Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

GE Farrell Road Site
Geddes (T), Onondaga County
Site Number 7-34-055

March 1997

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

GE Farrell Road Inactive Hazardous Waste Site
Geddes, Onondaga County, New York
Site No. 7-34-055

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the GE Farrell Road inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the GE Farrell Road Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the GE Farrell Road and the criteria identified for evaluation of alternatives the NYSDEC has selected hydraulic containment via groundwater recovery wells and treatment of the contaminated groundwater by air stripping, in combination with continued operation of the source control IRMs currently in place. The components of the remedy are as follows:

1. Installation and operation of a groundwater recovery system composed of a series of wells along the northern edge of the developed portion of FRP-2, in combination with the

groundwater recovery system already in operation at AOC 16, to intercept and remove the contaminated groundwater.

2. Installation and operation of an air stripper treatment system, to treat the recovered groundwater so that it meets the water discharge requirements, and operation of an air emission treatment system if needed to meet air emission requirements.

3. Discharge of the treated water into the wetland, in a manner that would maintain an appropriate water distribution in the wetland.

4. Continued operation of the source control IRMs at AOCs 5, 7, and 16, including operation of the systems in pulse mode, until contaminant removal as been optimized.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/28/97
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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SECTION 1: SITE LOCATION AND DESCRIPTION

The GE Farrell Road Site, Site #7-34-055, is located in an industrial area north of the intersections of Interstates I-690 and I-90 and south of the Seneca River, in the Town of Geddes, Onondaga County. The site is bordered on the south by Farrell Road, on the north and west by the Seneca River, and on the east by John Glenn Boulevard. The 156-acre site includes approximately 81 acres of Class I wetland adjacent to the Seneca River. The property is divided into two parcels, designated as FRP-1 and FRP-2, with separate ownership histories. There are four buildings on site, including the former design center (Building 1) and a former test building on parcel FRP-1, and the former manufacturing and assembly plant (Building 2) and a maintenance garage on parcel FRP-2. Figure 1 shows the site location, and Figure 2 the site layout.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

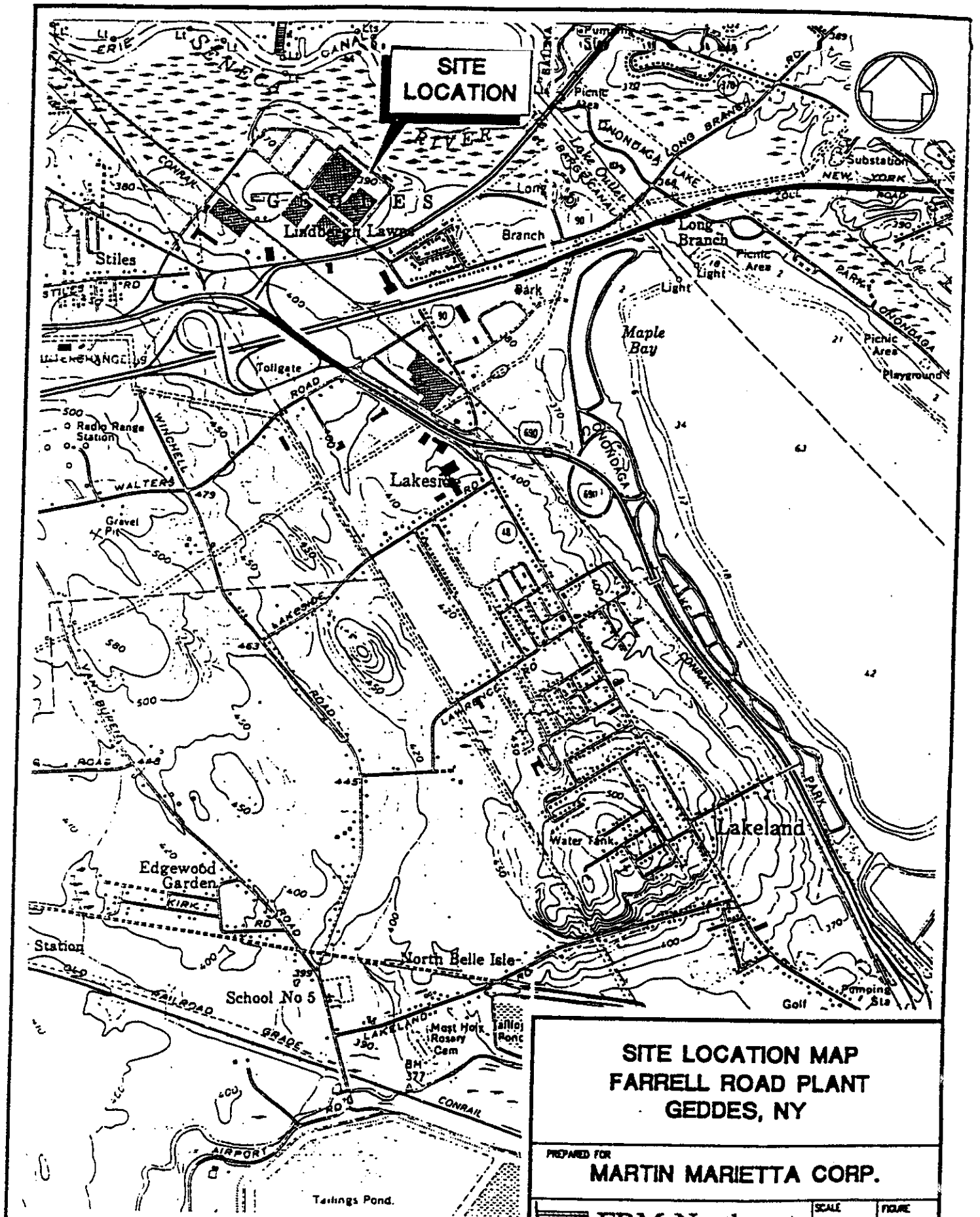
The Farrell Road property was developed in the early 1960's by General Electric Aerospace (GE) and was used as a design, manufacturing and assembly center for radar and sonar equipment until December of 1992, when GE moved all operations to other locations. During this time a variety of hazardous substances were used in the manufacturing and assembly process, and releases to the environment occurred. Syroco, Inc. currently owns the facility and operates it as a warehouse.

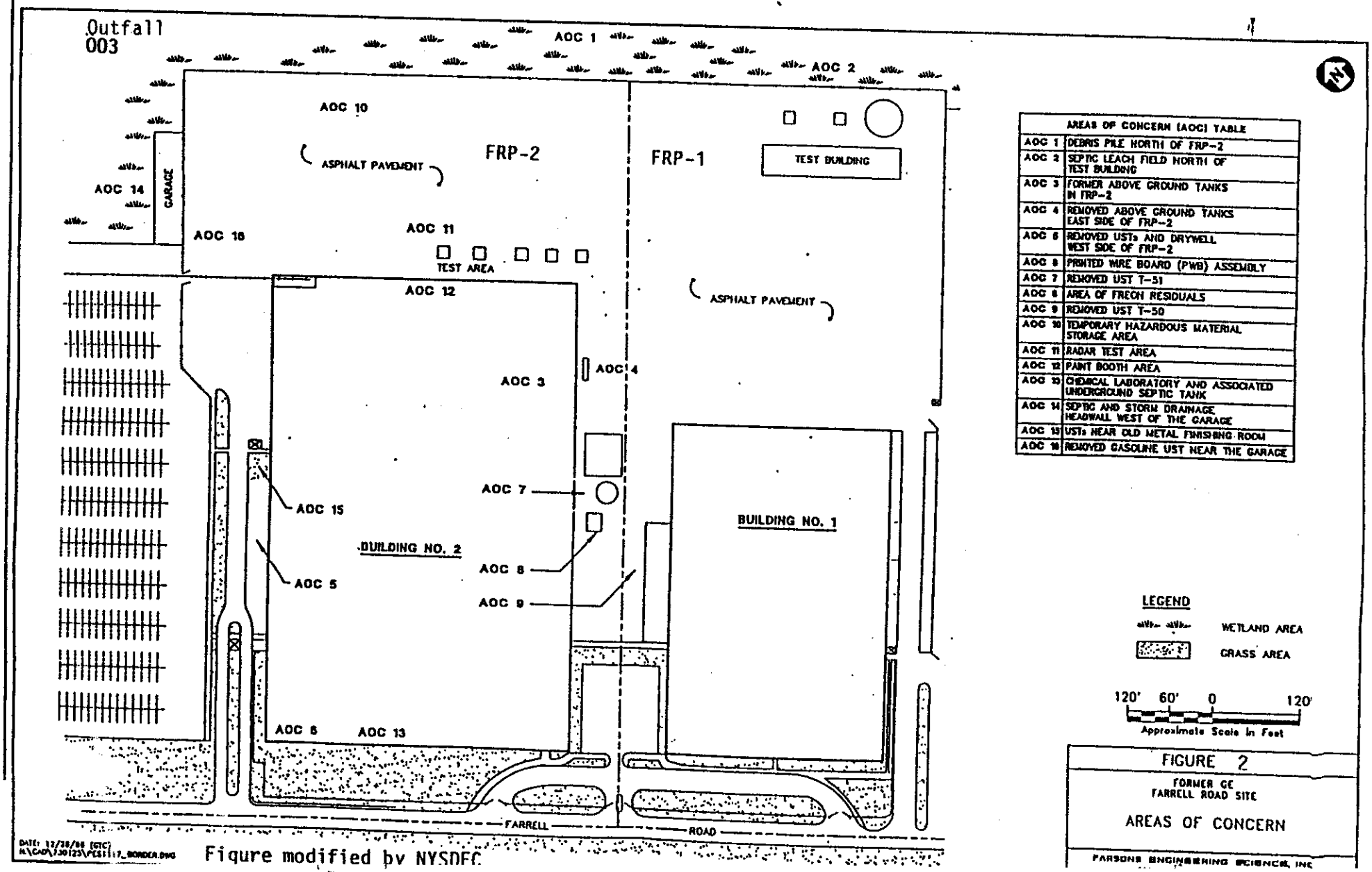
2.2: Remedial History

Between 1986 and 1992, prior to the Division of Hazardous Waste Remediation's (DHWR) involvement with the site, GE conducted a number of investigations and removal actions. NYSDEC Region 7 staff were involved with the removal actions at this time. These investigations and removal actions are summarized below.

1986: Nine underground solvent storage tanks west of Building 2 were removed, as well as two underground storage tanks south of Building 2 which held acid and cupric chloride.

1990: An underground fuel oil storage tank west of Building 1 was removed.


SITE LOCATION
Lindbergh Lawn
Stiles
Tollgate
ROAD
Radio Range Station
WALTERS
Gravel Pit
Lakeside
RD
Maple Bay
Long Branch
Picnic Area
Playground
Lakeland
Water Tank
Edgewood Garden
KIRK
RD
Station
North Belle Isle
School No 5
RAILROAD
GRADE
Golf
Pumping Sta
Tailings Pond
AIRPORT
CONRAIL
ONONDAGA
LAKE
PARK
SOURCE: USGS 7.5 MINUTE QUADRANGLES CAMILLUS AND SYRACUSE WEST, NY
SITE LOCATION MAP
FARRELL ROAD PLANT
GEDDES, NY
PREPARED FOR
MARTIN MARIETTA CORP.
ERM-Northeast
Environmental Resource Management
SCALE
1"=2000'
FIGURE
1
DATE
8/93



AREAS OF CONCERN (AOC) TABLE	
AOC 1	DEBRIS PILE NORTH OF FRP-2
AOC 2	SEPTIC LEACH FIELD NORTH OF TEST BUILDING
AOC 3	FORMER ABOVE GROUND TANKS IN FRP-2
AOC 4	REMOVED ABOVE GROUND TANKS EAST SIDE OF FRP-2
AOC 5	REMOVED USTs AND DRYWELL WEST SIDE OF FRP-2
AOC 6	PRINTED WIRE BOARD (PWB) ASSEMBLY
AOC 7	REMOVED UST T-51
AOC 8	AREA OF FREON RESIDUALS
AOC 9	REMOVED UST T-50
AOC 10	TEMPORARY HAZARDOUS MATERIAL STORAGE AREA
AOC 11	RADAR TEST AREA
AOC 12	PAINT BOOTH AREA
AOC 13	CHEMICAL LABORATORY AND ASSOCIATED UNDERGROUND SEPTIC TANK
AOC 14	SEPTIC AND STORM DRAINAGE HEADWALL WEST OF THE GARAGE
AOC 15	USTs NEAR OLD METAL FINISHING ROOM
AOC 16	REMOVED GASOLINE UST NEAR THE GARAGE

LEGEND

WETLAND AREA

GRASS AREA

120' 60' 0 120'

Approximate Scale in Feet

FIGURE 2

FORMER GE
FARRELL ROAD SITE

AREAS OF CONCERN

PARSONS ENGINEERING SCIENCE, INC

Aug. 1990: Two underground storage tanks west of Building 2 one containing fuel oil and one containing waste oil, were removed.

1990: A settling tank on the south side of Building 2 which had received drainage from a chemical laboratory, was removed.

June 1991: **Preliminary Hydrogeologic Investigation:** The investigation was designed to determine site-wide groundwater flow direction, to estimate the extent of petroleum residuals near underground storage tank (UST) T-51 east of Building No. 2, and to determine the potential effects of septic leach fields near the maintenance garage and the test building. Results indicated that groundwater generally flowed in a north/northwest direction across the site and that groundwater adjacent to UST-51 had been affected by petroleum residuals and (VOCs).

Nov. 1991: **Phase II Hydrogeologic Investigation**: As a follow-up investigation to the June 1991 investigation, GE undertook a second investigation to estimate the extent of petroleum residuals and VOCs in the soil and groundwater near UST T-51. The investigation determined that petroleum residuals were limited to the area near the removed UST, and VOCs (predominantly freon) were present in groundwater east of Building No. 2.

Dec. 1991: The septic tanks north of the Test Building and west of the Maintenance Garage were removed.

