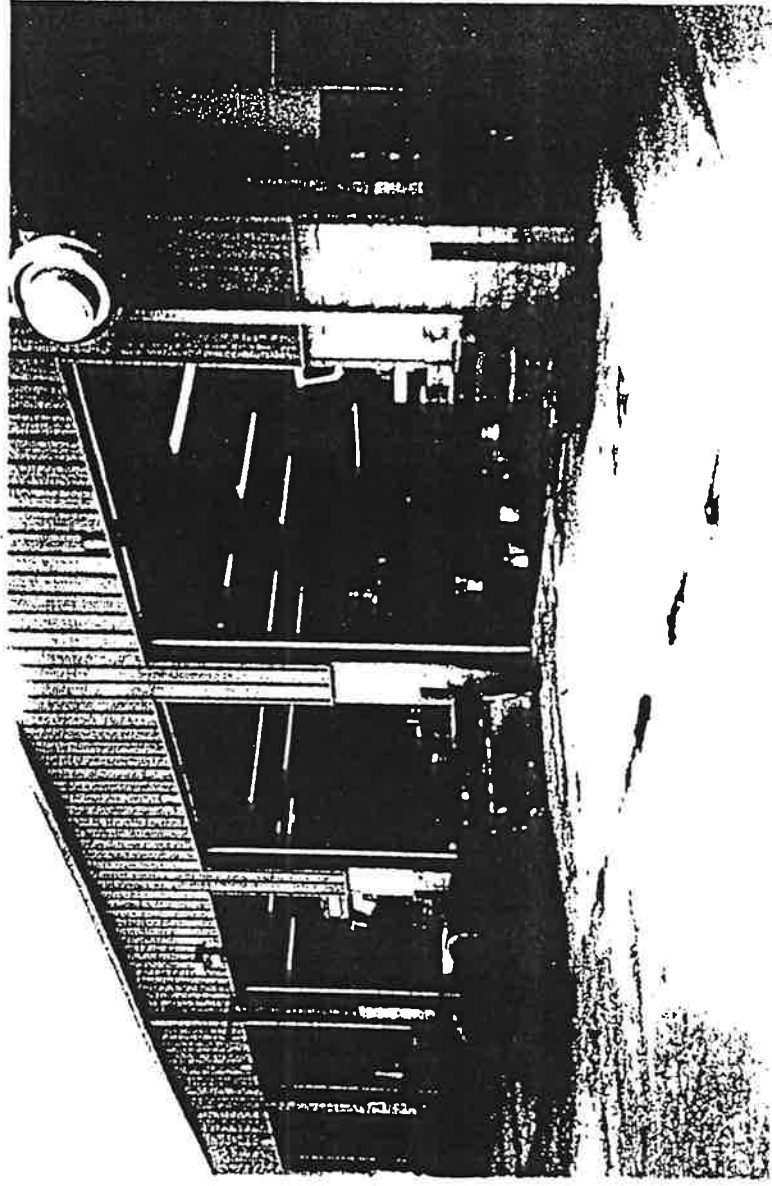
DRAWN	L. LAPITZ	CHECKED BY	KEM	APPROVED BY	TJS	NUMBER	927/92
BY	8/92						
DRAWING NUMBER 302824-A7							

