



**U.S. Army
Corps of Engineers**

New England District
Concord, Massachusetts



**U.S. Environmental
Protection Agency**

Region I
Boston, Massachusetts

FINAL DRAFT

**PHASE 1 HUMAN HEALTH RISK ASSESSMENT FOR
REST OF RIVER**

Volume II – Figures

DCN: GE-110101-AASO

1 November 2001

**Environmental Remediation Contract
General Electric (GE)/Housatonic River Project
Pittsfield, Massachusetts**

Contract No. DACW33-00-D-0006

Task Order No. 0003

PHASE 1 HUMAN HEALTH RISK ASSESSMENT FOR REST OF RIVER

VOLUME II—FIGURES

ENVIRONMENTAL REMEDIATION CONTRACT GENERAL ELECTRIC (GE)/HOUSATONIC RIVER PROJECT PITTSFIELD, MASSACHUSETTS

Contract No. DACW33-00-D-0006
Task Order No. 0003
DCN: GE-110101-AASO

Prepared for

**U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
CONCORD, MASSACHUSETTS**

AND

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I
BOSTON, MASSACHUSETTS**

Prepared by

ROY F. WESTON, INC.
West Chester, Pennsylvania 19380

and

AVATAR ENVIRONMENTAL, LLC
Exton, Pennsylvania 19341

1 November 2001

W.O. No. 20123.001.096.0721

VOLUME II LIST OF FIGURES

Title

- Figure 1-1 Phase 1 Site Screening Approach
- Figure 2-1 Phase 1 Site Screening Approach for Residential Exposure
- Figure 2-2 Phase 1 Site Screening Approach for Recreational Exposure
- Figure 2-3 Phase 1 Site Screening Approach for Agricultural Exposure
- Figure 2-4 Phase 1 Site Screening Approach for Commercial/Industrial Exposure
- Figure 3-1 Index of Floodplain Tax Parcel Maps for Reaches 5 and 6
- Figure 3-2 PCB Results for Tax Parcels H6-4-13 and H6-4-5
- Figure 3-3 PCB Results for Tax Parcels I6-1-41, I6-1-27, I6-1-42, I6-1-3, I6-1-2, and I6-1-1
- Figure 3-4 PCB Results for Tax Parcels I5-11
- Figure 3-5 PCB Results for Tax Parcels I6-3-1, I6-3-13, I6-2-6, and I6-2-1
- Figure 3-6 PCB Results for Tax Parcels J6-2-2, J6-2-11, J6-2-3, J6-2-1, J6-3-1, and J6-3-2
- Figure 3-7 PCB Results for Tax Parcels J5-2-110, J5-2-10, J5-2-9, J5-2-8, J5-2-7, and J5-2-6
- Figure 3-8 PCB Results for Tax Parcel J6-4-2
- Figure 3-9 PCB Results for Tax Parcels J5-2-5, J5-5-105, J5-2-11, and J5-2-4
- Figure 3-10 PCB Results for Tax Parcel K4-6-28
- Figure 3-11 PCB Results for Tax Parcels J4-8-5, J4-3-13, J4-8-8, J4-8-2, and J4-8-10

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 3-12 PCB Results for Tax Parcels J4-3-7, J4-3-12, J4-3-8, J4-3-9, J4-3-10, J4-3-11, J3-1-14, and J3-1-13
- Figure 3-13 PCB Results for Tax Parcel J3-2-1
- Figure 3-14 PCB Results for Tax Parcels J3-1-12, J3-1-11, J3-1-7, J3-1-10, J3-1-9, J3-1-6, and J3-1-8
- Figure 3-15 PCB Results for Tax Parcels J3-2-2, J3-2-3, J3-2-4, J3-2-5, and J3-2-6
- Figure 3-16 PCB Results for Tax Parcel J2-2-2
- Figure 3-17 PCB Results for Tax Parcels K3-1-19, K3-1-2, and K3-1-1
- Figure 3-18 PCB Results for Tax Parcels K2-1-10, K2-1-5, K2-1-4, K2-1-3, and K2-1-2
- Figure 3-19 PCB Results for Tax Parcel J2-2-1
- Figure 3-20 PCB Results for Tax Parcel K2-1-1
- Figure 3-21 PCB Results for Tax Parcel K1-1-10
- Figure 3-22 PCB Results for Tax Parcel 33-40
- Figure 3-23 PCB Results for Tax Parcel 34-1
- Figure 3-24 PCB Results for Tax Parcel 29-3
- Figure 3-25 PCB Results for Tax Parcels 29-9 and 29-5
- Figure 3-26 PCB Results for Tax Parcel 29-2
- Figure 3-27 PCB Results for Tax Parcel 29-1
- Figure 3-28 PCB Results for Tax Parcel 23-37