1991-1992: **Phase I Environmental Site Assessments for FRP-1 and FRP-2**: Concurrent with the groundwater investigations at the site, GE conducted Phase I Environmental Site Assessments (ESAs) for FRP-1 and FRP-2. Based on the ESAs, 16 areas that needed further investigation were identified. These areas are shown in Figure 2.

1992: **Environmental Investigations for FRP-1 and FRP-2**: In 1992 GE conducted additional field investigations to further characterize the 16 areas identified by the ESAs, and to determine the need for further investigation or remediation. Additional monitoring wells were installed, and soil and sediment samples collected.

1992: A paint drippings drywell west of Building 2 was removed.

Feb. 1992: An underground fuel oil storage tank on the east side of Building 2 was removed.

May 1992: The debris pile north of Building 2 was excavated and removed.

June 1992: An underground gasoline storage tank south of the Maintenance Building was removed.

July 1992: Contaminated soil from the radar test area north of Building 2 was excavated and disposed at an off-site landfill.

In November 1992, after GE brought the results of the above investigations to the attention of the NYSDEC Division of Hazardous Waste Remediation (DHWR), the site was added to the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site. In April 1993 GE sold the FRP-2 property comprising Building 2 and the maintenance garage to Martin Marietta Corporation (MMC). At this time MMC also assumed the lease on the adjacent FRP-1 property, which included Building 1 and the test building. In 1993 Syroco, Inc. purchased the FRP-2 property and MMC assigned to Syroco the lease on the FRP-1 property, which Syroco purchased in early 1994. The NYSDEC and Martin Marietta Corporation entered into a Consent Order on December 15, 1993, obligating the responsible party to implement a RI/FS remedial program. The NYSDEC and Martin Marietta Corporation entered into a second Consent Order on March 21, 1994, obligating the responsible party to implement three interim remedial measures (IRM) programs. Effective January 29, 1996, MMC merged into its parent corporation, Lockheed Martin Corporation (LMC). LMC is the successor by merger to MMC and has assumed MMC's obligations under the RI/FS and IRM Consent Orders.

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the Site presented a significant threat to human health or the environment, LMC has recently completed a Remedial Investigation/ Feasibility Study (RI/FS).

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted in 3 phases. The first phase, which was the primary investigation for the site, was conducted between September 1993 and May 1995; a Non-Aqueous Phase Liquid investigation at Area of Concern (AOC) #5 was conducted between September 1995 and August 1996; and an investigation of the wetland adjacent to Outfall 003 was conducted between April 1995 and August 1996. The following reports have been prepared describing the field activities and findings of the RI in detail:

* 1994 Remedial Investigation at the Farrell Road Plant, Final Report, May 1995.

* Addendum, RI Report, Area of Concern #10, Further Evaluation of Soil and Ground Water Data, July 1995

* Addendum, RI Report, Area of Concern #5, LNAPL/DNAPL Investigation, August 1996

* Addendum, RI Report, Soil Investigations Adjacent to Outfall 003, August 1996

The RI included the following activities:

* A soil vapor survey was conducted along storm and sanitary sewer lines, to identify areas of soil affected by VOCS.

* Sediment samples were collected from catch basins, the wetlands and locations adjacent to the storm sewer outfalls into the wetlands for analysis.

* Soil borings and monitoring wells were installed for analysis of soils and groundwater as well as determining the physical properties of soil and hydrogeologic conditions.

* Surface water samples were collected from the wetland and the Seneca River for analysis.

* NAPL monitoring and removal, to provide a semi-quantitative assessment of NAPL recharge rates.

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater and surface water SCGs identified for the GE Farrell Road site were based on NYSDEC Ambient Water Quality Standards and Guidance Values. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of human health and the environment were used as SCGs for soil and the NYSDEC Technical Guidance for Screening Contaminated Sediments was used for sediments.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure routes, certain areas and media of the site require remediation. These are summarized below. More complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb) and parts per million (ppm). For comparison purposes, SCGs are given for each medium.

3.1.1 Nature of Contamination:

As described in the RI Report, many soil, groundwater and sediment samples were collected at the Site to characterize the nature and extent of contamination. The following types of contaminants were found at the site, including two classes of Volatile Organic Compounds (VOCs), chlorinated solvents and petroleum hydrocarbons.

Chlorinated Solvents:

Chlorinated solvents are localized in soil and sediment, and widespread in groundwater at the site. The primary compounds identified are:

* Trichloroethene (TCE)
* 1,1,1-Trichloroethane (1,1,1-TCA)
* 1,1-Dichloroethene (1,1-DCE)
* 1,2-Dichloroethene (1,2-DCE)
* 1,1-Dichloroethane (1,1-DCA)
* Trichlorofluoromethane (Freon)

Chlorinated solvents are widely used in industry for degreasing and cleaning. They are typically clear, colorless liquids that are heavier than water. They do not dissolve readily in water, and as a result will tend to form a non-aqueous phase layer at the bottom of a groundwater aquifer when present in large amounts. Because they are heavier than water, these compounds are classified as Dense Nonaqueous Phase Liquids (DNAPLs). These solvents are highly volatile, and as a result, when released into soil they can readily evaporate into the air located in the spaces between the soil particles, called soil gas.

Petroleum Hydrocarbons:

Petroleum hydrocarbons are also localized in soil and sediment widespread in groundwater at the site, resulting in part from leaking underground storage tanks containing gasoline, fuel oil, and the non-chlorinated solvents toluene, ethylbenzene, and xylenes. Typical constituents of gasoline and fuel oil include these three compounds as well as benzene, naphthalene, and a wide variety of other constituents in smaller concentrations. Petroleum hydrocarbons are lighter than water. They do not dissolve readily in water, and as a result will tend to form a non-aqueous phase layer floating on the top of a groundwater aquifer when present in large amounts. Because they are lighter than water, these compounds are classified as Light Nonaqueous Phase Liquids (LNAPLs). They are also highly volatile, and as a result, when released into soil they can readily evaporate into the air located in the spaces between the soil particles, called soil gas.

Polychlorinated Biphenyls (PCBs):

PCBs are very stable semivolatile chlorinated compounds. They have very low solubilities in water, and bind strongly to soil. Because of their very low volatility and solubility, they tend to persist in the environment for long periods of time, and to potentially bioaccumulate in animals such as fish and hawks.

3.1.2 Extent of Contamination

Table 1, at the end of this document, summarizes the extent of contamination for the contaminants of concern in soil, sediments, and groundwater, and compares the data with the Standards, Criteria, and Guidance (SCGs) for the Site. The following are the media and areas of concern which were investigated and a summary of the findings of the investigation. Figure 2 identifies the locations of the various areas of concern.

Soils

The RI investigated the soil in 11 of 16 Areas of Concern (AOCs) previously identified throughout the site, and the soil along the storm sewer piping system. Five AOCs were not evaluated during the RI, as they had been sufficiently characterized by earlier studies, and determined not to represent a significant threat to human health or the environment.

AOC #1 - Debris Pile North of FRP-2

A debris pile had previously been located north of the parking lot, directly adjacent to the wetland. During previous investigations the debris pile had been sampled, and found to contain elevated concentrations of chlorinated solvents (TCE, 1,1-DCE, 1,2-DCE, 1,1,1-TCA, and PCE), petroleum hydrocarbons (toluene, ethylbenzene, and xylenes), and metals, primarily chromium. Groundwater in the area is also contaminated. The debris pile was removed in 1992, and confirmatory soil sampling showed levels of volatile organic compounds (VOCs) and metals below the cleanup objectives. Additional samples were collected during the RI to determine whether other compounds not previously analyzed for were present. Sample results show the presence of pesticides and semivolatile compounds (PAHs), as well as petroleum hydrocarbons, however the concentrations are below the cleanup objectives in TAGM 4046.

AOC #2, Septic Leach Field North of Test Building

A septic tank and associated leach field had been removed from this area in 1991. While the tank had contained elevated concentrations of chlorinated solvents and total petroleum hydrocarbons (TPH), and groundwater in the area contained chlorinated solvents, previous investigations had not found a discrete area of contaminated soil acting as a source of groundwater contamination, and had concluded that the groundwater contamination was the result of a one-time release from the leach field. During the RI additional soil samples were collected from an area where a previous investigation found an elevated soil gas measurement, and from the area of the former septic tank. Sample results showed the presence of chlorinated solvents at concentrations well below the cleanup objectives in TAGM 4046. Elevated concentrations of TPH were found in soil borings from the location of the former septic tank. However, TPH does not appear to be migrating into the wetland.

AOC #3, Former Above Ground Solvent Tanks

Three above ground tanks, two containing TCE and one containing waste oil, had previously been located inside the Building 2. Previous sampling had been non-detect for VOCs in the soil. Samples collected during the RI were analyzed for SVOCs, Pesticides/PCBs, and metals. The samples were negative for organics, and concentrations of metals were below the cleanup objectives.

AOC #4, Removed Above Ground Tanks, East Side of FRP-2

Above ground tanks or storage trailers were reportedly used to store chemicals along the east side of FRP-2. Previous sampling had not detected any VOCS in the soil. Additional samples collected during the RI were analyzed for the full TCL. Low levels of pesticides were detected, but below the cleanup objectives.

AOC #5, Removed USTs and Drywell North of Building FRP-2

This area was the location of nine USTs, which contained both chlorinated and non-chlorinated solvents, as well as a paint drippings drywell. The USTs were removed in 1986, and the drywell was removed in 1992. Previous sampling had detected elevated concentrations of both chlorinated and non-chlorinated solvents in the soil, in concentrations up to 2,300,000 ppb total VOCs, of which the primary constituents are the chlorinated solvents 1,1-DCE, 1,2-DCE, 1,1-DCA, 1,1,1-TCA, and TCE, and the non-chlorinated solvents toluene, ethylbenzene, and xylenes. Free phase solvent product was present in the soil immediately above the water table. A subsurface soil sample was collected during the RI and analyzed for TCL/TAL, to determine whether compounds other than VOCs were present. Analytical results showed the presence of a variety of PAHs and pesticides, however, at concentrations below cleanup objectives. A soil vapor extraction IRM, described in more detail in Section 4.2, is currently in operation.

AOC #7, Underground Storage Tank T-51

Previous investigations in this area revealed the presence of petroleum hydrocarbons in the groundwater in the vicinity of the former 10,000 gallon fuel oil tank, including up to six inches of free-phase petroleum product floating on the surface of the groundwater. Additionally, background information indicated that drums containing residual amounts of Freon may have been rinsed out in this area. Although significant amounts of Freon have not been detected in the soil, Freon is present in groundwater samples collected from this area. Soil borings collected during the RI showed stained soil and elevated PID readings at a depth equivalent to and directly above the water table elevation. The presence of contaminants in the soil may be due to the direct release of product, or may be due to deposition of floating product from the groundwater onto the soil during groundwater elevation fluctuations. This layer of contamination continues to act as a source of groundwater contamination, and is being addressed by both the currently operating IRM which is removing the free product (described in more detail in Section 4.2), and by intrinsic bioremediation, which is breaking down the petroleum hydrocarbons.

AOC #9, Removed UST, T-50

Previous investigations revealed the presence of petroleum hydrocarbons in the soil in the vicinity of a former 10,000 gallon fuel oil tank, however, at concentrations below cleanup objectives. Soil samples collected during the RI confirmed that concentrations are below the cleanup objectives.

AOC #10, Temporary Hazardous Materials Storage Area

When GE was operating the facility, drums containing hazardous materials, primarily waste oils and unused solvents, were temporarily stored in the parking lot north of Building 2. Subsurface soil samples collected during previous investigations showed elevated concentrations of chlorinated and non-chlorinated solvents at a depth equivalent to and directly above the water table elevation, with total VOCs of 3520 ppb (primarily 1,1-DCA and 1,1,1-TCA) in one sample. Soil samples collected during the RI did show the presence of chlorinated solvents, the concentrations for the most part are below the TAGM 4046 cleanup objectives. The determination was made that a discrete source of soil contamination did not appear to be present. However, groundwater analytical results indicate that this area may be acting as a diffuse source of groundwater contamination, the result of small, isolated spills. Groundwater contamination in this area may also result from upgradient and crossgradient sources, . and one previously removed proximal source (AOC #1, the debris pile). No discrete source areas of organic compounds were located in the shallow soil in this area, and since the groundwater will be collected and treated downgradient, no further evaluations, investigations, or soil remediations are required in AOC #10.

AOC #11, Radar Test Area

Previous investigations revealed the presence of VOC affected soils and groundwater in this area directly north of Building 2. In 1992 two areas of affected soil were excavated and removed by GE. During the RI five borings were installed in areas of where a soil gas survey identified soil gas concentrations greater than 1 ppm. Soil sampling showed the presence of volatile contaminants in only two of the ten soil samples, at concentrations (Acetone at 75 ppb and 15 ppb, 1,2-DCE at 8 ppb, and methylene chloride at 14 ppb) well below cleanup objectives.

AOC #12, Paint Booth Area

GE operated a paint booth along the north wall of Building 2. During previous investigations, soil borings were installed through the floor of the plant. Samples collected did not show the presence of VOCs. During the RI two borings were installed, and soil samples collected and analyzed for metals. Results were below cleanup objectives.

AOC #16, Removed Gasoline UST Near the Garage

Previous investigations had identified the presence of gasoline residuals in the soil and groundwater near an underground gasoline storage tank, with concentrations of benzene, toluene, ethylbenzene, and xylene up to 1,375,400 ppb in soil. The tank was removed in 1992. Soil borings installed during the RI were analyzed for SVOCs and lead, to determine whether contaminants other than gasoline were present: all results were below cleanup objectives. A soil

vapor extraction and groundwater recovery and treatment IRM, described in more detail in Section 4.2, is currently in operation.

Sediments

Storm Sewers and Catch Basins

Sediment samples were collected from 14 storm sewer catch basins within the fenced-in portion of the site. VOCs (methylene chloride, acetone, 1,1-DCA, and 1,1,1-TCA) were found in seven of the 14 catch basins, with concentrations up to 18,400 ppb total VOCs. SVOCs, primarily PAHs, were detected in every sediment sample. Twelve different pesticides were detected in 10 of the catch basins, with concentrations ranging from 0.33 ppb of aldrin to 23 ppb of alpha-chlordane. PCBs (Aroclor-1254) were detected in five catch basins, with the concentration ranging from 66 ppb to 180 ppb. An IRM to clean the storm sewers and catch basins, described in more detail in Section 4.2, was performed in September 1995.