ATTACHMENT A

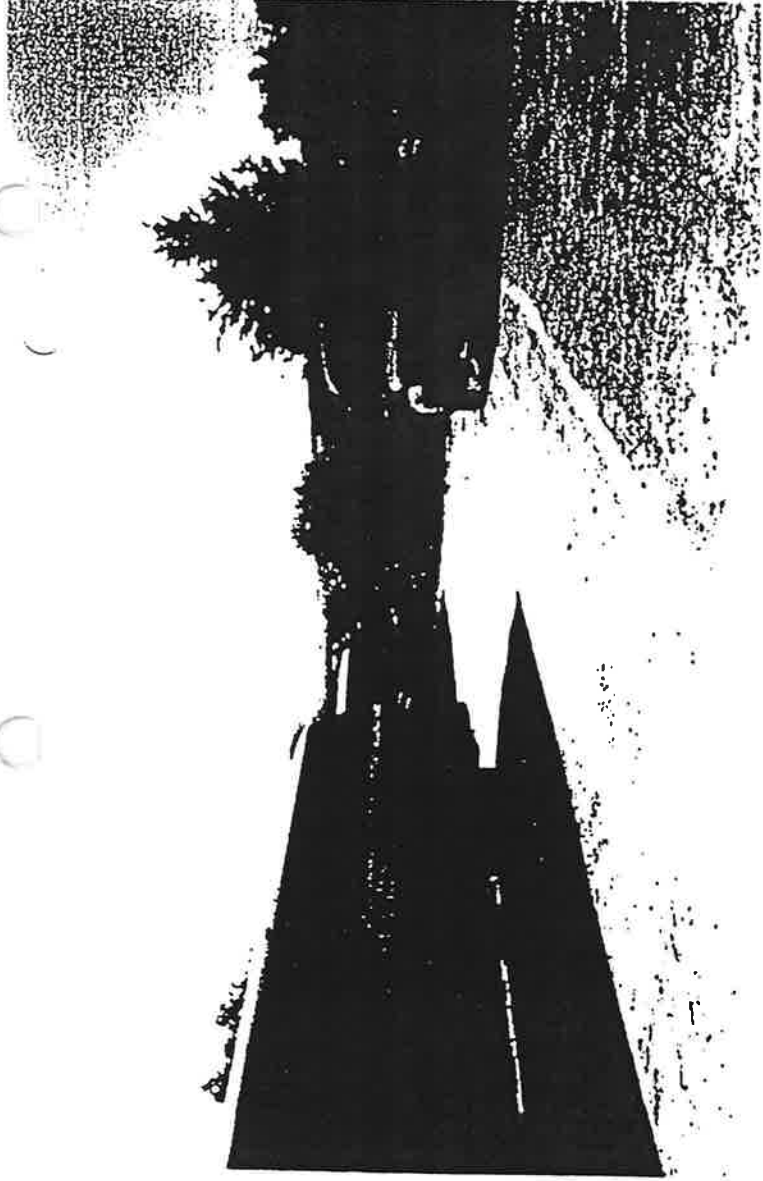
PHOTOGRAPHS



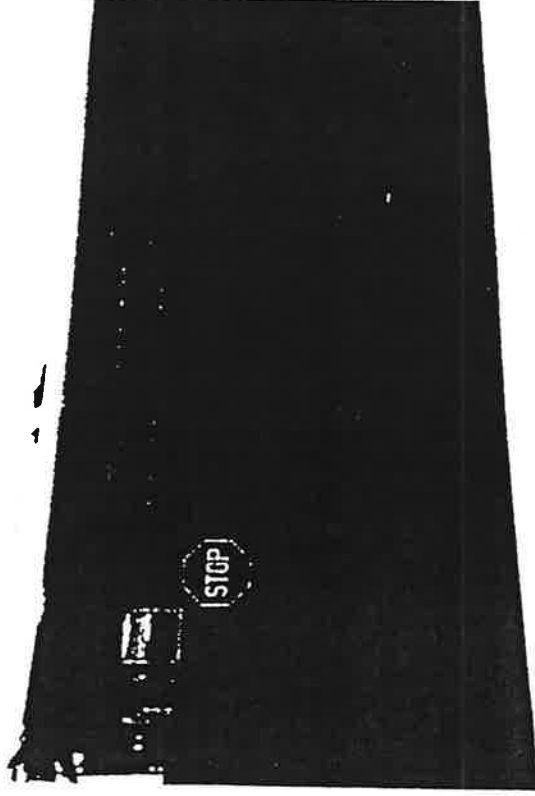
Looking north across the shop area. Two lubricating oil USTs are below the front end of the white truck.



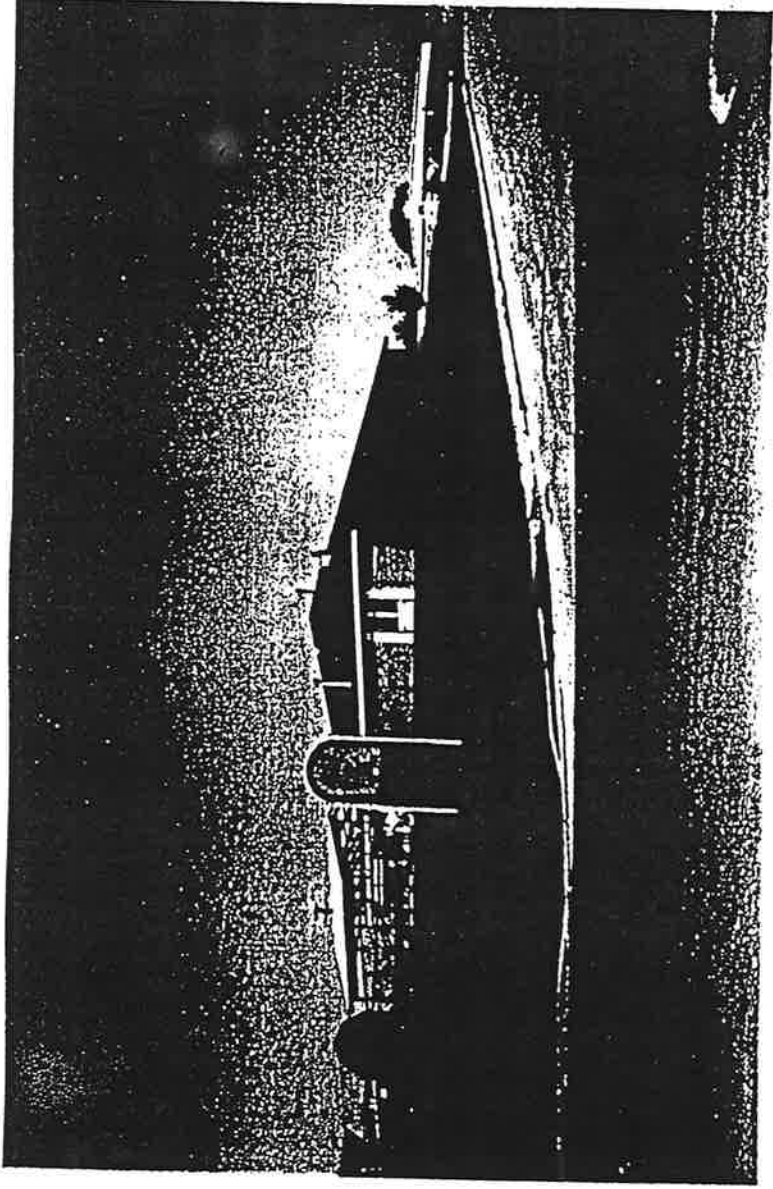
Looking into the shop area. The waste oil UST is below the tires in the left foreground.



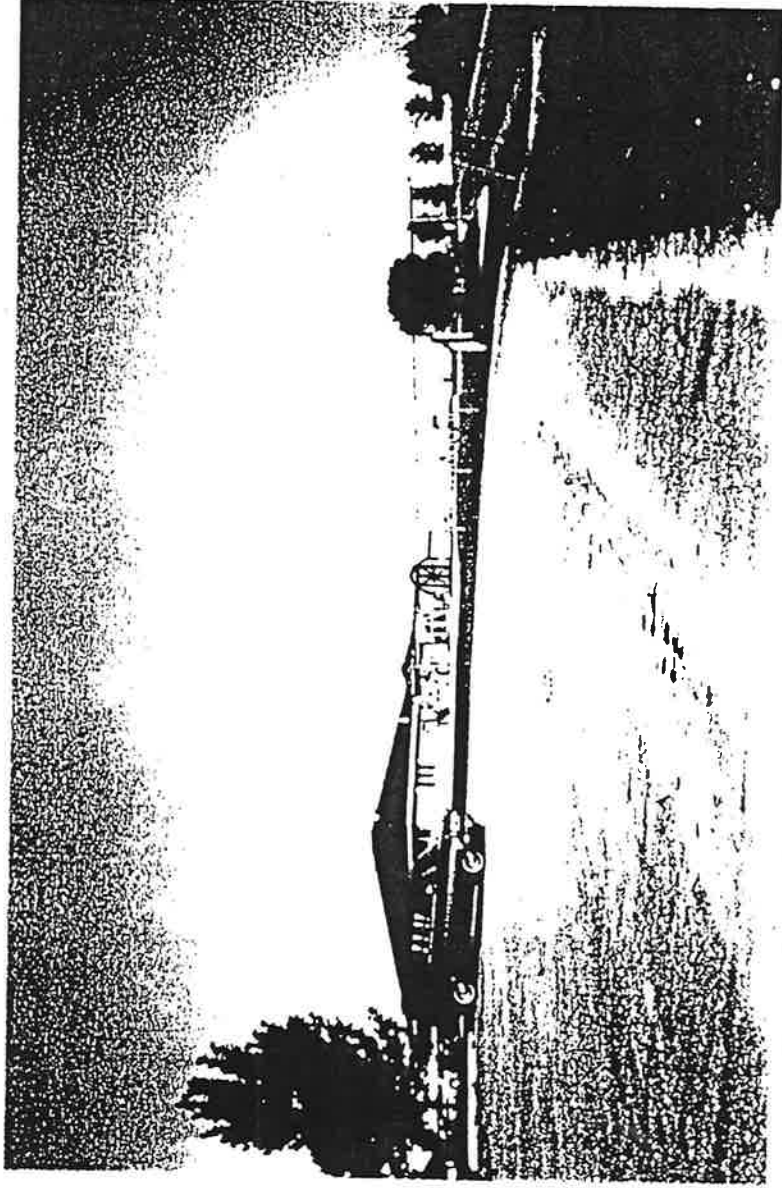
Above: Southwestern portion of the site where buses are parked outside. Agricultural field in the background.