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 3-29 PCB Results for Tax Parcels 24-7, 24-6, 24-5, 24-4, 24-3, and 24-1
- Figure 3-30 PCB Results for Tax Parcels 19-3 and 19-2
- Figure 3-31 PCB Results for Tax Parcels 18-84 and 19-5
- Figure 3-32 PCB Results for Tax Parcel 18-85
- Figure 3-33 PCB Results for Tax Parcel 19-1
- Figure 3-34 PCB Results for Tax Parcels 18-86 and 13-1
- Figure 3-35 PCB Results for Tax Parcel 13-2
- Figure 3-36 PCB Results for Tax Parcels 14-4 and 1-4
- Figure 3-37 PCB Results for Tax Parcels 1-3, 1-1, and 2-8
- Figure 3-38 PCB Results for Tax Parcels 9-14, 9-16, 9-17, 9-18, and 2-4
- Figure 3-39 Index of Utility Easement Maps for Reaches 5 and 6
- Figure 3-40 PCB Results for Utility Easements 1, 2, 3, and 4
- Figure 3-41 PCB Results for Utility Easements 5, 6, and 7
- Figure 3-42 PCB Results for Utility Easements 8, 9, and 10
- Figure 3-43 PCB Results for Utility Easements 11 and 12
- Figure 3-44 PCB Results for Utility Easement 13
- Figure 3-45 Index of Riverbank and Sediment Exposure Area Maps for Reaches 5 and 6

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 3-46 PCB Results for Exposure Area 1
- Figure 3-47 PCB Results for Exposure Area 2
- Figure 3-48 PCB Results for Exposure Area 3
- Figure 3-49 PCB Results for Exposure Area 4
- Figure 3-50 PCB Results for Exposure Area 5
- Figure 3-51 PCB Results for Exposure Area 6
- Figure 3-52 PCB Results for Exposure Area 7
- Figure 3-53 PCB Results for Exposure Area 8
- Figure 3-54 PCB Results for Exposure Area 9
- Figure 3-55 PCB Results for Exposure Area 10
- Figure 3-56 PCB Results for Exposure Area 11
- Figure 3-57 PCB Results for Exposure Area 12
- Figure 3-58 PCB Results for Exposure Area 13
- Figure 3-59 PCB Results for Exposure Area 14
- Figure 3-60 PCB Results for Exposure Area 15
- Figure 3-61 PCB Results for Exposure Area 16
- Figure 3-62 PCB Results for Exposure Area 17

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 3-63 PCB Results for Exposure Area 18
- Figure 3-64 PCB Results for Exposure Area 19
- Figure 3-65 PCB Results for Exposure Area 20
- Figure 3-66 PCB Results for Exposure Area 21
- Figure 3-67 PCB Results for Exposure Area 22
- Figure 3-68 PCB Results for Exposure Area 23
- Figure 4-1 Index of High-Contact Residential Floodplain Maps for Reaches 7 and 8
- Figure 4-2 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-3 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-4 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-5 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-6 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-7 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-8 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-9 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-10 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-11 PCB Results in Floodplain High-Contact Residential Areas

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 4-12 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-13 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-14 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-15 PCB Results in Floodplain High-Contact Residential Areas
- Figure 4-16 [Index of Floodplain Maps \(Non-HCRA\) for Reaches 7 and 8](#)
- Figure 4-17 [PCB Results of Floodplain Soils in Exposure Areas](#)
- Figure 4-18 [PCB Results of Floodplain Soils in Exposure Areas](#)
- Figure 4-19 [PCB Results of Floodplain Soils in Exposure Areas](#)
- Figure 4-20 [PCB Results of Floodplain Soils in Exposure Areas](#)
- Figure 4-21 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-22 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-23 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-24 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-25 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-26 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-27 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-28 PCB Results of Floodplain Soils in Exposure Areas