Storm Sewer Outfalls

Sediment samples were collected from each of the eight outfalls that discharge into the wetlands and analyzed. Four VOCs (methylene chloride, chloroform, TCE, and toluene) were detected in sediments at 5 of the outfalls, at concentrations ranging from 1 ppb of chloroform to 23 ppb of methylene chloride. SVOCs and pesticides were detected in each of the samples collected, at concentrations for SVOCs ranging up to 440 ppb (benzo(b)fluoranthene), and for pesticides ranging up to 97 ppb (4,4'-DDT). PCBs were detected at 6 outfalls, with the highest concentration at Outfall 003 (5.9 ppm). A soil removal IRM, described in more detail in Section 4.2, was performed at Outfall 003.

Wetlands

Twenty-four sediment samples were collected from twelve locations in the wetlands to the north of the facility during the RI, at depths of 0-1 foot and from 1-2 feet, and analyzed for VOCs. Fifteen contained measurable concentrations of eight VOCs (acetone, 1,1-DCA, 2-butanone, TCE, benzene, Freon, MTBE, and hexane). Acetone was detected in eight samples, and ranged in concentration from 10 ppb to 530 ppb. 1,1-DCE was detected in two samples, at 4 ppb and 10 ppb. Seven samples contained 2-butanone, at concentrations from 7 ppb to 230 ppb. TCE was detected in four samples, and ranged from 3 ppb to 30 ppb. Benzene was found in one sample, at 66 ppb. Freon was detected in one sample, at 18 ppb. Two samples contained MTBE, at 170 ppb and 360 ppb. Hexane was found in two samples, at 26 ppb and 12 ppb.

Groundwater

Previous investigations had identified several areas of groundwater contamination, associated with the AOCs discussed above. During the RI groundwater samples were collected and analyzed from 28 overburden monitoring wells and 3 glacial till wells. Groundwater samples were also collected from 13 piezometers installed in the wetland, and analyzed for VOCs. An additional round of

groundwater samples were collected from 9 monitoring wells in August 1996, and analyzed for VOCs, metals, and selected inorganic parameters such as dissolved oxygen and carbon dioxide. Figure 3 shows the location and extent of affected groundwater.

Site soils are composed of medium to fine sand with silt overlying a dense glacial till. Depth to the till varies from 9 feet on the west side of FRP-2, to greater than 40 feet northeast of the property. Depth to groundwater varies across the site, but is generally less than 15 feet below grade. Groundwater flows to the north. An upward gradient in MW-26S/26D suggests that groundwater discharges to the wetland at the north end of the site. Hydraulic conductivity, which is a measure of the speed with which water moves through the soil, is high in the saturated overburden, ranging from 10^{-2} centimeters/second (cm/s) to 10^{-4} cm/s. Laboratory tests indicate that the conductivity of the glacial till is very low, approximately 10^{-8} cm/s.

Areas of groundwater containing concentrations of chlorinated solvents exceeding SCGs are located on the FRP-2 property, and north of the test building. The primary source area appears to be the contaminated soils in AOC #5. The former contaminated soils in the radar test area (AOC #11) were another source, as was the debris pile (AOC #1), and the area on the east side of Building 2 where drums containing residual Freon were rinsed out. The former temporary hazardous material storage area (AOC #10) may be acting as a diffuse source of groundwater contamination. The former septic leach field north of the test building on the FRP-1 property also appears to have been a source of contamination in that area.

Apart from the area north of the test building, the contaminated groundwater leaves the developed portion of the site north of Building 2, and appears to discharge to the Class I wetland in that area.

Areas of groundwater containing concentrations of petroleum hydrocarbons exceeding SCGs are located in three primary areas, the location of the former gasoline UST south of the garage (AOC #16), the area between the two primary buildings where two underground fuel oil tanks used to be (AOCs #7 and 9), and the former location of the 9 USTS west of Building 2 (AOC #5). Chlorinated solvents and petroleum hydrocarbons are mingled in the plume northeast of AOC #5, and to a lesser extent north of AOC #7.

Chromium is present in the groundwater near the southwest corner of Building 2 (AOC #6), near the former location of a cupric chloride tank, at concentrations exceeding SCGs (271 ppb). The extent of contaminated groundwater appears to be limited to the area immediately adjacent to MW-19. The soil and groundwater analytical results for this area indicate that the chromium exists in a relatively insoluble form, and is binding strongly to the soils in the immediate area of AOC #6. As a result, it was concluded that the chromium should naturally attenuate over time, therefore no further action other than continued monitoring is required at this time.

Surface Water

Surface water samples were collected from the Seneca River in June 1992, and from the wetland in November 1993 as part of the RI. VOCs were not detected in the samples from the Seneca River. The three samples collected from the wetland contained VOCs, with low concentrations of carbon disulfide (6 and 2 ppb) found in two samples, and low concentrations of 2-butanone (7 ppb) found in one sample. Methyl tert-butyl ether was found in one sample, at 310 ppb.

3.2 Interim Remedial Measures:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. The five IRMs described below, have been conducted at this site since the start of the RI/FS.

AOC #5:
A Soil Vapor Extraction (SVE) IRM has been in operation at the site since November 1995 to address VOC contamination in the soil. By applying a vacuum to the vadose zone, VOCs are volatilized into the soil gas, and removed from the soil. The purpose of the SVE unit is to remove VOCs from the soil in the vicinity of the former USTs. The SVE system is also remediating residual contamination resulting from layers of residual NAPL, both floating and a dense sinking phase, which were identified in several of the extraction wells. A removal program carried out as part of the IRM in 1995 and 1996 reduced the NAPL layers to a film.

AOC #7:
An IRM has been in operation in the area of the former underground fuel oil storage tank since July 1994. The IRM consists of a product recovery system, to remove free product from the surface of the groundwater. As of January 1997 approximately 118 gallons of product have been recovered.

AOC #16:
An IRM that addresses both soil and groundwater VOC contamination has been in operation at this location since December 1995. Soil treatment consists of an SVE system, similar to that in AOC #5. Groundwater treatment consists of recovery and treatment via air stripping.

Catch Basin and Storm Sewer Remediation:
Sediment samples collected from storm sewer catch basins indicated the presence of VOCs, SVOCs, pesticides, and PCBs. An IRM was completed in September 1995, which involved removing sediment from the catch basins, and pressure washing the storm sewer lines.

Storm Sewer Outfall 003:
Sampling showed the presence of elevated levels of PCBs in sediments at the discharge point of Outfall 003, which empties into the wetland after draining the northwest corner of the parking lot

of FRP-2. In August 1996 LMC completed a soil removal IRM, during which the contaminated sediments were excavated and disposed of off-site and the outfall pipe cleaned. At the completion of the removal, the wetland area was restored with appropriate soil and vegetation. After the removal was completed, the PCB concentrations in remaining sediments were below the NYSDEC cleanup level for PCBs identified for this IRM.

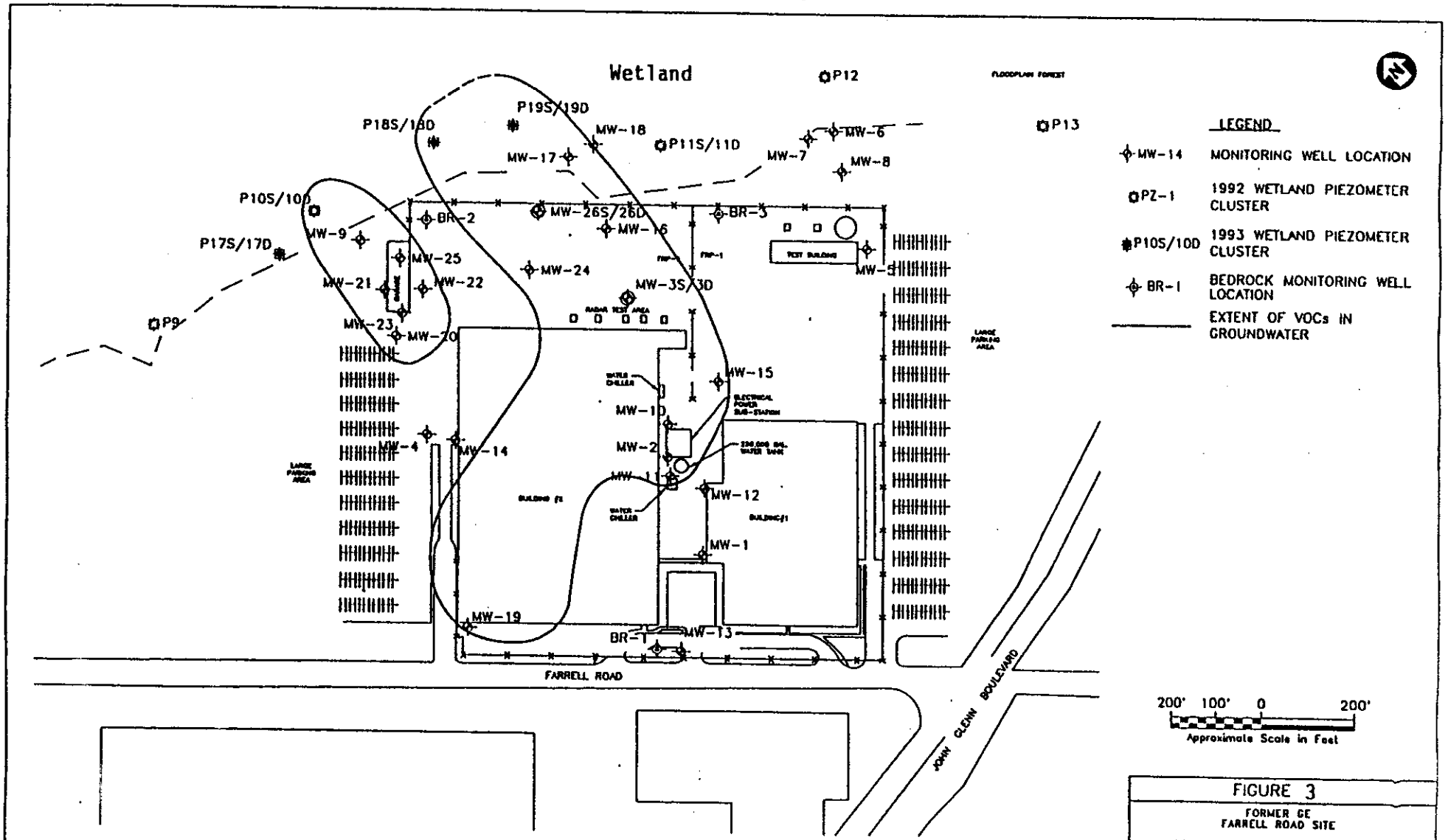


FIGURE 3

FORMER GE
FARRELL ROAD SITE

MAXIMUM EXTENT OF VOCs IN GROUNDWATER

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NOTE: VOC EXTENT BASED ON AVAILABLE GROUNDWATER DATA 1992 THROUGH 1996.

Figure modified by NYSDEC

DATE: 12/16/96 (DTC)
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3.3 Summary of Human Exposure Pathways:

This section describes the types of human exposures that could potentially present health risks to persons at or near the site. A more detailed discussion of potential risks can be found in Section 10 of the RI Report.

An exposure pathway is the mechanism by which an individual may come into contact with a contaminant. For a complete pathway to exist one needs a source of contamination, a medium in which contamination is transported, a point of contact, a receptor, and a route by which the contaminant may enter the receptor. Potential pathways considered include current or future events.

Completed or potential pathways which are known to or may exist at the site include:

* Potential exposure of construction workers and site employees to volatile organics and fugitive dust emissions during possible future construction activities.

* Potential exposure of construction workers and site employees to contaminated soils by direct contact during possible future construction activities.

* Potential future exposures of recreational river users to contaminants which may, in the future, migrate to the Seneca River via contaminated groundwater. Routes of exposure would include direct contact with surface water, and ingestion of affected fish.

As the areas of contamination are primarily located below the ground surface, the presence of hazardous waste should not affect Syroco's current use of the site.

3.4 Summary of Environmental Exposure Pathways:

This section summarizes the types of environmental exposures which may be presented by the site. The Fish and Wildlife Impact Assessment included in Section 9 of the RI presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources.

The northern portion of the site includes approximately 81 acres of Class I wetland adjacent to the Seneca River. Contaminants have entered the wetland from the storm sewer outfalls and from the discharge of contaminated groundwater to the wetland. The storm sewer outfalls were cleaned and PCB-contaminated soils and sediments were removed from an area of the wetland near a storm sewer outfall as IRMs. The remaining significant source of contamination to the environment is the discharge of contaminated groundwater from the developed portion of the site to the wetland.

Concentrations of certain contaminants have been detected in the surface water, shallow groundwater, and sediments, some of which exceed guidance values. Considered individually, the presence of these contaminants do not appear to represent a significant environmental risk. However, when considering these contaminants along with the other detected organic compounds for which standards or guidance values do not exist, it is possible that additive and synergistic effects potentially pose a significant risk to fish and wildlife resources in the wetland.

As presented in Section 6, Summary of the Remediation Goals, one of the remedial objectives for the site is to prevent migration of contaminated groundwater into the wetland at the northern edge of FRP-2. If the source of contaminants to the wetland, that is, the migration of contaminated groundwater, is controlled at the northern edge of FRP-2, the contaminant concentrations in the wetland are expected to attenuate, thereby reducing potential risks to ecological receptors. Therefore, since any remedial action in the wetland has the potential to cause significant harm to the wetland, no further investigation or remediation of wetland surface water, groundwater, soil, or sediment would be necessary as long as the discharge of contaminated groundwater into the wetlands is controlled.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers. The NYSDEC and Martin Marietta Corporation entered into a Consent Order on December 15, 1993. The Order obligates the responsible parties to implement a RI/FS remedial program. Upon issuance of the Record of Decision the NYSDEC will approach the PRPs to implement the selected remedy under an Order on Consent.