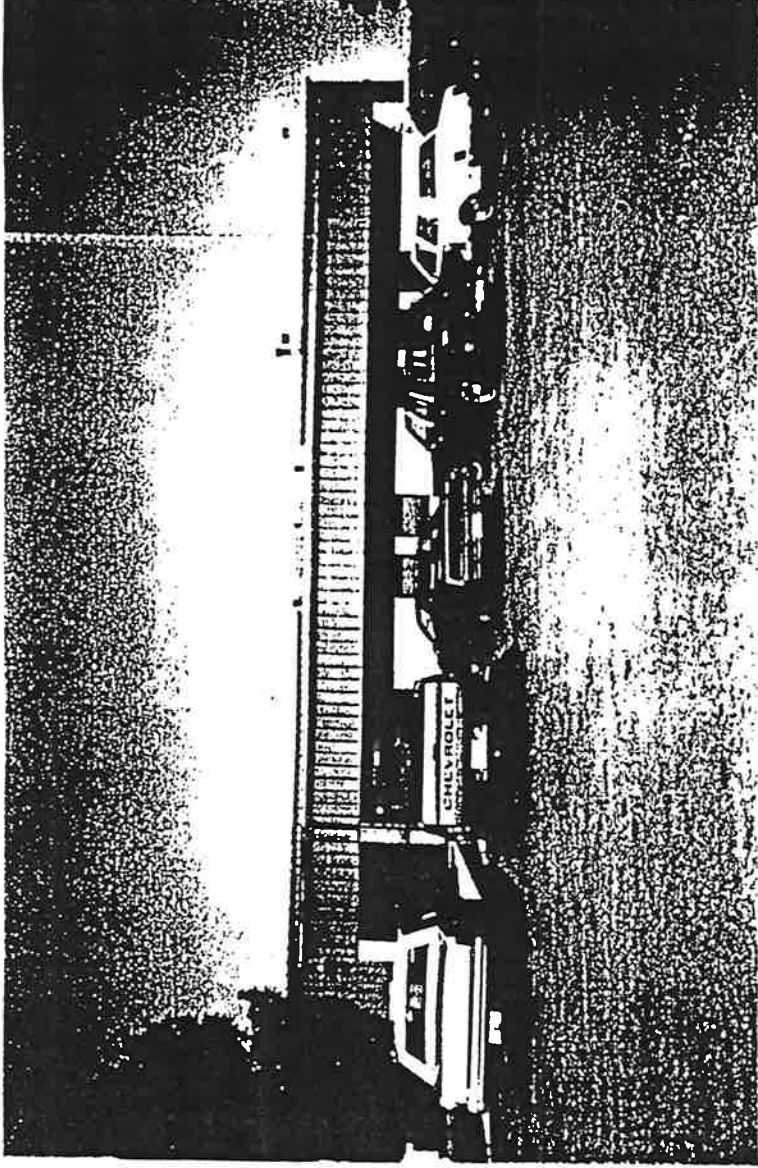
Left: Example of surficial staining in outside bus parking area.



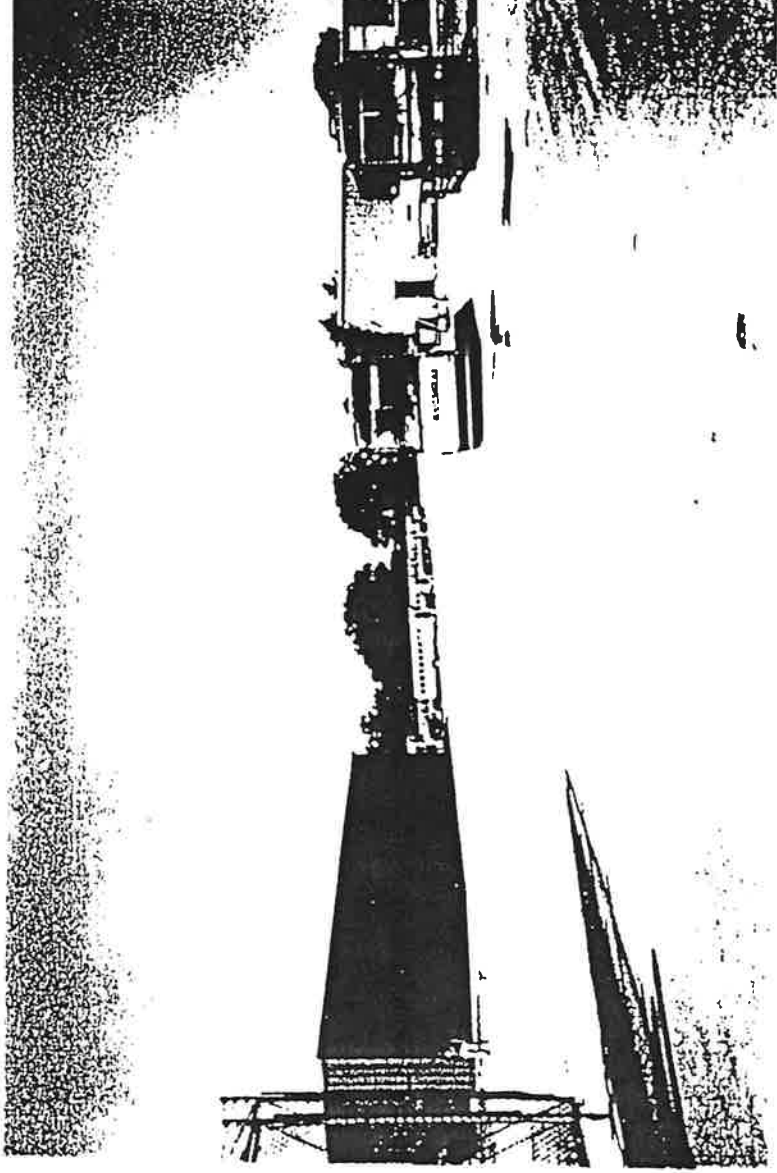
View of Day Care Center: property is owned by Birdsall and Serbin, Inc.
(Looking southwest)