**VOLUME II
LIST OF FIGURES
(Continued)**

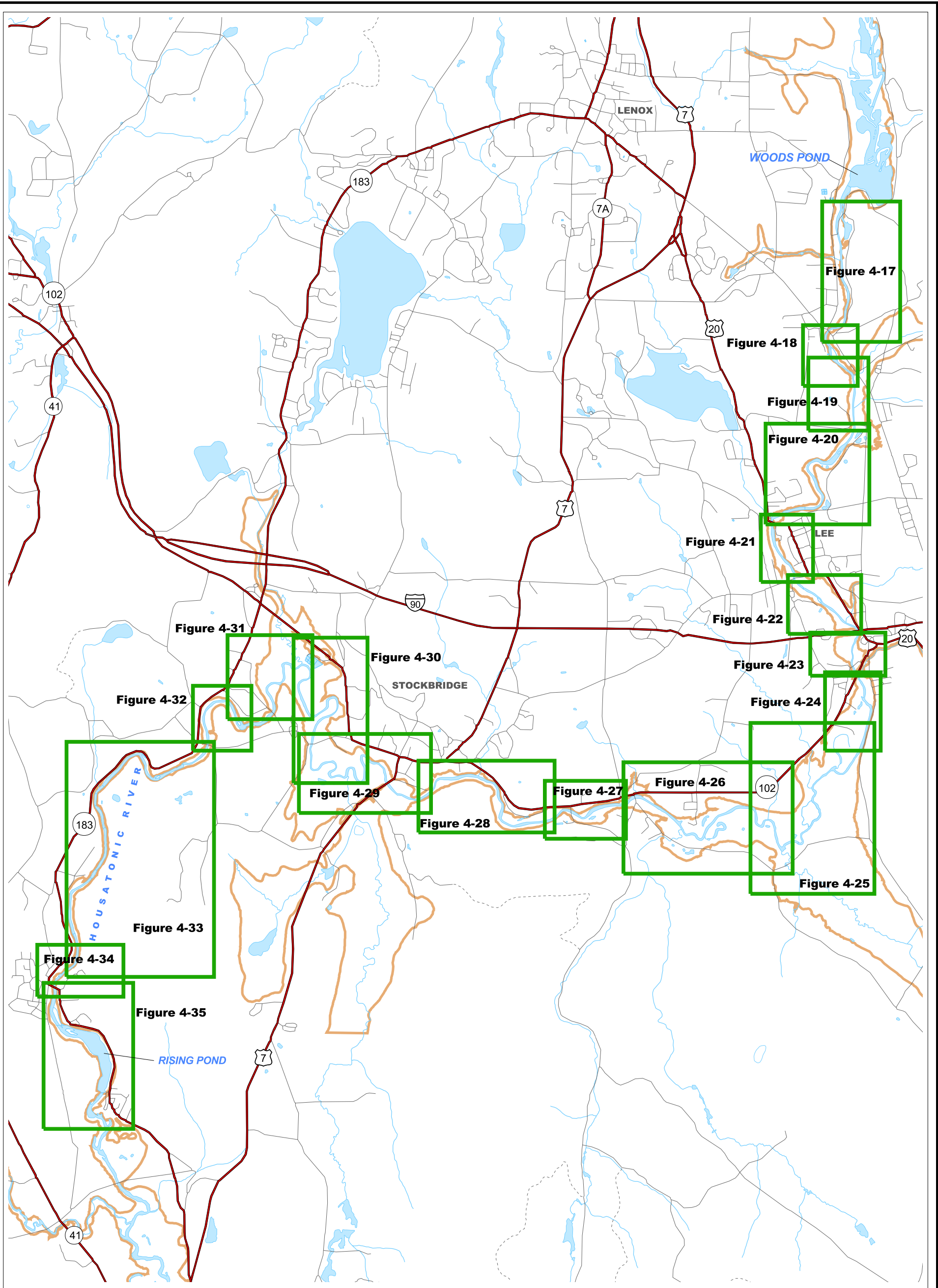
Title

- Figure 4-29 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-30 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-31 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-32 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-33 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-34 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-35 PCB Results of Floodplain Soils in Exposure Areas
- Figure 4-36 Index of Sediment Maps For Reaches 7 and 8
- Figure 4-37 PCB Results for the Area Between the Woods Pond Dam and Golden Hill Road
- Figure 4-38 PCB Results for the Columbia Mill Dam Impoundment Area
- Figure 4-39 PCB Results for the Eagle Mill Dam Impoundment Area
- Figure 4-40 PCB Results for the Area Between Route 20 and Meadow Street
- Figure 4-41 PCB Results for the Willow Mill Dam Impoundment Area
- Figure 4-42 PCB Results for the Area Between the Willow Mill Dam Impoundment Area and Glendale Middle Road
- Figure 4-43 PCB Results for the Glendale Dam Impoundment Area
- Figure 4-44 PCB Results for the Area Between the Glendale Impoundment Area and the Route 183 Bridge
- Figure 4-45 PCB Results for the Rising Pond Impoundment Area