The following is the chronological enforcement history of this site.

Date	Index No.	Subject of Order
12/16/93	A7-0307-93-10	RI/FS
3/21/94	A7-0308-93-10	IRMs

In March 1995, Martin Marietta Corporation merged with Lockheed Corporation, and as a result MMC become a wholly-owned subsidiary of Lockheed Martin Corporation (LMC). Effective January 29, 1996, MMC merged into LMC. LMC is the successor by merger to MMC and has assumed MMC's obligations under the RI/FS and IRM consent orders.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all applicable Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Mitigate the potential threat to the Class I wetland biotic community resulting from the continued migration of contaminated groundwater to the wetland from the developed portion of the FRP-2 property.
- Protect potential future on-site workers.
- Achieve groundwater standards, where practicable.
- Provide for attainment of SCGs for Class I wetlands by eliminating the discharge of contaminated groundwater into the wetland.
- Protect human health by preventing the migration of contaminants in groundwater towards the Seneca River.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the GE Farrell Road site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled *Feasibility Study, Farrell Road Plant,* February 1997.

A summary of the detailed analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated groundwater and the sources of contaminated groundwater at the site. The potential remedies have been developed and are evaluated with the consideration that the identified source areas which have resulted in the widespread groundwater contamination are being addressed by IRMs presently in operation. The continued treatment of these sources by the IRM is an integral part of each alternative evaluated below.

Alternative 1 - No Further Action

Present Worth:	$ 620,000
Capital Cost:	$ 0
Annual O&M:	$ 70,000
Time to Implement:	N/A

The no further action alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative recognizes remediation of the site conducted under currently operating and previously completed IRMs. Under this alternative, the site would remain in its current condition with the following existing institutional controls and IRM systems in operation:

* Institutional controls on future site use;
* Site security via fencing;
* SVE system at AOC 5;
* Free-product recovery system at AOC 7; and
* Groundwater pump and treat system and an SVE system at AOC 16.

The IRMs are described in more detail in Section 4.2, Interim Remedial Measures.

Alternative 2 - Installation of a Reactive Iron Wall

Present Worth:	$2,620,000
Capital Cost:	$1,300,000
Annual O&M:	$30,000
Time to Implement:	12-18 months

This alternative would involve the placing of a reactive iron wall, consisting of granular iron, across the northern edge of the paved portion of FRP-2 to intercept and treat contaminated groundwater from the developed portion of the site, prior to its migration into the adjacent wetland. The basis for this technology is the reductive dehalogenation of halogenated VOCS by zero valent iron filings (i.e. hydrogen atoms are substituted for halogen atoms such as chlorine). As the impacted groundwater flows through the permeable wall, the reactive iron metal would

be corroded by both water and the chlorinated organic compounds. This process is a destructive treatment technology for many contaminants, and the end-products are completely dehalogenated.

Under this alternative, the currently operating SVE treatment systems at AOCs 5 and 16, the groundwater treatment system at AOC 16, and the product recovery system at AOC 7, as described above in Section 4.2, Interim Remedial Measures, would remain in operation, consistent with the IRM work plans for these areas.

Alternative 3 - Hydraulic Containment Via Groundwater Recovery Wells and Air Stripping

Present Worth:	$ 1,610,000
Capital Cost:	$ 210,000
Annual O&M:	$ 44,000
Time to Implement:	6-12 months

This alternative would involve the installation of a groundwater recovery and treatment system at the northern edge of the paved area of FRP-2 in order to intercept contaminated groundwater which would otherwise flow from this area to the adjacent wetland. Hydraulic containment would be achieved with a series of groundwater recovery wells. The recovered groundwater would be treated by air stripping. The treated groundwater would be discharged to the wetland in accordance with effluent limitations established by the NYSDEC.

Under this alternative, the currently operating IRM treatment systems at AOCs 5, 7, and 16, as described above in Section 4.2, Interim Remedial Measures, would remain in operation. The groundwater treatment system at AOC 16 would either continue to operate as an independent system, or would be incorporated into the overall groundwater recovery system described in this alternative.

Alternative 4 - Hydraulic Containment Via Groundwater Recovery Wells and UV/Hydrogen Peroxide Oxidation

Present Worth:	$2,420,000
Capital Cost:	$330,000
Annual O&M:	$81,000
Time to Implement:	6-12 months

This alternative would consist of the installation of a groundwater recovery and treatment system at the northern edge of the paved area of FRP-2 designed to intercept contaminated groundwater which would otherwise flow from this area to the adjacent wetland. Hydraulic containment would be achieved with a series of groundwater recovery wells, as described in Alternative 3. The recovered groundwater would be treated with a UV/hydrogen peroxide oxidation treatment system, which would break down contaminants to carbon dioxide, water, and chlorine. The

treated groundwater would be discharged to the wetland in accordance with effluent limitations established by the NYSDEC.

Under this alternative, the currently operating IRM treatment systems at AOCs 5, 7 and 16, as described above in Section 4.2, Interim Remedial Measures, would remain in operation.

Alternative 5 - Hydraulic Containment Via Groundwater Recovery Wells and Ex situ Biological Degradation

Present Worth:	$1,920,000
Capital Cost:	$390,000
Annual O&M:	$54,000
Time to Implement:	12-18 months

This alternative would involve installing a groundwater recovery and treatment system at the northern edge of the paved area of FRP-2 in order to intercept contaminated groundwater which would otherwise flow from this area to the adjacent wetland. Hydraulic containment would be achieved with a series of groundwater recovery wells, as described in Alternative 3. The recovered groundwater would be treated with an aerobic fluidized bed treatment system, in which a mixture of water and activated carbon is supersaturated with oxygen, and an energy source (such as phenol) is added to promote the growth of bacteria which can partially degrade chlorinated compounds. Treatability testing would be required to determine the effectiveness of this alternative in degrading the site contaminants. The treated groundwater would be discharged to the wetland in accordance with effluent limitations established by the NYSDEC.

Under this alternative, the currently operating SVE treatment systems at AOCs 5, 7 and 16, as described above in Section 4.2, Interim Remedial Measures, would remain in operation.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance. SCGs applicable at this site include the Freshwater Wetlands Act,

Article 24 and Title 23 of Article 71 of the Environmental Conservation Law, and the Freshwater Wetlands Permit Requirements Regulations, 6 NYCRR Part 663, which restrict the discharge of contaminants into wetlands.

The No Further Action alternative would not meet SCGs since it would not prevent the continued migration of contaminated groundwater into the Class I wetland. The reactive iron wall (Alternative 2) would not achieve the chemical-specific SCGs for acetone and chloroethane. Hydraulic containment via groundwater recovery wells would prevent the migration of impacted groundwater into the wetlands, and therefore satisfy SCGs pertaining to groundwater and contaminant discharge to wetlands. Subsequent treatment of extracted groundwater via either air stripping, UV/hydrogen peroxide oxidation, or biological degradation would all be expected to meet water effluent limitations. Emission controls would be applied to the air stripper if required under applicable regulations to meet air emission limitations.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

The No Further Action alternative would not be protective, in that it may not eliminate the potential risks to the wetland through continued migration of contaminated groundwater into the wetland. The IRMs, which would continue under the No Further Action alternative, would continue to treat the soil source areas, thereby addressing potential human exposure. All other alternatives would be protective of human health and the environment by preventing the discharge of contaminated groundwater into the wetland, and would reduce the potential risk to human health by reducing concentrations of contaminants in the soil or groundwater in AOCs 5, 7, and 16.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

All of the remedial alternatives except the no further action alternative would involve some degree of disturbance of site soils and material handling, particularly the reactive iron wall installation which would be a significant excavation. Soil excavation activities would present potential short-term exposure to onsite workers due to volatilization of VOCs from the contaminated groundwater. Mitigative measures, such as appropriate levels of personal protection, and health and safety planning and monitoring, would be required during the implementation of any alternative. Dust suppression measures for controlling fugitive dust generated during the remedial activities would be implemented, if necessary. With these measures, no significant short-term risks to site workers and off-site receptors would be presented during the implementation of any

of the alternatives. However, the hydraulic containment alternatives would provide lower short-term risks than the reactive iron wall, due to the greater scope of soil excavation necessary during the reactive iron wall installation.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Continued operation of the IRMs at AOCs 5, 7, and 16 would increase the effectiveness of the No Further Action alternative, but would not be effective in meeting the RAOs.

As a destructive treatment technology, the reactive iron wall has been demonstrated to be effective at dechlorinating most chlorinated compounds. This technology would be considered a permanent remedy for all the chlorinated compounds of concern except for chloroethane. It also would not be effective for the nonchlorinated solvents such as acetone. Therefore, the reactive iron wall would not be fully effective in treating the specific mix of contaminants at this site.

The long-term effectiveness of the hydraulic containment alternatives would rely on continuous system operation and maintenance until site-wide groundwater contaminant concentrations decrease to acceptable levels. As long as the system is operated and maintained continually, the hydraulic containment alternatives would achieve long-term effectiveness and permanence.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Based on a site-specific evaluation, natural attenuation processes, including natural biodegradation, are expected to slowly degrade the contaminants in the groundwater, resulting eventually in long-term permanent reduction in toxicity, mobility and volume of contaminants in groundwater. However, the length of time needed for natural attenuation to decrease the volume of contaminants in soil and groundwater is unknown, and is expected to be significantly longer than for the other alternatives. In addition, natural biodegradation is significantly less effective for chlorinated solvents than for petroleum hydrocarbons.

Continued operation of the IRMs at AOCs 5, 7 and 16 under the no further action alternative would reduce the contaminant mass loading to site groundwater and thus eventually reduce the toxicity and volume of affected groundwater however, the mobility of the contaminants, particularly with regard to discharge to the wetland would not be addressed. The iron reactive wall would destroy most contaminants in groundwater and reduce the volume of impacted groundwater downgradient of the wall installation. All of the hydraulic control alternatives would reduce the volume of impacted groundwater downgradient of the extraction system. Unless

emission controls were required, the air stripping treatment alternative would increase the mobility of the contaminants in the short term, by transferring the contaminants to the air. However, air emissions would be below air emission requirements. The biological treatment and UV/hydrogen peroxide groundwater treatment alternatives would destroy the groundwater contaminants.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

All of the remedial alternatives would be technically feasible and could be implemented at the site. Air stripping and UV/hydrogen peroxide oxidation treatment technologies are fully developed and currently in use at numerous sites throughout the U.S. However, ex situ biological degradation technology is not typically implemented on groundwater treatment projects of the size and type

required for the site. Therefore, bench-scale and possibly pilot-scale testing would be necessary to verify that it can be successfully implemented for this site. The reactive iron wall alternative was developed for this site based on the assumption that a trenching machine capable of achieving the desired depths would be available by the time the chosen alternative would need to be implemented.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

Other than no further action, hydraulic control and treatment via air stripping is the least expensive alternative. Installation of a permeable iron reactive wall is the most expensive.

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
1. No Further Action	$0	$70,000	$620,000
2. Reactive Iron Wall	$1,300,000	$30,000	$2,620,000
3. Hydraulic Containment via Groundwater Recovery Wells and Air Stripping	$210,000	$44,000	$1,610,000
4. Hydraulic Containment via Groundwater Recovery Wells and UV/Hydrogen Peroxide Oxidation	$330,000	$81,000	$2,420,000
5. Hydraulic Containment via Groundwater Recovery Wells and Ex Situ Biological Degradation	$390,000	$54,000	$1,920,000

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. **Community Acceptance** - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The " Responsiveness Summary" included as Appendix A presents the public comments received and the Department's response to the concerns raised. In general the public comments received were supportive of the selected remedy.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is selecting **Alternative 3, hydraulic containment via groundwater recovery wells and air stripping,** as the remedy for this site.

The no further action alternative would not be protective, and would not meet SCGs. The hydraulic control alternatives would meet both threshold criteria. The reactive iron wall alternative would not meet SCGs for two contaminants. The hydraulic control alternatives would all meet the short term and long term effectiveness criteria, however, of these, the ex situ bioremediation alternative would require extensive bench and pilot scale testing to verify that it would be effective. UV/hydrogen peroxide oxidation would reduce the toxicity, mobility, or volume of the contaminants more than air stripping, as the contaminants would be destroyed where in air stripping the contaminants would be transferred to the air. However, air emissions would be in compliance with emission requirements for the air stripper, and as it is the least expensive alternative, hydraulic control with air stripping is the proposed remedy.

Syroco currently owns the facility and operates it as a warehouse. Syroco's current operations should not interfere with the proposed remedial action.

The estimated present worth cost to implement the proposed remedy will be $1,610,000. The cost to construct the remedy is estimated to be $210,000 and the estimated average annual operation and maintenance cost for 30 years will be $44,000.

The elements of the selected remedy will be as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS will be resolved.

2. Installation and operation of a groundwater recovery system composed of a series of wells along the northern edge of the developed portion of FRP-2, in combination with the groundwater recovery system already in operation at AOC 16, to intercept and remove the contaminated groundwater (Figure 4).

3. Installation and operation of an air stripper treatment system, to treat the recovered groundwater so that it meets the water discharge requirements, and operation of an air emission treatment system if required under applicable regulations to meet air emission requirements.