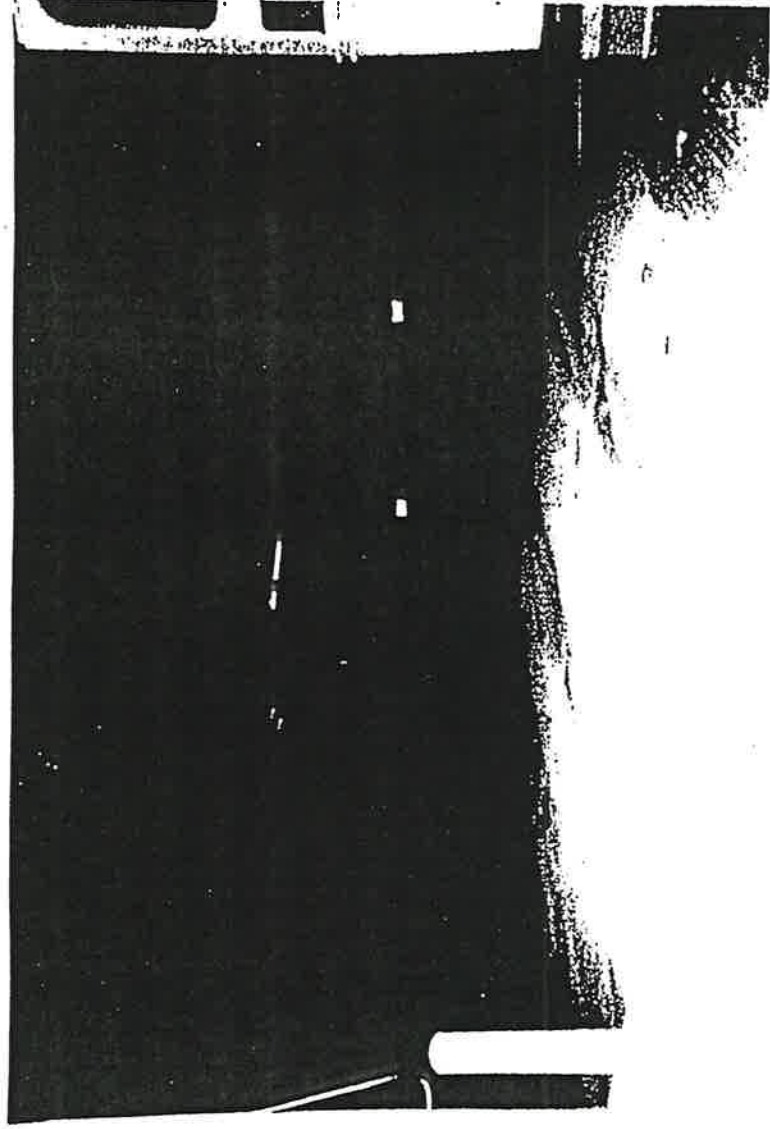
View of Day Care Center from Rochester School Bus Parking Lot.



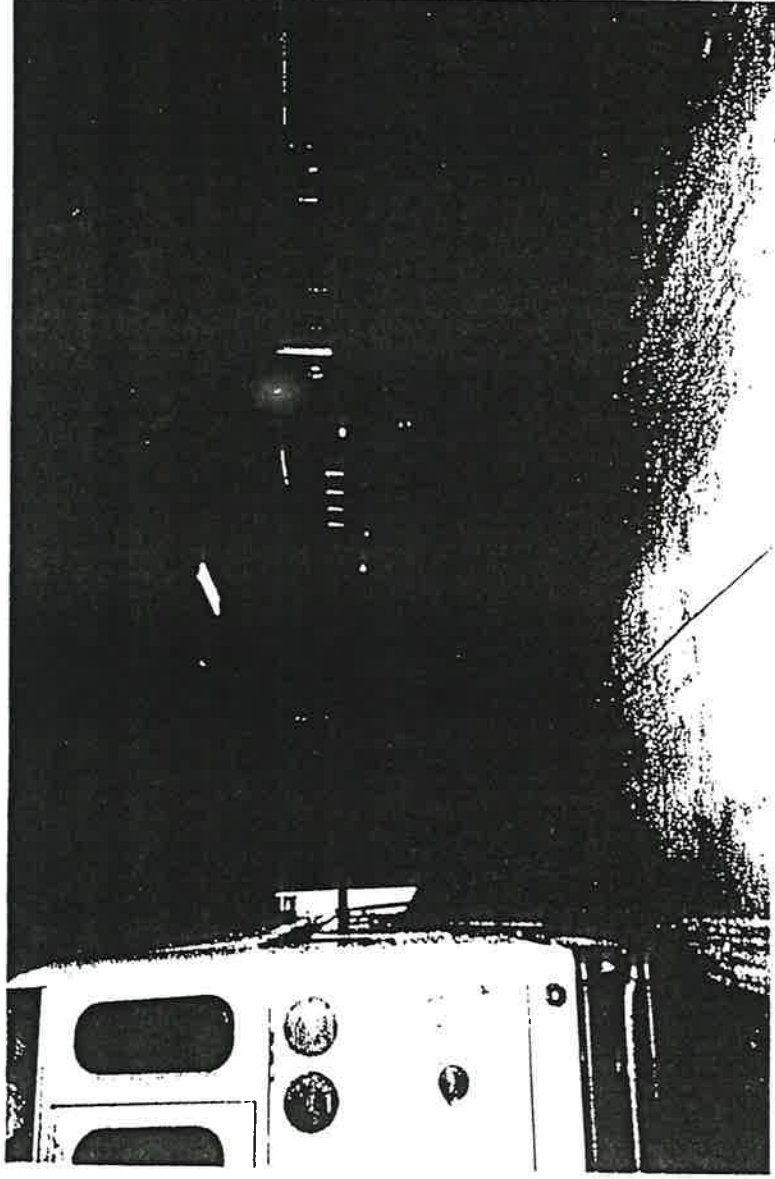
Front view of the office/shop building.