**VOLUME II
LIST OF FIGURES
(Continued)**

Title

- Figure 5-1 Index of Figures for Section 5
- Figure 5-2 PCB Results for Reach 9 Agricultural Area
- Figure 5-3 PCB Results for Bartholomew's Cobble Recreation Area



LEGEND:

-  Roads
-  Housatonic River
-  100-year Floodplain

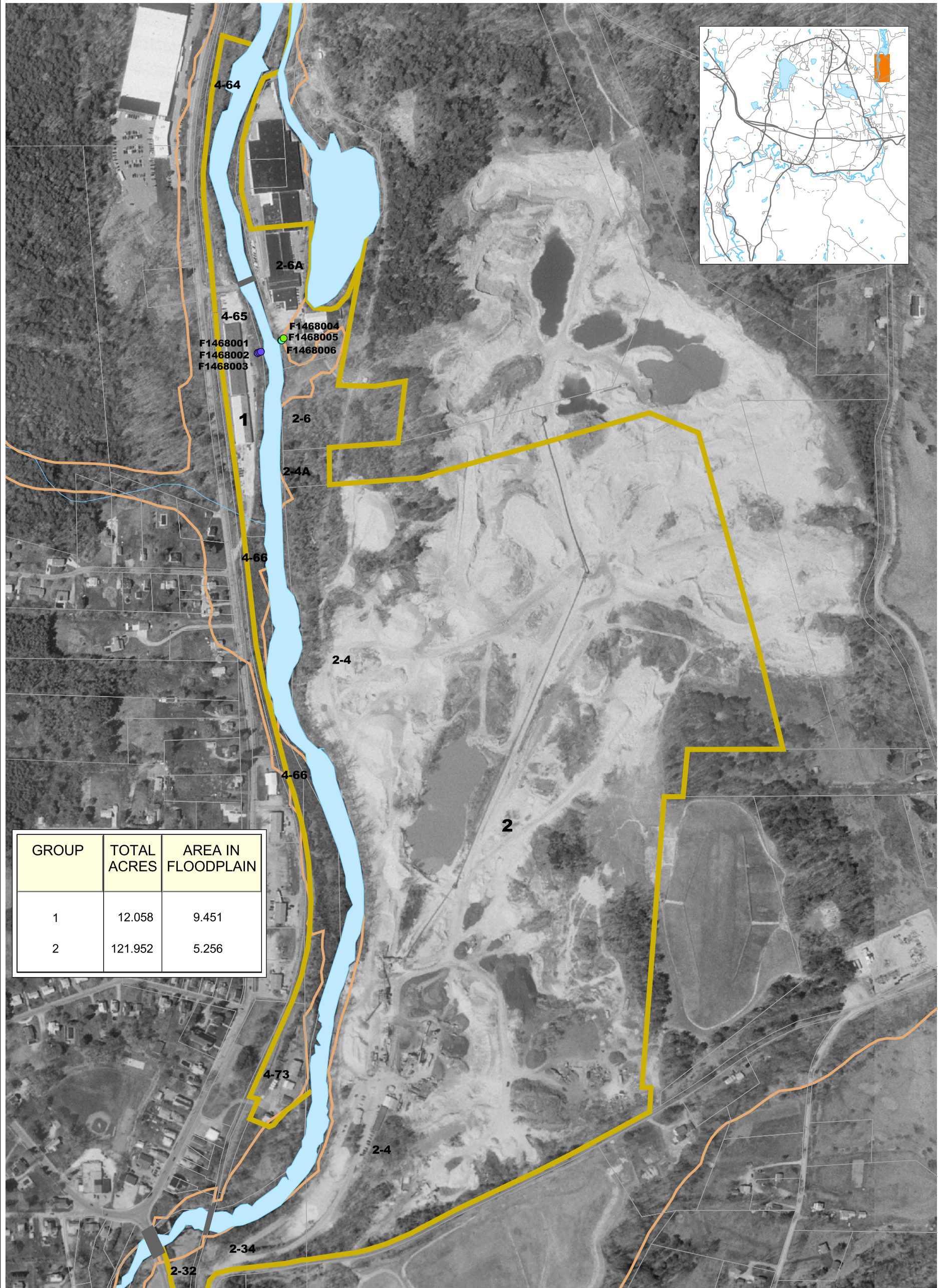


Scale in Feet



Phase 1 - Human Health Risk Assessment
 GE Housatonic River Project
 Pittsfield, Massachusetts