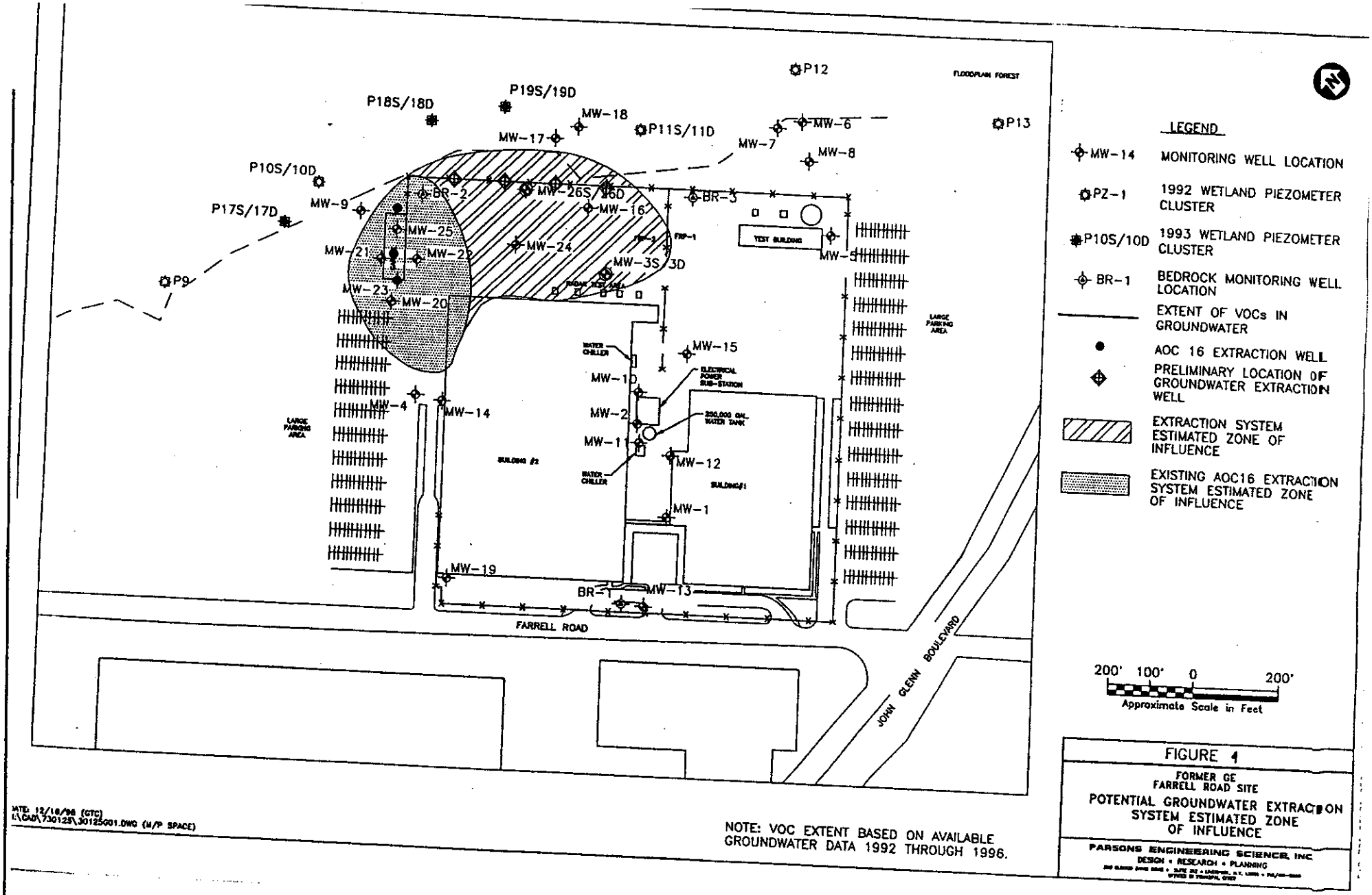
4. Discharge of the treated water into the wetland, in a manner that will maintain an appropriate water distribution in the wetland.

5. Continued operation of the source control IRMs at AOCs 5, 7, and 16, in accordance with the IRM Work Plans for these areas.

6. Continued operation of the groundwater recovery and treatment system until groundwater contaminant concentrations achieve groundwater standards, where practicable.

7. Since the remedy results in hazardous waste remaining at the site for an extended period of time, a long term monitoring program will be instituted to monitor the effectiveness of the selected remedy, as a component of the operation and maintenance for the site.

8. The site will be reclassified as a class 4 site, which indicates a site where remedial construction actions have been completed, but that requires continued operation, maintenance, and/or monitoring.



NOTE: VOC EXTENT BASED ON AVAILABLE GROUNDWATER DATA 1992 THROUGH 1996.

DATE: 12/16/96 (GTC)
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FIGURE 4
FORMER GE
FARRELL ROAD SITE
POTENTIAL GROUNDWATER EXTRACTION SYSTEM ESTIMATED ZONE OF INFLUENCE
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SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertake in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials loca media and other interested parties.
- A Fact Sheet was sent to the mailing list in May 1994, describing the upcoming Remedial Investigation
- A Fact Sheet was sent to the mailing list in January 1997, describing the results of the Remedia Investigation.
- A Fact Sheet was sent to the mailing list in February 1997, describing the results of the Feasibility Study and announcing the availability of the PRAP and the upcoming public meeting.
- A public meeting was held on March 6, 1997, to present the PRAP and to receive public comment.
- In March 1997 a Responsiveness Summary was prepared and made available to the public, to address th comments received during the public comment period for the PRAP.

Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCS)	Trichloroethene	ND (0.5) to 650	10 of 44	5
		1,1,1-Trichloroethane	ND(0.5) to 180	10 of 44	5
		Trichlorofluoro-methane (Freon)	ND(0.5) to 130	5 of 44	5
		1,1-Dichloroethane	ND(0.5) to 65	5 of 44	5
		1,1-Dichloroethene	ND(0.5) to 50	4 of 44	5
		Vinyl chloride	ND (0.5) to 4.7	1 of 44	2
		Benzene	ND(0.5) to 16,000	8 of 44	0.7
		Toluene	ND(0.5) to 12,000	5 of 44	5
		Ethylbenzene	ND(0.5) to 660	5 of 44	5
		Xylenes (total)	ND (0.5) to 2700	7 of 44	5
		Acetone	ND(0.5) to 4000	4 of 44	50
	Metals	Chromium	ND to 271	1 of 44	50
Soils	Volatile Organic Compounds (VOCS)	1,1-DCE	ND to 500	1 of 144	400
		1,1-DCA	ND to 73,000	6 of 144	200
		1,2-DCE	ND to 200	0 of 144	300
		1,1,1-TCA	ND to 6,200,000	11 of 144	800
		TCE	ND to 96,000	2 of 144	700
		PCE	ND to 140,000	1 of 144	1,400
		Benzene	ND to 5400	2 of 145	60
		Ethylbenzene	ND to 630,000	7 of 145	5,500
		Toluene	ND to 9,400,000	13 of 145	1,500
		Xylenes (total)	ND to 4,200,000	12 of 145	1,200
		Acetone	ND to 4,000	2 of 64	200

Table 1 (cont.)
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY OF EXCEEDING SCGs		SCG (ppb)
				Detections	Exceedences	
Sediments	VOCs	Methylene chloride	ND to 23	4 of 40		NGA
		Acetone	ND to 530	7 of 40		NGA
		1,1-DCA	ND to 10	2 of 40		NGA
		2-Butanone	ND to 230	7 of 40		NGA
		Benzene	ND to 66	1 of 40	0 of 40	72
		Trichlorofluoromethane (Freon)	ND to 18	2 of 40		NGA
		Methyl-t-butyl-ether	ND to 360	2 of 40		NGA
		Hexane	ND to 26	2 of 40		NGA
		Chloroform	ND to 4	2 of 40		NGA
		Trichloroethene	ND to 30	5 of 40	0 of 40	240
		Toluene	ND to 5	1 of 40		NGA
	Pesticides/PCBs	PCBs (total)	ND to 5,900	23 of 51	23 of 51	.0096
		alpha-BHC	ND to 0.5	3 of 16		NGA
		beta-BHC	ND to 1.5	of 16		NGA
		delta-BHC	ND to 1.6	8 of 16		NGA
		Heptachlor	ND to 2.3	2 of 16	2 of 16	.0096
		Aldrin	ND to 1.8	10 of 16	0 of 16	12
		Heptachlor epoxide	ND to 0.54	1 of 16	0 of 16	.0096
		Endosulfan 1	ND to 1.7	5 of 16	0 of 16	3.6
		Dieldrin	ND to 37	9 of 16	0 of 16	12
		4,4'-DDE	ND to 75	15 of 16	15 of 16	1.2
		Endrin	ND to 1.4	3 of 16	0 of 16	9.6

Table 1 (cont.)
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs		SCGs (ppb)
				Detections	Exceedences	
Sediments (continued)	Pesticides/PCBs (continued)	Endosulfan II	ND to 2.6	8 of 16		NGA
		4,4'-DDD	ND to 31	12 of 16	12 of 16	1.2
		Endosulfan sulfate	ND to 1.9	14 of 16		NGA
		4,4'-DDT	ND to 97	14 of 16	11 of 16	1.2
		Methoxychlor	ND to 2.5	2 of 16	0 of 16	72
		Endrin Ketone	ND to 1.8	1 of 16		NGA
		Endrin Aldehyde	ND to 7.8	1 of 16		NGA
		alpha-Chlordane	ND to 61	7 of 16	7 of 16	.12
		gamma-Chlordane	ND to 54	8 of 16	8 of 16	.12
	Semi-Volatile Organic Compounds (SVOCs)	Phenol	ND to 420	1 of 16	1 of 16	60
		2-Methylnaphthalene	ND to 76	1 of 16		NGA
		Phenanthrene	ND to 270	9 of 16	0 of 16	1,440
		Anthracene	ND to 37	2 of 16		NGA
		Carbazole	ND to 99	1 of 16		NGA
		di-n-butylphthalate	ND to 95	3 of 16		NGA
		Fluoranthene	ND to 250	11 of 16	0 of 11	12,240
		Pyrene	ND to 320	11 of 16		NGA
		benzo(a)anthracene	ND to 140	3 of 16		NGA
		bis (2-ethylhexyl)phthalate	ND to 200	15 of 16	0 of 16	23,940
		benzo(b)fluoranthene	ND to 440	4 of 16		NGA
		benzo(k)fluoranthene	ND to 230	4 of 16		NGA
Surface Water	VOCs	Acetone	ND to 6	2 of 3	0 of 3	50
		2-Butanone	ND to 7	1 of 3		NGA
		Methyl tert-butyl ether	ND to 310	1 of 3		NGA

SCGs:
Groundwater and Surface Water: 6 NYCRR Parts 700-705, Water Quality Regulations
Soil: NYSDEC TAGM 4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 1994
Sediments: NYSDEC Technical Guidance for Screening Contaminated Sediment, November 1993, using 12% organic carbon content for screening purposes.
NGA = No Guidance Available

APPENDIX A

RESPONSIVENESS SUMMARY

GE Farrell Road Site
Proposed Remedial Action Plan
Geddes (T), Onondaga County
Site No. 7-34-055

The Proposed Remedial Action Plan (PRAP) for the GE Farrell Road Site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on February 21, 1997. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated groundwater, soil and sediment at the GE Farrell Road Site. The preferred remedy is a combination of Hydraulic Gradient Control and Source Removal.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on March 6, 1997 which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. Written comments were received from the Lockheed Martin Corp., William J. Charles of Geddes Enterprises, Inc., William Yager, and one unidentified person.

The public comment period for the PRAP officially closed on March 24, 1997.

This Responsiveness Summary responds to all questions and comments raised at the March 6, 1997 public meeting and to the written comments received.

The following are the comments received at the public meeting, with the NYSDEC's responses:

COMMENT 1:

Is it possible to get an extension on the closure date for public comments? My reason is that the Town will have to consult with their engineers.

RESPONSE 1:

Following the meeting, the DEC provided information to the Town's engineers, and it was agreed that no extension of the public comment period was necessary.

COMMENT 2:

I own a section of the wetlands directly behind the site. Is there going to be any more study of how much contamination from the site is in the wetlands?

RESPONSE 2:

No, the wetlands have been studied, and there are no evident routes of migration for contaminants to move from the site onto adjacent properties. Contamination in the developed portion of the site is below the ground surface, therefore surface runoff from the site is not a problem. There had been contaminated sediments in the storm sewers and catch basins which drain the site and discharge into the wetland. However, in September 1995 LMC removed the sediments and cleaned the storm sewer lines. Another identified area of contamination was sediments below a storm sewer outfall in the wetland, which contained elevated concentrations of PCBs. In August 1996 LMC removed these contaminated sediments and restored the wetland area.

The remaining identified route of migration from the developed portion of the site would be contaminants in the subsurface soil leaching into the groundwater. The contaminated groundwater from beneath the site discharges into the on-site wetland. Extensive sampling was conducted of groundwater, sediment, and surface water in the wetland, to determine the extent of contamination from the site. In addition, samples collected from the Seneca River were nondetect for site contaminants.

COMMENT 3:

When it floods and the river rises, doesn't it rise right up to the back of that property? What type of effect would the site have on the river?

RESPONSE 3:

It is possible that during flooding, sediments from the wetland could get washed downstream from the site. However, the affected wetland near the site is far enough from the river that while it does flood in the spring, the water in this area is moving very slowly and is not likely to move any significant amount of sediment. In addition, given the low concentrations of contaminants in the wetland, any contaminated sediments moved by of river or any contaminants dissolved into the river water would be diluted to the extent that concentrations would not be detectable. Therefore, while the areas of contamination may be inundated, due to the low velocity of the water and low concentrations of the contaminants present, any significant migration of contaminated sediments or mobilization of detectable concentrations of contaminants in the flood waters is unlikely.

COMMENT 4:

I am very interested in the potential of the site. It seems to me that it is a great area for economic development. What is the potential for development of the site once it is cleaned up? Is the property privately owned?

RESPONSE 4:

The property is currently owned by Syroco, which is using the facility as a warehouse and distribution center. A positive aspect of the site investigation is that the NYSDEC was able to work with Martin Marietta and Syroco during the course of the RI/FS, to facilitate the sale of the property to Syroco. Neither the currently operating treatment systems nor the proposed remedy should preclude further development of the developed portion of the site although any proposed use would have to accommodate the treatment systems and take into account the contaminated soil present in certain areas.

The wetlands, whether publicly or privately owned, are protected and state regulations would severely limit any development of these areas.

COMMENT 5:

Are people less likely to develop if there are problems on the land?