View from the Southwestern corner of the office/shop building looking west across the site.

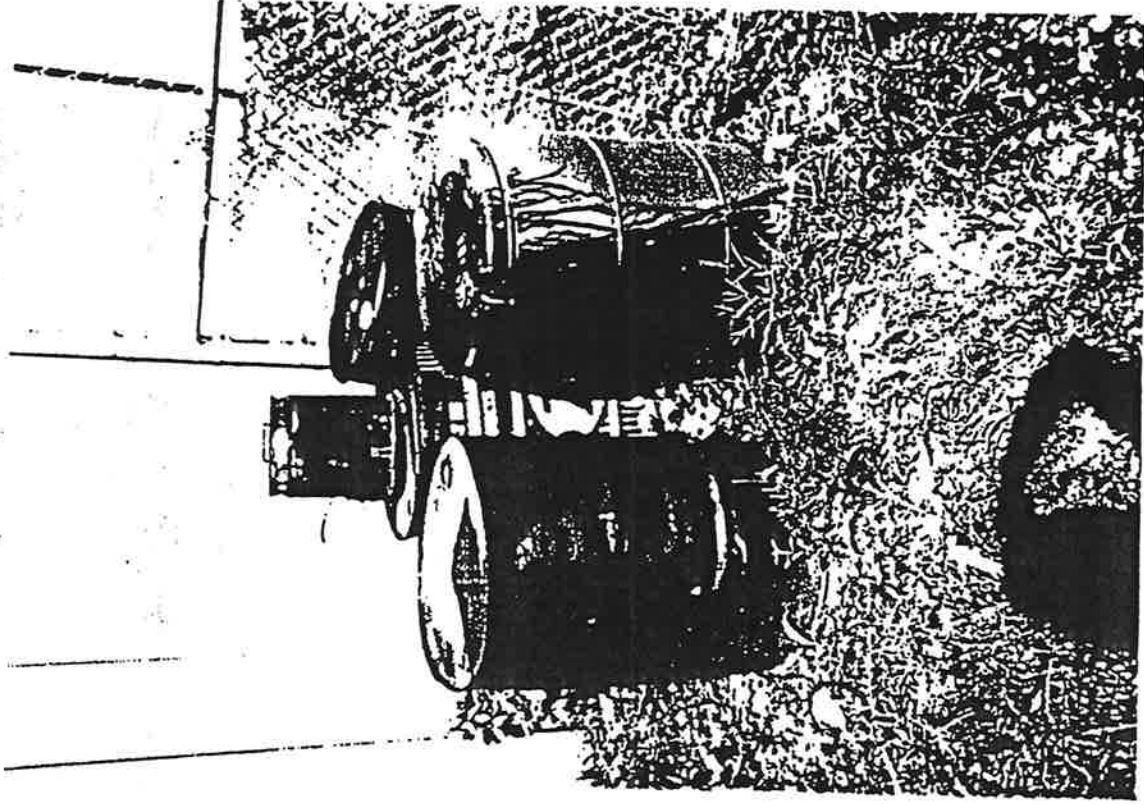


Looking into the western most garage. Note dirt floor.



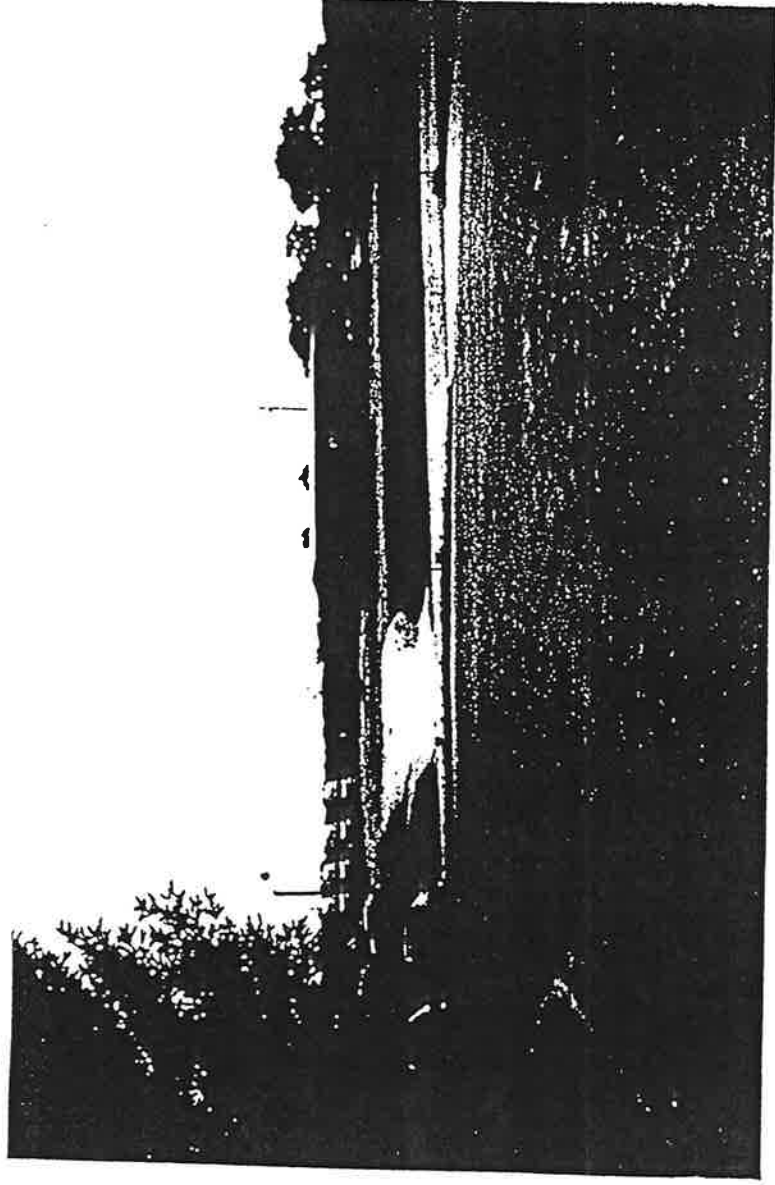
View looking into the northeastern garage. Note floor drain in the middle of the concrete floor.