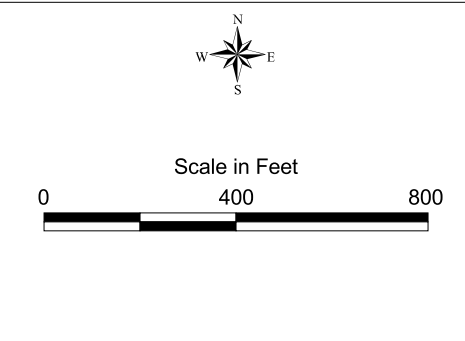
**FIGURE 4-16
 INDEX OF FLOODPLAIN
 MAPS (NON-HCRA) FOR
 REACHES 7 AND 8**



GROUP	TOTAL ACRES	AREA IN FLOODPLAIN
1	12.058	9.451
2	121.952	5.256

LEGEND:

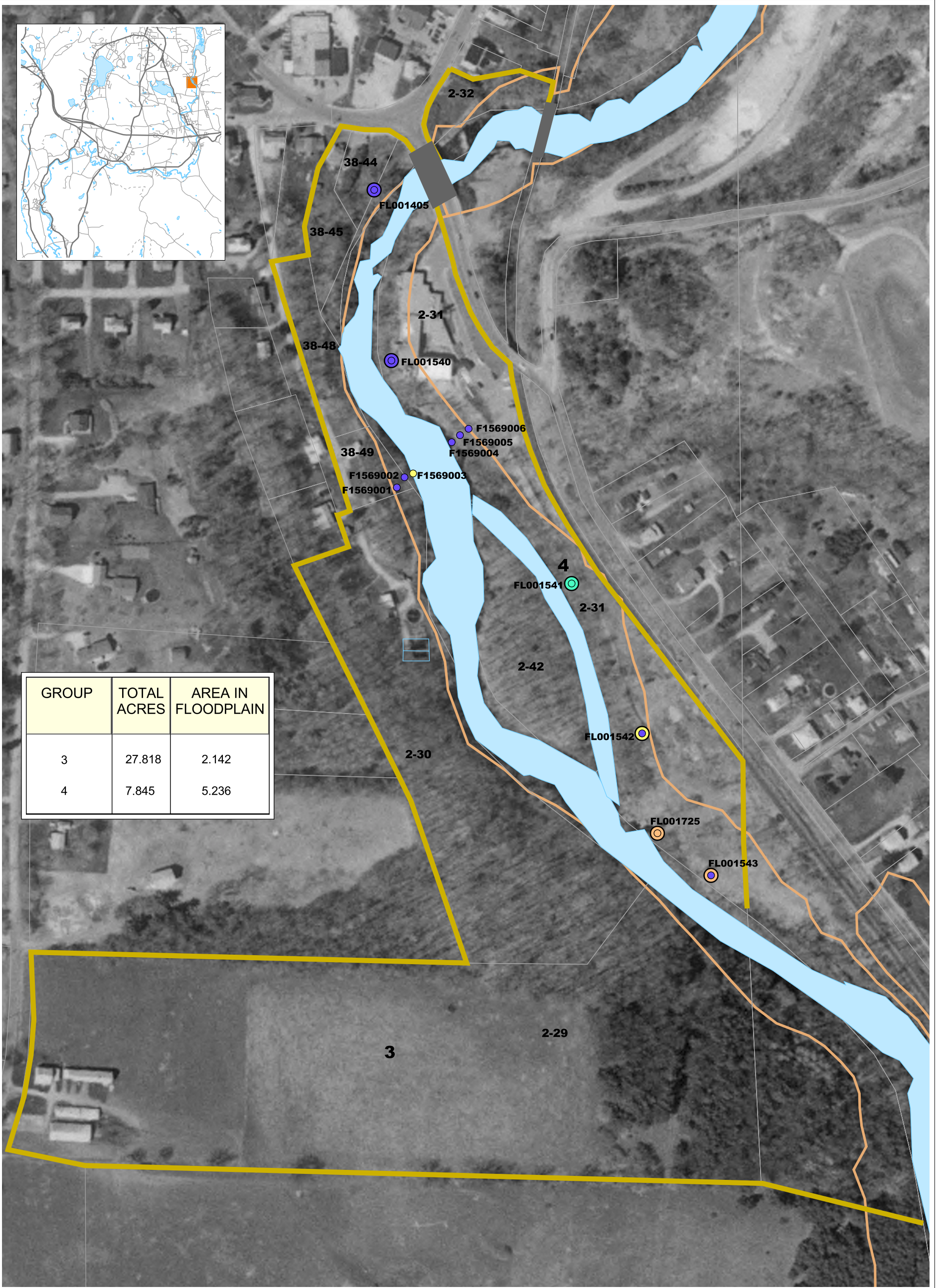
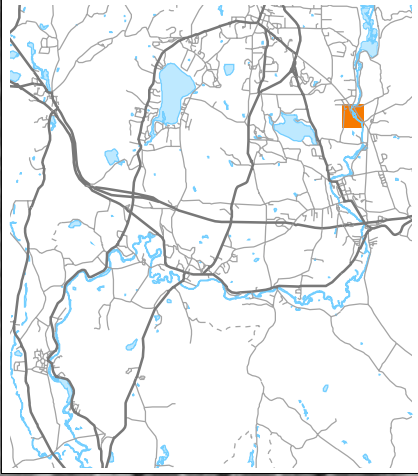
- Floodplain Sample, Surface (0 - 0.5 feet)
- Floodplain Sample, Sub-surface (0.5 - 1 feet)
- PCB Results Key (ppm)
 - < 1
 - 1 - 2
 - 2 - 4
 - 4 - 7
 - 7 - 25
 - 25 - 100
 - > 100
- Exposure Area Boundary
- Parcel Boundaries
- Housatonic River
- 100-year Floodplain