RESPONSE 5:

It is more difficult to redevelop an inactive hazardous waste site than it is to redevelop a site where contaminants have not been found. However, there are a number of mechanisms available today, that were not in place when the site investigation began, to encourage development and re-use of industrial property, including the voluntary cleanup program, and the brownfields program, which is part of the 1996 Clean Water/Clear Air Bond Act.

COMMENT 6:

You have mentioned a couple of times that Class I wetlands are very important. Can you describe the criteria for Class I wetlands.

RESPONSE 6:

In addition to being larger than 12.4 acres, a Class I wetland has at least one of the following characteristics:

1. It is a classic kettlehole bog.
2. It is resident habitat of an endangered or threatened animal species.

3. It contains an endangered or threatened plant species.
4. It supports an animal species in abundance or diversity unusual for the state or for the major region of the state in which it is found.
5. It is tributary to a body of water which could subject a substantially developed area to significant damage from flooding or from additional flooding should the wetland be modified, filled, or drained.
6. It is adjacent or contiguous to a reservoir that is used primarily for public water supply, or it is hydraulically connected to an aquifer which is used for public water supply.
7. It contains four or more of the Class II characteristics.

The wetland at the site was classified as Class I because it contains four or more of the Class II characteristics listed below:

* emergent marsh, w/ purple loosestrife and/or reed covering less than 2/3 of the covertype.
* contains two or more wetland structural groups (for example, open water, and wet meadow).
* associated with permanent open water outside the wetland.
* adjacent to streams classified as Class C or higher.
* traditional migration habitat of an endangered or threatened animal species.
* Resident habitat of a plant or animal species vulnerable in the state.
* within an urbanized area.
* has demonstrable archaeological or paleontological significance.
* has an unusual geological feature which is an excellent representation of its type.
* adjacent to a body of water which could cause significant damage from flooding should the wetland be modified.
* hydraulically connected to an aquifer which is potentially useful as a water supply.
* within a publicly owned recreation area.

COMMENT 7:

The Conrail railroad track goes through the wetland.

RESPONSE 7:

The Conrail tracks are located to the west of the site. Restrictions on development within a wetland apply to new construction, not alterations already in place on September 1, 1975, when the regulations were promulgated. The Conrail tracks were already there when the wetland was classified as a Class I wetland.

COMMENT 8:

Could you briefly give the history of the site, when it was discovered that there was a problem, what process was followed at that point, and when the public was made aware of the problem.

RESPONSE 8:

Starting back in 1986, GE Aerospace began removing underground storage tanks and associated contaminated soil. Between 1986 and 1992 approximately 18 USTs and drywells were removed, two septic tanks and leach fields were removed, and two areas of contaminated soil and debris were excavated. These removal actions were overseen by the NYSDEC.

In 1991-1992, GE conducted investigations into potential site contamination. These investigations were the equivalent of the Phase I and Phase II Investigations that the NYSDEC would have performed to determine whether hazardous wastes were present, had the site been proposed as a hazardous waste site. There is no regulatory requirement that the DEC be notified prior to a company performing these investigations, and while GE did inform the DEC that it would be performing these investigations, the DEC did not review the Work Plans or oversee the fieldwork. There is a requirement that if hazardous waste disposal is identified the DEC must be notified, which GE did in 1992. At that point the state Superfund program, through the (then) Division of Hazardous Waste Remediation, became involved with the property.

As a result of GE notifying the DEC and supplying the results of the Phase I and Phase II investigations, a determination was made to add the site to the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site. At that time the property owner, the adjacent property owners on Farrell Road, and the Town Clerk were notified by letter of the listing.

In December 1993 MMC and the NYSDEC entered into a Consent Order, obligating MMC to implement a RI/FS remedial program. As part of the RI/FS a Citizen Participation Plan was developed, which included sending out fact sheets at the conclusion of the RI and the FS, and the development of a mailing list including public officials, the media, and adjacent property owners. In May 1994 a Fact Sheet was sent out to the people and companies on the mailing list, which included a brief history of the site and a description of the upcoming investigation.

The final phases of the RI were completed in August 1996. In January 1997 a Fact Sheet was sent out describing the findings of the RI. The FS was completed in February 1997, and a Fact Sheet was sent out in February 1997 describing the recommended remedy and announcing the public meeting, which was held on March 6, 1997.

COMMENT 9:

Why didn't GE or Lockheed Martin notify the DEC when they were investigating or doing these acts of remediation earlier on?

RESPONSE 9:

As discussed above, the hazardous waste remediation program did not become involved until 1992. Prior to this date, GE worked with the following programs within the DEC:

* Division of Hazardous Substances Regulation: compliance with regulations governing the handling of hazardous wastes by an active facility.

* Division of Air Resources: air emission permits.

* Division of Water: stormwater discharge.

* DEC Region 7 Spill Engineer: petroleum bulk storage registration and permits, underground storage tank removal

In addition, GE worked with the following government programs:

* Onondaga County Department of Drainage and Sanitation: wastewater discharge permit and monitoring for industrial discharge to a municipal system.

* USEPA: compliance with regulations regarding the treatment, storage and disposal of hazardous substances.

The NYSDEC spills remediation program, which was separate from the hazardous waste program, was notified and was involved with the tank removals. The spills remediation unit is responsible for Underground Storage Tank compliance.

COMMENT 10:

At the time of discovery of problems, did GE try to fix the problems? Did they notify you before they did that, and was it done under your jurisdiction or under your guidance?

RESPONSE 10:

Yes, as described above in the response to Question #8.

COMMENT 11:

In parallel cases to this in the past when tanks were removed without the knowledge or presence of the DEC, what are the usual procedures the DEC would take? Would there be any kind of action?

RESPONSE 11:

In this case the DEC was notified before the tank removals, and in general a DEC representative was present during the tank removals. If DEC had not been notified, especially if soil contamination or other evidence of a spill were present, legal action would have been taken against the owner of the tanks, including both penalties and the requirement to clean up the spill.

COMMENT 12:

Because the site has been determined to be affecting the wetland, I think the public has a right to know.

RESPONSE 12:

We agree that the public has a right to know about the site, and to this end fact sheets were sent out in May 1994, and in January and February 1997. A document repository has also been established at the Liverpool public library so that the public can review the reports regarding the site. We try to include adjacent property owners on the mailing list, and rely on getting the information out to town officials and the news media to inform people who are interested in the site but who are not on our mailing list.

COMMENT 13:

I live within the residential area close to the site, and I see nobody here from my community. I never received any public notice. I read in the Town Bulletin about the meeting. I compliment you on your presentation, I think it is great, but it's too bad people that really care don't even know what is going on.

RESPONSE 13:

We try to include nearby residences when creating a mailing list for a site, unfortunately, we missed that area. We have sent copies of the January and February 1997 fact sheets to the residents in that area, and with the assistance of the Town of Geddes have added their names

to the mailing list so they will receive future fact sheets and be informed of future public meetings.

COMMENT 14:

Can the Town of Geddes and the library have a copy of the PRAP?

RESPONSE 14:

LMC has sent copies of the RI, the RI Addenda, and the FS to the Solvay Public Library. The NYSDEC has sent a copy of the PRAP to the Town and to the Solvay Public Library. In the future, copies of documents will be sent to both the Town and to the Solvay Public Library.

COMMENT 15:

I would like to recommend that for disseminating highly technical information, just come in front of the town board and make a presentation, we meet once a month. I think personally it would be more efficacious than sending out these fact sheets. There is also a subcommittee of the county legislature, that would be most receptive to a presentation.

RESPONSE 15:

The NYSDEC is willing to make a presentation to the Town Board or to the County Legislature upon request. At the next milestone in the project we will contact the Town relative to this issue.

COMMENT 16:

Will you be having any updating meetings?

RESPONSE 16:

We will send out additional fact sheets when the ROD is signed and when construction is scheduled to start. If requested by the Town we will make a presentation to the Town Board, and will send a notification to the site mailing list so that people who are interested may attend.

COMMENT 17:

Has the New York State Department of Health taken a position on this program?

RESPONSE 17:

Yes. The NYSDOH has agreed with the proposed remedial action plan and ROD. There are concurrence letters from the Director of the State Health Department's Bureau of Environmental Exposure Investigation, Dr. Carlson, to Mr. O'Toole, who is the Director of DEC's Division of Environmental Remediation. The Dept. of Health has been involved in the investigation of this site from the start of the listing process, reviewing all reports and attending key meetings.

COMMENT 18:

Could the Town get a copy of the PRAP concurrence letter?

RESPONSE 18:

A copy of the PRAP concurrence letter was sent to the Town attorney by the NYSDOH on March 7, 1997.

COMMENT 19:

What studies have been done on the human population and are those studies available at the library ?

RESPONSE 19:

When the NYSDOH approaches a site they assess the possible ways that human populations in the vicinity of the site could come in contact with contaminants which might be present. If no routes of exposure exist then no followup studies are considered necessary. The NYSDOH assessment at this site was that there was no exposure to anyone in the surrounding neighborhood.

COMMENT 20:

Even if it is in the groundwater ?

RESPONSE 20:

Most of the surrounding area is served by a public water supply, so there is no groundwater consumption. In addition, the groundwater from the site is flowing away from populated areas towards the wetland and the River, therefore there is no complete exposure pathway.

COMMENT 21:

Has this remedy been used in the past and has it been successful? Is there an example?

RESPONSE 21:

The soil vapor extraction and pump treat systems being used at the site are standard remedial measures for this type of contamination. While SVE is a relatively new technology, it has quickly become one of the leading technologies for volatile contaminant removal from soil and is being used successfully at sites all over the State and Country. Groundwater pumping, with treatment via air stripping, is an established technology which is used extensively at both oil spills and hazardous waste sites across the country. Both of these technologies are very reliable at cleaning up soil and groundwater contaminated with volatile contaminants.

COMMENT 22:

How long with the treatment take?

RESPONSE 22:

The actual construction of the system will not take very long, and we anticipate that construction could start in the spring of 1998, or sooner.

The length of time needed for the SVE systems to clean up the soil is heavily dependent upon the specific conditions at the site, such as the type of soil, and the extent and type of contamination. The plan is to operate the systems until soil concentrations drop to beneath DEC cleanup objectives, which would indicate that leaching to groundwater would not be a problem, or until the systems have removed as much of the contamination as they are capable of removing. Typically SVE systems reach their maximum point of removal in two to five years. The data from the two SVE systems already operating at the site, which have been operating for a little over a year, indicates that soil concentrations may be decreasing. However, at this point we cannot say for sure how much longer it will operate.

The groundwater pump-and-treat system will be operated as long as concentrations of contaminants exceed the state groundwater standards. The length of time it will be operated will depend, again, upon site-specific conditions, including how effective the SVE and free product removal systems are at removing the sources of groundwater contamination. Once the source areas are cleaned up, concentrations in the groundwater are expected to start to drop. In the PRAP, for the purpose of cost estimating the life of the project was estimated at 30 years, however, we expect that the site will probably be cleaned up in less time than that.

COMMENT 23:

What effect will it have on the treatment process if the river is very high?

RESPONSE 23:

When the river is high, the level of the groundwater also rises. To continue to capture the contaminated groundwater, the rate of pumping will have to be increased, therefore more water will be pumped and treated. It is possible that the system will not intercept some of the contaminated groundwater, however, this would only occur during and shortly after the actual flood event. This should not have a significant affect on the effectiveness of the cleanup process.

COMMENT 24:

Did you say there will there be a pumphouse or a filtration house?

RESPONSE 24:

A building housing the SVE and air stripper treatment units currently exists in the area of AOC #16. The specific configuration of the expanded system called for by this ROD will be determined during the design. The system will include at a minimum additional wells and a pumps. An additional air stripping treatment unit may be added, or the existing system may be enlarged.

COMMENT 25:

When will this be open for bids for contractors?

RESPONSE 25:

We hope that construction will start by the spring of 1998. The construction and operation of the remedy will be performed by LMC.

COMMENT 26:

Do you know where the edge of the plume is in the wetland? How far is it from the area?

RESPONSE 26:

Extensive sampling has defined the sides of the plumes, as shown in Figure 1.4 in the Feasibility Study. The leading edge of the plume has not been fully defined, however, we

do know that the plume is moving towards the river, and that concentrations drop off significantly with distance from the developed portion of the site.

COMMENT 27:

The only view that we've seen is a topographical view down. Do you have a view of the site that would be a cross-section, not an overhead?

RESPONSE 27:

Yes, there are cross-sections in the RI Report (Fig. 8-2, on p. 8-3), and in the LNAPL/DNAPL Investigation RI Addendum (Figure 3), that show the layers of soil and the groundwater elevation.

COMMENT 28:

Are there lenses of organics underneath the soil or on top of the groundwater?

RESPONSE 28:

Pools of solvents and petroleum hydrocarbons floating on top of the groundwater (approximately 12 feet below the ground surface) were identified in two locations at the site.

In the first area, between the two buildings where a former underground storage tank had been used to hold fuel oil (AOC #7), a layer of fuel oil was found floating on top of the groundwater. Lockheed Martin is currently operating a treatment system to remove the fuel oil, and as of February 1997 approximately 118 gallons have been removed.

In the second area, on the west side of Building 2, where 9 underground storage tanks had been used to hold solvents (AOC #5), a pool of solvents was found floating on top of the groundwater. These solvents are being removed by the Soil Vapor Extraction (SVE) treatment system currently in operation in this area, and only a film remains. There was also a pool of solvents below the top of the groundwater, at a depth of approx. 12 to 14 feet. LMC has manually removed the available free product, and residual product will be removed by the SVE system.

COMMENT 29:

MMC has done a tremendous job coming forward and taking care of old problems at facilities they have inherited. They are actively pursuing doing it properly, not only here but over at the site on Electronics Parkway.

The following comments are based upon the comment letters received by the NYSDEC during the comment period. The commentor is identified and the summarized comments, along with the State's response, is presented below. The complete letters have been included in the Administrative Record for the ROD.