Left: Drums located
at the northeastern
corner of the western
garage.

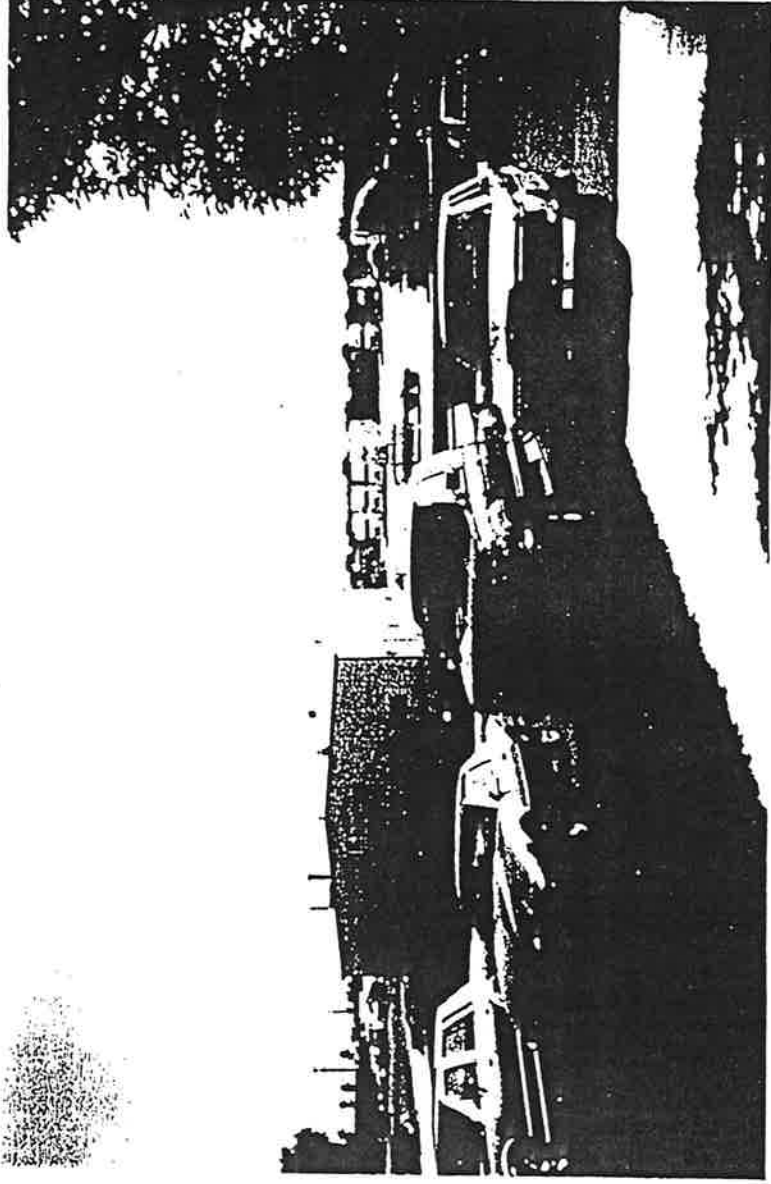


Below: Close-up of
the drums - surface
soil staining was not
observed.





Quast Delivery: located across 32nd Avenue N.W. from Rochester School Bus.



Lend Lease Truck Rental: located across 32nd Avenue N.W. from Rochester School Bus.

INTERNATIONAL TECHNOLOGY CORPORATION

ATTACHMENT B

UNDERGROUND STORAGE TANK NOTIFICATION FORM



Minnesota Pollution Control Agency
Solid and Hazardous Waste Division
1935 West County Road B2
Roseville, Minnesota 55113

**UNDERGROUND STORAGE TANK
NOTIFICATION FORM**
(Read instructions on reverse side)

EPA Use

MPCA Use

Transaction Type(s)

Type of Installation; if federal facility, give GSA#: if industry, give SIC code.

Notification

Bulk Storage

Industry

Government

Change in Status

Service Station

Agricultural

Other (Specify)

Data Correction

Utility

Residential

GSA/SIC

C. Name of Installation

D. Name of Owner (Corporation, Individual, or Agency)

Birdsall & Serbin, Inc

Birdsall & Serbin, Inc

Street Address

Mailing Address

2021 NW 32 Avenue

P.O. Box 7037

City
Rochester

County
Olmsted

City

Rochester

State
MIN

Zip Code

55903-7037

Zip Code

55901

Name of Emergency Contact (if different from owner)

Township
Cascade

Section
28

Quarter
28

Owner Phone (include area code)
(507) 289-4541

Emergency Phone (include area code)
607) 282-7930

E. Use code numbers listed on reverse side for items marked with *.

1. Action*	2. Tank Number	3. Status*	4. Date Installed, Repaired or Reconditioned (m/d/yy)	5. Date Last Used (m/d/yy)	6. Capacity (gallons)	7. Type*	8. Internal Protection*	9. External Protection*	10. Secondary Containment*	11. Piping Type*	12. Dispenser Type*	13. Substance Stored*	14. Quantity Left (gallons)
	1	3	09-05-82	11-11-11	10000	2	U	2	5	3	2	1	1
	2	3	05-08-82	11-11-11	10000	2	U	2	5	3	2	2	1
	3	3	09-05-82	11-11-11	5000	2	U	2	5	3	2	7	1
	4	3	09-05-82	11-11-11	10000	2	U	2	5	3	2	0	1
	5	3	09-05-82	11-11-11	5000	2	U	2	5	3	2	0	1

F. Comments:

Exact Date of installation unknown--Was September 1982--New Installation we moved into in Oct 1982.