Phase 1 - Human Health Risk Assessment
 GE Housatonic River Project
 Pittsfield, Massachusetts

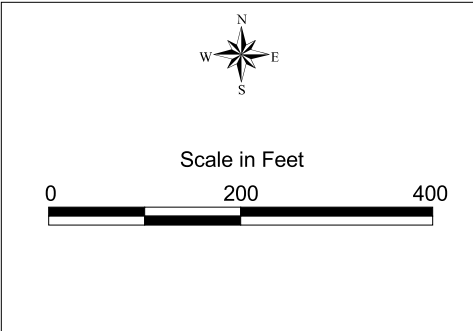
**FIGURE 4 - 17
 PCB RESULTS OF
 FLOODPLAIN SOILS IN
 EXPOSURE AREAS**

NOTE: Datamart as of September 12, 2001



LEGEND:

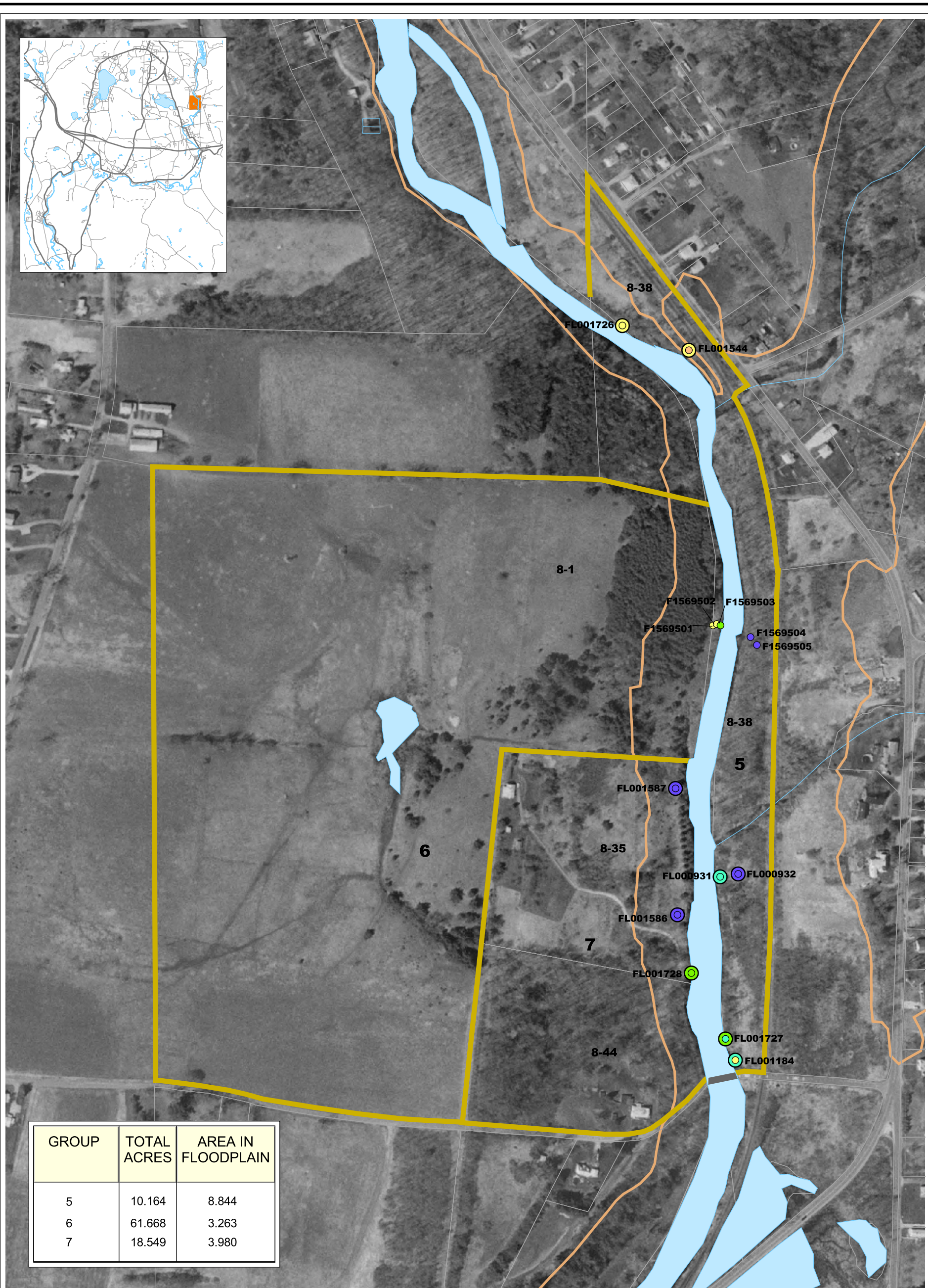
- Floodplain Sample, Surface (0 - 0.5 feet)
 - Floodplain Sample, Sub-surface (0.5 - 1 feet)
- PCB Results Key (ppm)**
- < 1
 - 1 - 2
 - 2 - 4
 - 4 - 7
 - 7 - 25
 - 25 - 100
 - > 100
- Exposure Area Boundary
 - Parcel Boundaries
 - Housatonic River
 - 100-year Floodplain



Phase 1 - Human Health Risk Assessment
 GE Housatonic River Project
 Pittsfield, Massachusetts

**FIGURE 4 - 18
 PCB RESULTS OF
 FLOODPLAIN SOILS IN
 EXPOSURE AREAS**

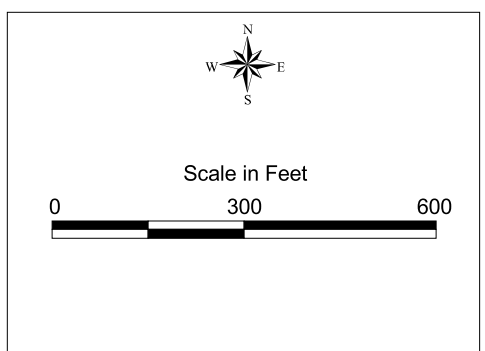
NOTE: Datamart as of September 12, 2001



GROUP	TOTAL ACRES	AREA IN FLOODPLAIN
5	10.164	8.844
6	61.668	3.263
7	18.549	3.980

LEGEND:

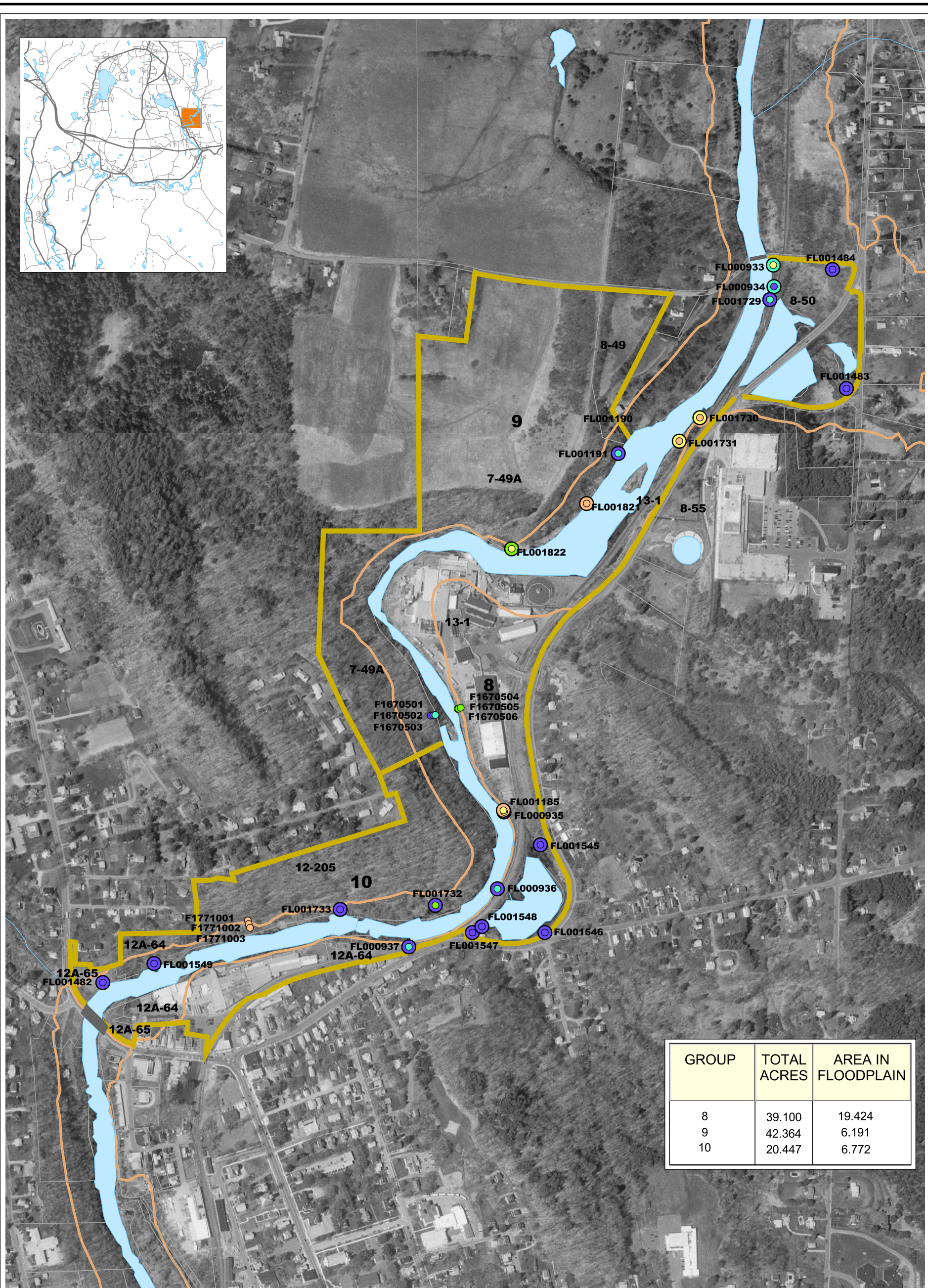
- Floodplain Sample, Surface (0 - 0.5 feet)
- Floodplain Sample, Sub-surface (0.5 - 1 feet)
- < 1
- 1 - 2
- 2 - 4
- 4 - 7
- 7 - 25
- 25 - 100
- > 100
- Exposure Area Boundary
- Parcel Boundaries
- Housatonic River
- 100-year Floodplain



Phase 1 - Human Health Risk Assessment
 GE Housatonic River Project
 Pittsfield, Massachusetts

**FIGURE 4 - 19
 PCB RESULTS OF
 FLOODPLAIN SOILS IN
 EXPOSURE AREAS**

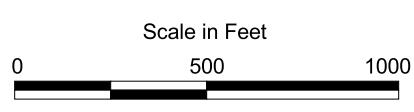
NOTE: Datamart as of September 12, 2001



GROUP	TOTAL ACRES	AREA IN FLOODPLAIN
8	39.100	19.424
9	42.364	6.191
10	20.447	6.772

LEGEND:

- Floodplain Sample, Surface (0 - 0.5 feet)
- Floodplain Sample, Sub-surface (0.5 - 1 feet)
- < 1
- 1 - 2
- 2 - 4
- 4 - 7
- 7 - 25
- 25 - 100
- > 100
- Exposure Area Boundary
- Parcel Boundaries
- Housatonic River
- 100-year Floodplain



Phase 1 - Human Health Risk Assessment
 GE Housatonic River Project
 Pittsfield, Massachusetts

**FIGURE 4 - 20
 PCB RESULTS OF
 FLOODPLAIN SOILS IN
 EXPOSURE AREAS**

NOTE: Datamart as of September 12, 2001