A letter dated February 25, 1997 was received from William Charles of Geddes Enterprises, Inc., which included the following comments:

COMMENT 30:

Our only concern would be that GE or Atlas Paving would not affect our land in any way.

RESPONSE 30:

Since Atlas Paving was not included in the investigation into the GE Farrell Road site, we are unable to make any statements regarding them. As discussed more fully in Comments #2 and 3, it appears that contaminants from the site have not moved off-site in any significant amounts.

A letter dated March 7, 1997 was received from William Yager, with the following comment:

COMMENT 31:

You did not address runoff onto adjacent lands. The contaminants could be deposited onto the lands of other property owners. This contributes to negating the use of many nearby acres of land for future use. Your concerns are not broad enough to determine the overall effect of GE to other property owners.

RESPONSE 31:

As discussed more fully in Comments #2 and 3, it appears that contaminants from the site have not moved offsite in any significant amounts.

A letter dated March 14, 1997 was received from unidentified commentor which contained the following comments:

COMMENT 32:

We were informed by folks at your Meeting it would take 5 years or so to cleanup the contamination of the land above and adjacent areas due to the rising and lowering of the flow of water.

RESPONSE 32:

Rising and falling groundwater levels are not expected to have a major affect on the length of time it will take to clean up the site. As discussed above in Comment #22, the time required to clean up the source areas is primarily determined by the soil characteristics, and the type and extent of contamination. Periodic floods may have some impact, however only during and shortly after the actual flood event.

COMMENT 33:

Some people who own homes on Van Vleck Road with wells are also concerned.

RESPONSE 33:

Wells on Van Vleck Road should not be affected by the GE Farrell Road site since the contaminated groundwater at the site flows away from Van Vleck Road and towards the Seneca River.

COMMENT 34:

To say no contaminated waters ran downstream is foolish, particularly with the number of thunderstorms in the area. The wetlands get over flooded too.

RESPONSE 34:

As discussed more fully in Comments #2 and 3, contaminant movement from the site wetlands to offsite areas in any significant amounts is unlikely.

COMMENT 35:

What happens to the area during the next 5 years with children etc. in the area. The area has been getting more and more unsafe as Syracuse, etc. continues to drain into the River via the Lake.

RESPONSE 35:

One should not be concerned with the safety of children in the area. In order for them to be harmed they would have to come in contact with contaminated materials. The predominant contaminated materials at the GE site are soils and groundwater beneath the surface of the ground and, therefore, inaccessible by children. The developed portion of the site is fenced and paved, and trespass is unlikely. The only potential for contact with contaminated media would be for children playing in the wetland area where there might be contaminated surface water or sediments or surface soils. Data from samples of these materials indicate that chemicals are present only at very low levels, well below those which would be a problem for human exposure . The impacted area of the wetland is not a particularly accessible area and is thickly overgrown. Therefore, the frequency of trespass and the duration of any exposure would be minimal. Once the groundwater interception system is in place along the edge of the developed area of the site, contamination will be prevented from migrating to the wetland and conditions in the wetland will improve with time.

COMMENT 36:

GE filled in their wetland areas years ago so the contaminated soils are retained in the so called wetlands rather than washed down the river and diluted and washed away. This is a huge problem and cannot be solved unless the lowland is filled in to move the water downstream instead of retaining it in a holding basin such as Atlas Paving is doing.

RESPONSE 36:

Wetlands are a valuable resource, both for the habitat provided for fish and wildlife, and for the benefits provided for flood control, erosion control, protection of groundwater, and recreation. As discussed above in Questions #2 and 3, sediments being washed down the river during flooding is not a significant concern. By treating the sources of contamination and preventing the continued migration of contaminants into the wetland, the amount of contaminants in the wetland will decrease, thereby decreasing the potential risk to the wetland without decreasing the benefits provided by the wetland. Treatment choices for wetlands have to take into account the fragility of wetlands. One alternative would have been to excavate and remove the contaminated sediments in the wetland. However, this would cause significantly more harm to the wetland than allowing the contaminants already in the wetland to naturally attenuate, as will happen under the selected alternative.

COMMENT 37:

The Town of Geddes Attorney as well as Onondaga Legislator Mr. Sanford are also concerned for the future effect of development in the area. What about Terpening Tanker Diesel Oil Trucking Co. spillage nearby?

RESPONSE 37:

On August 2, 1994 underground storage tanks were removed at Terpening Trucking, with NYSDEC oversight. During the removal of underground storage tanks, petroleum contamination was found in the soil. The contaminated soil was excavated and removed.

A letter dated March 21, 1997 was received from Lockheed Martin Corporation. Their comments are summarized below, followed by the NYSDEC response.

COMMENT 38:

Section 3.2: Remedial History: Between 1986 and 1992, prior to the State's involvement with the site, GE conducted a number of investigations and removal actions. (emphasis added)

NYSDEC has been involved with this site since the mid to late 1980's and therefore, the statement above indicating that the State was not involved with the site prior to 1992 is inaccurate. Although personnel in the Albany office of the Division of Hazardous Waste Remediation may not have been involved with the GE Farrell Road Site prior to 1992, Region 7 staff with the Division of Spills Management (for removals of underground storage tanks) and the Division of Hazardous Waste Remediation were aware of GE's activities at the site.

LMC requests that the phrase "prior to the State's involvement with the site" be deleted and the sentence be revised to present an accurate description of NYSDEC's involvement with the investigations and removal actions at the GE Farrell Road Site.

RESPONSE 38:

We agree that Region 7 staff were involved with spill cleanups and tank removal actions between 1986 and 1992, and are revising the paragraph accordingly.

COMMENT 39:

Figure 2 - Areas of Concern: Currently, Figure 2 identifies Outfall 003 as "003." To improve clarity, the reference to "003" should be revised to "Outfall 003. "

RESPONSE 39:

Agreed. The figure has been revised.

COMMENT 40:

Section 3.2: Remedial History (last paragraph): LMC Comment 3: LMC's comment regarding this language is the same as is discussed in LMC Comment 1 above. LMC requests that the language be revised.

RESPONSE 40:

The DHWR had not reviewed the work plans or overseen the investigations at that time, therefore the language has been revised accordingly.

COMMENT 41:

Section 3.2: Remedial History (last paragraph): The site history should be amended to include a reference to the IRM Consent Order effective March 21, 1994 entered into by NYSDEC and Martin Marietta Corporation.

In addition, the words "responsible parties" in the sentence regarding the RI/FS Consent Order should be deleted and the words "responsible party" substituted in their place because only LMC is a responsible party under the RI/FS Consent Order.

RESPONSE 41:

Agreed. The section has been revised to include the second Consent Order.

COMMENT 42:

Section 4. 1: Summary of the Remedial Investigation, paragraph beginning with: "To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs)."

This paragraph contains several inaccurate statements concerning the basis of the SCGs to which on-site concentrations of analytes were compared during the RI.

Drinking water was not evaluated as a potential exposure pathway in the RI and, accordingly, the drinking water SCGs and Part V of the New York State Sanitary Code were not considered as part of the RI or FS. The last sentence is worded imprecisely, and inaccurately suggests that background conditions and risk-based remediation criteria were SCGs considered independently from TAGM 4046 soil cleanup guidelines.

In addition, LMC requests that the word "potential" be added in the first sentence before the phrase "levels of concern" to indicate that the comparison to SCGs is a preliminary screening step, but that other factors would also be considered in any determination relating to an environmental concern.

RESPONSE 42:

The wording has been revised to more accurately reflect the basis of the SCGs for this site.

COMMENT 43:

4. 1. 1: Nature of Contamination: Polychlorinated Biphenyls (PCBs): This paragraph of the PRAP provides general information about the characteristics of PCBS, but it is misleading insofar as it suggests that PCBs have actually bioaccumulated in fish and hawks at the site. No investigations have been conducted by LMC at the site relating to this potential impact. Moreover, PCB-contaminated sediments at the site have been removed. Accordingly, LMC requests that the reference to the tendency of PCBs to "bioaccumulate in animals such as fish and hawks" be revised.

RESPONSE 43:

The purpose of this paragraph is to provide general information about the characteristics of PCBs. The sediment removal is discussed later. The word "potentially" has been added before "bioaccumulate."

COMMENT 44:

Section 4.1.2: Extent of Contamination, first paragraph: The reference to "proposed remedial action levels" is inconsistent. Moreover, the term is not used on Table 1. In order to be consistent, LMC requests that the term be deleted and the sentence rewritten.

RESPONSE 44:

The wording has been revised.

COMMENT 45:

Section 4.1.2: Extent of Contamination (Soils), first paragraph: The five areas of concern that were not evaluated during the RI were determined not to represent a "threat," not a "significant threat," to human health or the environment. The inclusion of the word "significant" in the referenced sentence is inappropriate, and LMC requests deletion of that word.

RESPONSE 45:

The term 'significant threat' is the language used in the definition of a Class 2 site, and by using that term we are being consistent with the site classification language. Therefore, no change will be made.

COMMENT 46:

Section 4.1.2: Extent of Contamination (AOC #7): The referenced language ("regardless of the mechanism, however, this layer of contamination continues to act as a source of groundwater contamination") relates to the presence of stained soil and elevated photoionization detector readings in soil above the water table elevation at AOC 7 (Underground Storage Tank T-5 1). This language suggests that soil contamination at AOC 7 presents an ongoing concern that must be addressed. This interpretation is inconsistent with the conclusions of the FS.

Because the language of the PRAP inappropriately suggests that soil contamination at AOC 7 presents an ongoing concern, and this language is inconsistent with the findings of the FS, LMC requests that the sentence above be deleted.

RESPONSE 46:

The soil contamination at AOC #7 does represent an ongoing concern, which is being addressed by the existing IRM at that location, and by natural attenuation. The language has been revised to address LMC's concerns.

COMMENT 47:

Section 4.1.2: Extent of Contamination (AOC #10): The PRAP language concerning AOC #10 (Temporary Hazardous Materials Storage Area) is inconsistent with the conclusions of the NYSDEC-approved AOC #10 RI Report Addendum, submitted on July 21, 1995, and the FS. Neither of these documents concludes that soil contamination in this location may be impacting groundwater. Rather, the AOC #10 RI Report Addendum and the FS conclude that there is no source of organic compounds in the shallow soil of AOC #10, and that the probable source of organic compounds identified at depth is associated with other releases at other areas of concern. LMC requests that this language be deleted and the paragraph be revised.

RESPONSE 47:

AOC #10 has been the subject of numerous correspondence and discussions regarding the source of downgradient groundwater contamination. The revised language in Section 3.12 of the ROD should incorporate both the DEC's and LMC's concerns.

COMMENT 48:

Section 4.1.2: Extent of Contamination (Groundwater): For the reason set forth above in LMC Comment. 10, LMC requests the deletion of the sentence, "The former temporary hazardous material storage area (AOC #10) may be acting as a diffuse source of groundwater contamination." Further, in the fourth paragraph in this section, there is a reference to the "Class I" wetland which should be changed to "Class I".

RESPONSE 48:

This sentence is unchanged, for the reasons set forth above in the response to comment #9. In the fourth paragraph, the reference to Class 1 wetland has been changed to Class I.

COMMENT 49:

Section 4.1.2: Extent of Contamination (Groundwater): Site-specific conditions indicate that chromium in AOC #6 soils will not become a significant source of groundwater contamination, and that, based on the occurrence of natural attenuation, existing conditions with continued monitoring are sufficient as a final remedy for this AOC. This assessment was discussed in a July 14, 1995 letter from Martin Marietta Corporation to NYSDEC, accepted by NYSDEC in its August 9, 1995 letter, and included in Section 1.6.3 of the FS. LMC requests that NYSDEC revise the referenced section in order to more completely reflect the conditions at AOC #6:

RESPONSE 49:

We agree that natural attenuation with continued monitoring is an appropriate remedy for this AOC, and have revised this section accordingly.

COMMENT 50:

Section 4.2: Interim Remedial Measures (AOC #5): In discussing the SVE system at AOC # 5, the PRAP fails to state that LMC has completed a NAPL removal program that has reduced this layer to a barely discernible film. The floating layer of NAPL no longer exists and the NAPL which is being remediated consists of residual NAPL only. LMC

requests that this sentence be revised to include the word "residual" and requests inclusion of a sentence addressing the removal program:

RESPONSE 50:

The wording has been revised to clarify that LMC has completed a NAPL removal program, and that the NAPL which is being remediated consists of residual NAPL only.

COMMENT 51:

Section 4.2: Interim Remedial Measures (Storm Sewer Outfall 003): After completion of this soil removal project in accordance with the NYSDEC-approved Outfall 003 Work Plan, site sediments remaining were below NYSDEC's cleanup criteria for PCBS. To ensure that the public has complete information regarding the remediation of PCBs to below cleanup criteria, LMC requests that the following sentence be added after the referenced sentence: "After the removal was completed, the PCB concentrations in remaining sediments were below NYSDEC's cleanup criteria for PCBS."

RESPONSE 51:

The wording has been revised to clarify that the sediments remaining are below NYSDEC cleanup level for PCBs at this site.

COMMENT 52:

Section 4.3: Summary of Human Exposure Pathways: The first paragraph of Section 4.3 of the PRAP states that the section describes the types of human exposures that could potentially present health risks to persons at or near the site and indicates that a more detailed discussion of potential risks can be found in Section 10 of the RI Report. In Section 4.3 of the PRAP, NYSDEC identifies three completed or potential pathways which are known to or may exist at the site. The third pathway identifies riverside residents as potential receptors through direct contact with sediments as a potential exposure route.

This is inconsistent with Section 10 of the RI Report, which indicates that participants in recreational activities, not riverside residents, could potentially be impacted by direct contact with surface water and ingestion of affected fish. In order to correct this inaccuracy, LMC requests deletion of the reference to exposure to sediments and exposure by riverside residents in the third exposure pathway.

In addition, LMC requests deletion from the third exposure pathway of the reference to direct contact with sediment because the qualitative public health risk assessment did not

conclude that this pathway presents any current or potential future exposure risk to participants in recreational activities.

RESPONSE 52:

The wording has been revised.