I presume they were tested upon installation but is not in specs and can not say for sure.

Entire system including all pipes are cathodic protected

G. Under penalty of perjury, to the best of my knowledge, I certify that the information provided is true & correct.

Printed Name
Donald G. Hoffman

Title
President

Signature
Donald G. Hoffman

Date

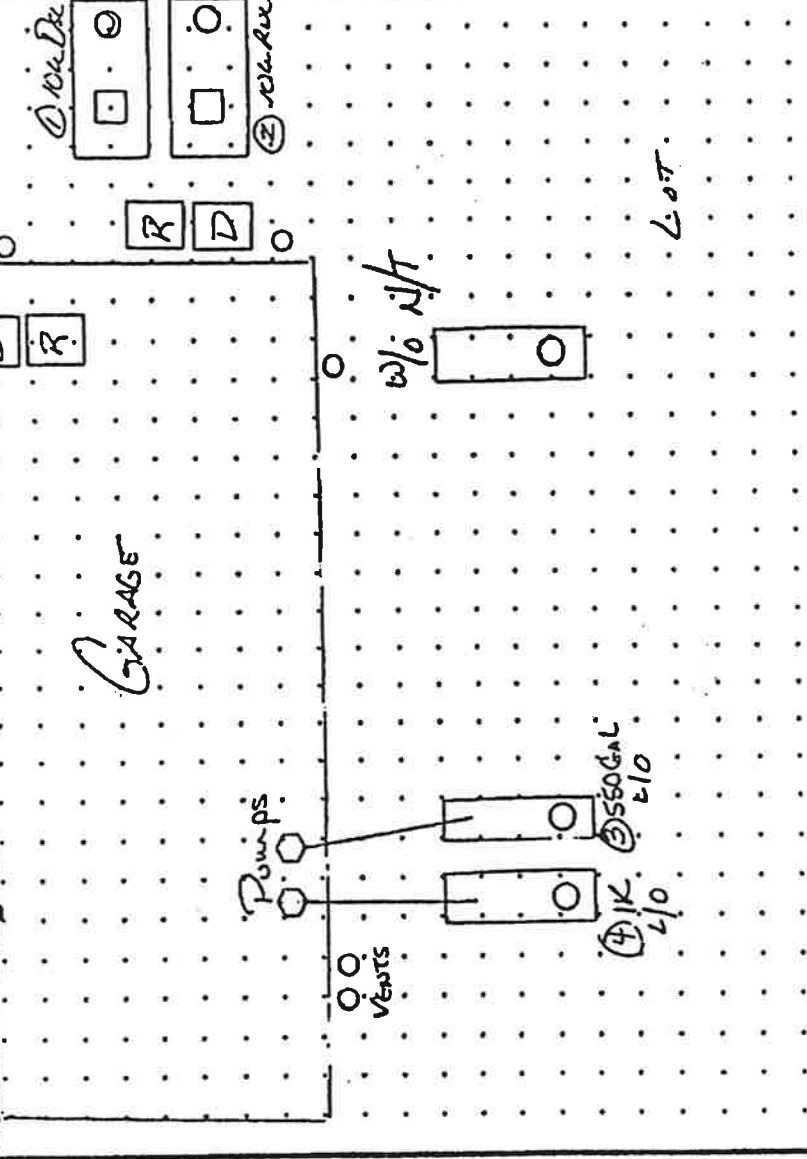
4/16/86

ATTACHMENT C

TANK TIGHTNESS TESTING RESULTS

Well Number	1	2	3	4	5	6	7	8	9	10	11	12
Well Depth												
Depth to Water												
Product Detected												
AMOUNT In Inches												

Location Diagram



Parts and Labor used INSTALLED (2) VENT CAPS

LEAK DETECTORS NOT INSTALLED PER CONTRACTOR.

General Comments TANK 4 (1K-5L/O) FAILED FOR ULLAGE INGRESSIVE PER DAVID BLANK, SUGGEST UNCOVERING TOP OF TANK FOR ISOLATION AND PUMP. UNABLE TO TEST WASTE OIL TANK DUE TO 2 1/2" x 6 5/8" AND 3 1/4" WATER IN BOTTOM OF TANK. SUGGEST REPAIRING SLUDGE AND WATER FOR TESTING.

When OWNER or local regulations require immediate reporting of a system failure- Complete the following:

REPORTED NAME TO: ANNE M. MULLIGAN
DATE 8/25/98
TIME 13:00
FILE NUMBER

Phone# (612) 471-8884
OWNER or Regulatory Agency
PHI Certified Testers Name STEVE C. GUNNAR

Certified Testers Signature [Signature]
Vacuum/Tr Certification Number 6118
Date Testing Completed 8/25/98

INTERNATIONAL TECHNOLOGY CORPORATION

ATTACHMENT D

SOIL BORING LOGS



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TECHNOLOGY
CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT No.: 302824	BORING No. SB-04	PAGE 1 OF 1
PROJECT NAME: Laidlaw	DATE: 08/18/92	
CLIENT: Laidlaw	START: 08/18/92	
LOCATION: Rochester School Bus - Next to Lube Oil USTs	COMPLETE: 08/18/92	
ELEVATION:	GWL: DEPTH	DATE/TIME:
ENG./GEO.: A. E. Mulligan	GWL: DEPTH	DATE/TIME:
SUPERVISED BY: A. E. Mulligan	APPROVED BY:	LICENSE No.:
DRILL METHOD: HSA - 3-1/4" ID, 7" OD, Drill Rig: Mobile Drill B-47	HOLE DIAMETER: 7"	
DRILL CONTRACTOR: Thien Drilling	DRILLER: Nathan Herrbolar	

DEPTH (ft)	SAMPLE TYPE & NUMBER	BLOWS ON SAMPLER PER 6" RECOVERY	MATERIAL DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	WELL CONSTRUCTION	REMARKS
0			Surface: Asphalt Beige, sand and gravel fill, dry				
5	SB04-01	2, 2 4, 6	Orange-brown, clayey-silt, plastic, soft, wet				Time: 1541 SS: ND HS: ND
10	SB04-02	3, 3 2, 3	Same as above - more stiff, wet to saturated at 11 ft.				Time: 1547 SS: ND HS: ND
15	SB04-03	10, 12 12, 11	Orange to orange-brown silty clay, hard, plastic, approx. 12" lense of medium to fine sand at 14.5-15.5', saturated Bottom of Boring: 16'				Time: 1557 SS: ND HS: ND Decided to go down to 15' since one of the tanks is larger and to see what water is like deeper. 37 ppm TPH
20							

NOTES:

Next to lubricating oil tanks (1 - 4' x 6', 560 gal. 1 - 64" x 6', 1000gal)
Collected SB04-02 for lab. analytical since it's at the water table and below tanks.



INTERNATIONAL TECHNOLOGY CORPORATION
VISUAL CLASSIFICATION OF SOILS

PROJECT No.: 302824	BORING No.: SB-02	PAGE 1 OF 1
PROJECT NAME: Laidlaw	DATE: 08/18/92	
CLIENT: Laidlaw	START: 08/18/92	
LOCATION: Rochester School Bus - Next to Gasoline UST	COMPLETE: 08/18/92	
ELEVATION:	GWL: DEPTH	DATE/TIME:
ENG./GEOL.: A. E. Mulligan	GWL: DEPTH	DATE/TIME:
SUPERVISED BY: A. E. Mulligan	APPROVED BY:	LICENSE No.:
DRILL METHOD: HSA - 3-1/4" ID, 7" OD, Drill Rig: Mobile Drill B-47	HOLE DIAMETER: 7"	
DRILL CONTRACTOR: Thien Drilling	DRILLER: Nathan Herrbolar	

DEPTH (ft.)	SAMPLE TYPE & NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY	MATERIAL DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	WELL CONSTRUCTION	REMARKS
0				Surface: Asphalt				
5	SB02-01	3, 3		Grey-brown, clayey silt with fine sand lenses. Fine sand in bottom 2" of spoon, moist				Time: 1344 SS: NO HS: NO
10	SB02-02	1, 1		Grey, Clayey silt, with mottling, plastic, soft, appears to be saturated.				Time: 1350 SS: NO HS: NO
15	SB02-03	2, 2		Orange-brown, clayey-silt with trace coarse sand, approx. 2" coarse sand lense at approx. 15.5', saturated, plastic.				Time: 1356 SS: Not done HS: NO
20		4, 7		Bottom of Boring: 16'				Time: 1415: Sampled water through auger. Auger at 14 ft.

NOTES:
SB02-03 sent for analytical



INTERNATIONAL
TECHNOLOGY
CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT No.: 302824	BORING No. SB-03	PAGE 1 OF 1
PROJECT NAME: Laidlaw	DATE: 08/18/92	
CLIENT: Laidlaw	START: 08/18/92	
LOCATION: Rochester School Bus - Next to Waste Oil UST	COMPLETE: 08/18/92	
ELEVATION:	GWL: DEPTH	DATE/TIME:
ENG./GEOL.: A. E. Mulligan	GWL: DEPTH	DATE/TIME:
SUPERVISED BY: A. E. Mulligan	APPROVED BY:	LICENSE No.:
DRILL METHOD: HSA - 3-1/4" ID, 7" OD, Drill Rig: Mobile Drill B-47		HOLE DIAMETER: 7"
DRILL CONTRACTOR: Thien Drilling		DRILLER: Nathan Herrbolar

DEPTH (ft)	SAMPLE TYPE	SOIL BLOC NUMBER	RECOVERY	MATERIAL DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY	WELL CONSTRUCTION	REMARKS
0				Surface: Asphalt				
				Brown, clayey-silt, with some gravel.				
5	SB03-01	1, 1		Gray-brown, clayey-silt, wet, soft, plastic				Time: 1510 SS: ND HS: ND
		2, 1						
10	SB03-02	2, 2		Gray-brown, clayey-silt, wet to saturated, plastic, no odor				Time: 1515 SS: Not taken HS: ND
		3, 2						
15				End of Boring: 11'				No water sampler takes too long for it to enter hole.
20								

NOTES:

Next to waste oil tank (6' x 4') 560 gds.



INTERNATIONAL
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VISUAL CLASSIFICATION OF SOILS

PROJECT No.: 302824	BORING No. SB-01	PAGE 1 OF 1
PROJECT NAME: Laidlaw	DATE: 08/18/92	
CLIENT: Laidlaw	START: 08/18/92	
LOCATION: Rochester School Bus -Next to Diesel UST	COMPLETE: 08/18/92	
ELEVATION:	GWL: DEPTH	DATE/TIME:
ENG./GEOL.: A. E. Mulligan	GWL: DEPTH	DATE/TIME:
SUPERVISED BY: A. E. Mulligan	APPROVED BY:	LICENSE No.:
DRILL METHOD: HSA - 3-1/4" ID, 7" OD, Drill Rig: Mobile Drill B-47	HOLE DIAMETER: 7"	DRILLER: Nathan Herrbolar
DRILL CONTRACTOR: Thien Drilling		

DEPTH (ft.)	SAMPLE TYPE NUMBER	BLOWS ON SAMPLE PER 5 LB	RECOVERY	MATERIAL DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	CONSTRUCTION WELL	REMARKS
0				Surface: Asphalt				
5	SB01-01	2, 2		Orange-brown, silt with little sand & fine gravel, dry				Time: 1100 SS: ND HS: ND
		4, 6		Brown, clayey-silt, semi-plastic, moist				
				orange-brown, clayey-silt, semi-plastic, mottled, moist, soft				
10	SB01-02	1, 3		orange & gray, clayey silt, plastic, appears saturated, soft				Time: 1120 SS: ND HS: ND Will drill down a couple of feet & then try to sample water (<1" water after 30 minutes)
		3, 3						
15	SB01-03	1, 2		Same as above - gray fine sand, dense				Time: 1200 SS: ND HS: ND Sampled water through 0.29 ppm auger at 1220. H ₂ D TPH FO ₂
		2, 2		Stop at 16'				
20								

NOTES:

Thien Drilling: Drill Rig: Mobile Drill Rig B-47
Driller: Nathan Herrbolar, Assistant: Brian Hilbrands
SB-01-02 sent for analytical.