COMMENT 53:

Section 4.4: Summary of Environmental/Exposure Pathways, third paragraph: Based on NYSDEC's February 20, 1997 approval of revisions to the Fish and Wildlife Impact Analysis contained in Section 9 of the RI Report, LMC requests that the word "significant" be deleted and the word "potential" substituted in its place. This change will assure consistency of language with the NYSDEC-approved RI Report.

RESPONSE 53:

Potential risk exists in nearly every situation: the important question is how great the risk is. In this instance the NYSDEC has concluded that the potential risk is significant. The wording has been revised to indicate both that the risk is potential, not proven, and that the potential risk is significant.

COMMENT 54:

Section 6: Summary of the Remediation: NYSDEC's regulations at 6 NYCRR § 375-1. 10(d), governing the remedy selection process that will be documented in a Record of Decision (ROD), state that the ROD will consist of, among other elements, the specific goals and objectives of the remedial action selected for the site in question. Accordingly, the word "Objectives" should be added to the title of this section, and the words "and objectives" should be added after the first word of the section, "Goals", and again after the word "goals" at the bottom right of page 16.

In addition, this section of the PRAP indicates that five remediation "goals" were selected for the site; however, in LMC's FS only four remedial action objectives (RAOs) were identified. In stating three of the five remediation "goals," NYSDEC did not use the identical language used by LMC in the NYSDEC-approved FS to describe site RAOS, but rather NYSDEC developed its own language, inconsistent with the FS, to describe the goals. There is no technical or legal basis for NYSDEC to create site "goals" when site RAOs have previously been approved in the FS. Accordingly, the language of Section 6 of the PRAP describing remediation goals and objectives should be identical to the language in the NYSDEC-approved FS that establishes the RAOs for the site.

RESPONSE 54:

The language from the PRAP will not be revised. The first sentence of Section 6 of the PRAP, the Section where the language in question is found, reads; "Goals for the remedial program have been established through the remedy selection process stated in 6 NYCCR Part 375-1.10". This section, entitled Remedy Selection, is the basis for the remedy selection process employed by the NYSDEC as stated in the preceding reference from the PRAP. Specifically, 375-1.10 (b) states, "The goal of the program for a specific site is to restore that site to pre-disposal conditions, to the extent feasible and authorized by law." Taken in the context of the remedy selection process described in the PRAP, the use of the term "goal" is clearly appropriate here since the detailed evaluations of the remedy which will establish the feasibility and authorization for each proposed remedy follow in Section 7.

The remedial goals defined by Section 6 of the PRAP will not be changed. Pursuant to 6 NYCRR Part 375-1.10, the NYSDEC reserves the determination of those goals it considers appropriate to the remedy selection process.

COMMENT 55:

Section 7. 1: Description of Alternatives (Alternative 3), last paragraph: It is not appropriate at this time to conclude in the PRAP that the groundwater treatment system at AOC 16 would be incorporated into the overall groundwater recovery system. Section 6.3.1 of the FS indicates that during the system design for the site-wide groundwater remedy, various extraction and treatment configurations will be evaluated. LMC requests that the reference to the incorporation of the groundwater treatment system at AOC 16 into the overall groundwater recovery system be deleted.

RESPONSE 55:

We agree that the groundwater treatment system at AOC 16 will not necessarily be incorporated into the groundwater treatment system called for by the remedy. The intent of the sentence was to indicate that the groundwater treatment system at AOC 16 would remain in operation to provide for capture of the contaminated groundwater near the garage, thereby preventing the migration of contaminated groundwater into the wetland. The description has been revised accordingly.

COMMENT 56:

Section 7. 1: Description of Alternatives (Alternative 5): In the description of the costs, the "Present Worth" and "Annual O&M" costs are erroneous and inconsistent with Table 2 on page 22 of the PRAP and with the FS. LMC requests that they be revised.

RESPONSE 56:

The wording has been revised as requested.

COMMENT 57:

Section 7.2: Evaluation of Remedial and FS Alternatives, Item #1, Compliance with NYS Standard Criteria Guidance (SCGs): The PRAP states that an alternative using hydraulic containment via groundwater recovery wells and air stripping would satisfy SCGs related to groundwater and contaminant discharge to wetlands, and emission controls would be applied to the air stripper if needed to meet air emission limitations.

The use of the term "if needed" is imprecise, because it implies that NYSDEC would have the discretion to require the use of controls to meet emission limits. Controls would be imposed on the air stripper only in accordance with applicable regulations and, accordingly, LMC requests the deletion of the term "if needed" and replacement with "if required under applicable regulations."

RESPONSE 57:

The wording has been revised to more accurately reflect the conditions under which air emission controls would be required.

COMMENT 58:

Section 7.2: Evaluation of Remedial Alternatives (Item #2), Protection of Human Health and the Environment: Despite the conclusory nature of the first statement of the second paragraph, LMC has not conducted an investigation or evaluation of the potential risks to the wetland of the additive and synergistic effects of contaminants in groundwater as they relate to the No Further Action alternative. Absent such a study, there is no evidence of an unacceptable risk posed to human health or the environment. Therefore, the existing statement in the PRAP is inaccurate. LMC requests that the second paragraph be revised.

RESPONSE 58:

The use of the term 'potential risks' indicates that the risk has not been proven. The paragraph has been revised to emphasize that an unacceptable risk has not been proven.

COMMENT 59:

Section 7.2: Evaluation of Remedial Alternatives, (Item #5), Reduction of Toxicity, Mobility or Volume: Appendix B of the FS demonstrates that significant natural attenuation of site contaminants is occurring. Therefore, LMC requests NYSDEC to include at the end of the first paragraph, following general statement relating to natural attenuation processes at the site which contribute to the reduction of toxicity, mobility, or volume that have been identified by LMC in the NYSDEC-approved FS: "Based on a site-specific evaluation, natural attenuation processes, including natural biodegradation, are expected to continue mineralizing organic contaminants in groundwater. Therefore, all alternatives, including no further action, will result in the long-term permanent reduction in toxicity, mobility and volume of contaminants in groundwater."

RESPONSE 59:

We agree that natural attenuation processes have been identified at the site, and will result in the long-term reduction of contaminants in soil and groundwater. As previously discussed, the length of time needed for natural attenuation to decrease the volume of contaminants in soil and groundwater is unknown, and is expected to be significantly longer than for the other alternatives. In addition, the effectiveness of natural biodegradation on chlorinated solvents is significantly less than for petroleum hydrocarbons. The paragraph has been revised to incorporate the above information.

COMMENT 60:

Section 8: Summary of the Preferred Remedy: This language ("The no further action alternative would not be protective, and would not meet SCGS. (emphasis added)") concludes that the no further action alternative would not satisfy the stated evaluation criteria. LMC's objections regarding the emphasized language are similar to those discussed above in LMC Comment 21. Specifically, LMC has not conducted an investigation or evaluation of the potential risks to human health or the environment of this alternative. For this reason, LMC requests the referenced sentence be revised.

RESPONSE 60:

The no further action alternative would not be protective, because the potential risks to the wetland through continued migration of contaminated groundwater would not be alleviated. The no further action alternative would not meet SCGs, as it would not prevent the continued unpermitted migration of contaminated groundwater into the wetland, in contravention of New York State Environmental Conservation Law (ECL) Article 24 and 6 NYCRR Part 663. No change has been made.

COMMENT 61:

Section 8: Summary of Preferred Remedy, Element #2: LMC's comment regarding the language is identical to that discussed above in LMC Comment 18. Specifically, the incorporation of the AOC 16 groundwater recovery and treatment system into the site-wide groundwater remedy will not be considered until the design phase of this project. Accordingly, LMC requests deletion of the phrase referring to the AOC 16 groundwater recovery system.

In addition, the reference to Figure 4 on page 23 and its inclusion on page 25 of the PRAP is inappropriate. This figure was developed for alternative analysis, and LMC must have an opportunity in the design phase to make final determinations about elements of the final remedy such as well number and placement. It would be appropriate to reference this figure only in a section of the ROD where remedial alternatives are evaluated.

RESPONSE 61:

The wording does not refer to the incorporation of the groundwater treatment system at AOC 16 into the sitewide groundwater treatment system, but to the need to continue operating the AOC 16 groundwater treatment system. As discussed above in Comment 18, the continued operation is required for capture of the contaminated groundwater near the garage, thereby preventing the migration of contaminated groundwater into the wetland. No change was made.

Figure 4 is included to show the estimated radius of influence of the groundwater treatment system, and to allow people to more clearly visualize the site remedy. The figure clearly refers to a potential groundwater extraction system, and inclusion of the figure does not in any way restrict the design of the treatment system in terms of design elements such as well number and placement. No change was made.

COMMENT 62:

Page 24 - Section 8: Summary of the Preferred Remedy, Element #3: With respect to the applicable water discharge requirements for the sitewide groundwater remedial system, NYSDEC has approved the effluent limitations in Table 6.2 of the FS, and therefore, LMC requests that these effluent limitations be specifically included in the ROD.

With respect to an air emission treatment system, LMC's comment regarding the emphasized language is identical to that discussed above in LMC Comment 20. LMC requests the deletion of the phrase "if needed to meet air emission requirements" and replacement with "if required under applicable regulations to meet air emission limitations."

RESPONSE 62:

The water effluent criteria for the site-wide groundwater treatment system will be consistent with those for the existing groundwater treatment system at AOC 16. However, if the NYSDEC Division of Water revises the effluent criteria for these types of discharges, the effluent criteria for AOC 16 and for the sitewide groundwater treatment system would change, as would effluent criteria for all discharges of this type. Therefore, we will not specifically reference the existing effluent criteria in the ROD.

The wording regarding the air emissions has been revised, in accordance with the response to LMC Comment 20.

COMMENT 63:

Section 8: Summary of the Preferred Remedy, Element #6: This paragraph establishes a treatment standard for groundwater that is inconsistent with the RAO for site-wide groundwater set forth in Section 3.2 of the FS: Achieve groundwater standards, where practicable. To correct this inaccuracy, the paragraph should be revised.

RESPONSE 63:

The wording has been revised to be consistent with the Remedial Action Objective for site-wide groundwater.

APPENDIX B

ADMINISTRATIVE RECORD

GE Farrell Road Site
Geddes, Onondaga County, New York
Site No. 7-34-055

The following documents constitute the Administrative Record for the GE Farrell Road Site Remedial Investigation/Feasibility Study (RI/FS)

I. Reports

6/91 Preliminary Hydrogeologic Investigation of the GE Aerospace Farrell Road Plant
9/91 Letter Report re: Investigation of Trichloromethane Sources Farrell Road Plant
11/91 Phase II Hydrogeologic Investigation of GE Aerospace, Farrell Road Plant
6/92 Letter Report re: Summary of Gasoline Underground Storage Tank and Soil Removal
7/92 Phase I Environmental Assessment of GE Farrell Road Plant 1
7/92 Phase I Environmental Assessment of GE Farrell Road Plant 2
7/92 1992 Environmental Investigation, GE Farrell Road Plant 1
7/92 1992 Environmental Investigation, GE Farrell Road Plant 2
7/92 Debris Pile Excavation: GE Farrell Road Plant 2 (Addendum to the 1992 Environmental Investigation)
9/92 Letter Report re: PCB Sampling; GE Farrell Road Plant 2
9/92 Letter Report re: Soil Remediation, GE Farrell Road Plant 2, Radar Test Area Source Control Action Report
10/92 Letter Report re: Environmental Oversight for the Removal of Two Farrell Road Septic Tanks
10/92 Garage Area Investigation, GE-Farrell Road Plant Two, Addendum to the 1992 Environmental Investigation
10/92 Letter Report re: Ground Water Sampling North of the Farrell Road Plant
9/93 Letter Report re: 10 Soils Borings at Proposed Loading Dock
9/93 Letter Report re: Storm and Sanitary Sewer Survey
10/93 Soil Remediation Design Report, Soil Vapor Extraction Pilot Study, Former Solvent Storage Tank Area (Area 5)
1/94 Farrell Road Plant Summary of Analytical Data, Soil, Sediment, and Water Samples
1/94 Hazardous Waste Management Documents, Farrell Road Plant
1/94 Remedial Investigation/Feasibility Study (RI/FS) Work Plan
3/94 Accelerated RI/FS Tasks
5/95 Certification Report, Remedial System Installation, AOC #5 Soil and AOC #16 Groundwater and Soil
5/95 AOC #7 Interim Remedial Measure (IRM) Implementation Certification Report, April 1995
5/95 Remedial Investigation (RI) Report
7/95 Addendum, RI Report, Area of Concern #10, Further Evaluation of Soil and Ground Water Data

11/95 AOCs #5 and 16 Certification Report Addendum, Well Installation Diagrams
12/95 Certification Report, Farrell Road Plant, Interim Remedial Measure, Catch Basins and Associated Piping
8/96 Addendum, RI Report, Area of Concern #5, LNAPL/DNAPL Investigation
8/96 Addendum, RI Report, Soil Investigations Adjacent to Outfall 003
8/96 IRM Decision Document
10/96 IRM Certification Report, Soil Remediation Activities Adjacent to Outfall 003
2/97 Fish and Wildlife Impact Analysis (FWIA) Revision Sheet
2/97 Feasibility Study (FS)
2/97 Proposed Remedial Action Plan (PRAP)

II. Correspondence

12/8/94 DEC letter to Lockheed Martin Corporation (LMC), AOC #16 water effluent metals treatment
1/10/95 Division of Fish and Wildlife memo re FWIA
5/23/95 DFW memo re RI Report
6/14/95 DEC, RI Report approval
7/14/95 Letter from LMC, Assessment of Remedial Alternatives for AOC #6
9/1/95 DFW memo re FS
12/19/95 DFW memo, Outfall 003 cleanup levels
9/13/96 DEC letter to LMC on FS
10/16/96 DFW memo re: additional work needed to complete the FWIA
2/25/97 PRAP comment letter, William J. Charles
3/7/97 PRAP comment letter, Mr. Yager
3/14/97 PRAP comment letter, unsigned
3/21/97 PRAP comment letter, LMC