ATTACHMENT T
Background Information on PCBs
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

BACKGROUND

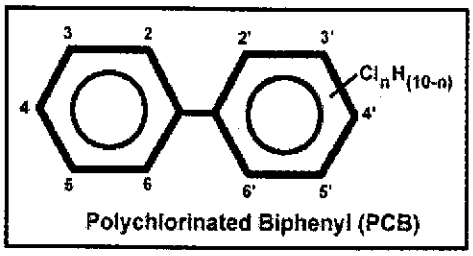
Polychlorinated biphenyls (PCBs) are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber products; in pigments, dyes and carbonless copy paper and many other applications.

The human and ecological risks associated with PCBs are a function of the toxicity of PCBs and the exposure. PCBs are known to cause cancer in animals and are classified as a probable human carcinogen by numerous national and international health-protective organizations, such as the EPA, the Agency for Toxic Substances and Disease Registry (an arm of the U.S Public Health Service) and the World Health Organization. Research also links PCB exposure to developmental problems. PCBs build up (bioaccumulate) in the environment, increasing in concentration as you move up the food chain. This is of special concern in areas where fish are exposed to PCB contamination and may be consumed by humans (as in the Housatonic River).

Concern over the toxicity and persistence in the environment of PCBs led Congress in 1976 to enact §6(e) of the Toxic Substances Control Act (TSCA) that included among other things, prohibitions on the manufacture, processing, and distribution in commerce of PCBs. Thus, TSCA legislated true "cradle to grave" (i.e., from manufacture to disposal) management of PCBs in the United States. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977.

Polychlorinated biphenyl

Polychlorinated biphenyls (PCBs) are a category, or family, of chemical compounds formed by the addition of chlorine (C12) to biphenyl (C12H10), which is a dual-ring structure comprised of two 6-carbon benzene rings linked by a single carbon-carbon bond. This means there are 10 possible positions for chlorine substitution. There are 209 varieties of PCBs, known individually as congeners. A congener may have between 1 and 10 chlorine atoms, which may be located at various positions on the PCB molecule. Species with a single chlorine substituent are called "Monochlorobiphenyl" (or just "Chlorobiphenyl"). Species with two chlorines are called "Dichlorobiphenyl", and the those with three through ten chlorines, in order, are called: "Tri...", "Tetra...", "Penta...", "Hexa...", "Hepta...", "Octa...", "Nona...", and "Decachlorobiphenyl". The positions of the chlorine substituents on the rings are denoted by numbers assigned to each of the carbon atoms, with the carbons supporting the bond between the rings being designated 1 and 1'. See the diagram below.



Polychlorinated Biphenyl (PCB)

PCB homologs are subcategories of PCB congeners having equal numbers of chlorine atoms per molecule (i.e.,

substituents). For example, the "tetrachlorobiphenyls" are all PCB congeners with exactly 4 chlorine substituents that may be in any arrangement. The number of congeners in each homolog are given in the following table:

PCB Homolog	Chlorine Atoms per Molecule	PCB Congeners
monochlorobiphenyl	1	3
dichlorobiphenyl	2	12
trichlorobiphenyl	3	24
tetrachlorobiphenyl	4	42
pentachlorobiphenyl	5	46
hexachlorobiphenyl	6	42
heptachlorobiphenyl	7	24
octachlorobiphenyl	8	12
nonachlorobipheny	9	3
decachlorobiphenyl	10	1

With few exceptions, PCBs were manufactured as a complex mixture of congeners, through progressive chlorination of batches of biphenyl until a certain target percentage of chlorine was achieved. Commercial mixtures with higher percentages of chlorine contained higher proportions of the more heavily chlorinated congeners, but all congeners could be expected to be present at some level in all mixtures. Once released into the environment and subjected to "weathering", or taken in by plants or animals and partially stored/metabolized/excreted, substantial changes in the congener ratios occurred, and continue to occur. Therefore, determination of the parent mixture(s) ultimately resulting in a given environment sample may be difficult or impossible. While PCB was manufactured and sold under many names, the most common were the "Aroclor" series. Many of the Aroclors have a chlorine percentage numerical identifier (i.e., Aroclor 1254 contains 54% chlorine).

ATTACHMENT U
Site History and Description
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

Site History and Description

The following information is updated periodically on EPA's website at: www.epa.gov/ne/ge .

The Housatonic River is located in a predominantly rural area of western Massachusetts, where farming was the main occupation from colonial settlement through the late 1800s. As with most rivers, the onset of the industrial revolution in the late 1800s brought manufacturing to the banks of the Housatonic River, in Pittsfield, MA. General Electric (GE) began its operations in its present location in 1903. Three manufacturing divisions have operated at the GE facility (Transformer, Ordnance, and Plastics).

The 254 acre GE plant in Pittsfield has historically been the major handler of PCBs in western Massachusetts, and is the only known source of polychlorinated biphenyls (PCBs) found in the Housatonic River sediments and floodplain soils in Massachusetts. Although GE performed many functions at the Pittsfield facility throughout the years, the activities of the Transformer Division, including the construction and repair of electrical transformers using dielectric fluids, some of which contained PCBs (primarily Aroclors 1254 and 1260), were one likely significant source of PCB contamination. According to GE's reports, from 1932 through 1977, releases of PCBs reached the waste and storm water systems associated with the facility and were subsequently conveyed to the East Branch of the Housatonic River and to Silver Lake.

During the 1940s, efforts to straighten the Pittsfield reach of the Housatonic River by the City of Pittsfield and the U.S. Army Corps of Engineers (USACE) resulted in 11 former oxbows being isolated from the river channel. The oxbows were filled with material that was later discovered to contain PCBs and other hazardous substances.

A fish consumption advisory for the Housatonic River was issued by the Massachusetts Department of Public Health (MADPH) in 1982 from Dalton, MA, to the Connecticut border as a result of the PCB contamination in the river sediments and fish tissue. It was later amended to include frogs and turtles. The State of Connecticut also posted a fish consumption advisory for most of the Connecticut section of the river in 1977. In addition, in 1999, MADPH issued a waterfowl consumption advisory from Pittsfield to Great Barrington due to PCB concentrations in wood ducks and mallards collected by the Environmental Protection Agency (EPA) from the river. Concerns expressed by local residents regarding possible health effects resulting from exposure to PCB contamination are being investigated by the MADPH.

While the two miles downstream from the facility have historically been channelized, the river's course is relatively unaffected (with the exception of the numerous dams downstream) in areas south of Pittsfield. The approximately 10 miles of river from the confluence of the East and West Branches of the Housatonic to Woods Pond in Lenox are bordered by extensive floodplain (up to 3,000 feet wide), range from 45 to 100 feet in width, have a meandering pattern with numerous oxbows and backwaters, terminating at Woods Pond, a shallow 56-acre impoundment formed by the construction of a dam in the early 1900's.

The land use/ownership of the floodplain properties include private and residential, agricultural, recreational (such as canoeing, fishing, and hunting), wildlife management areas and parks.

REGULATORY FRAMEWORK

The GE Pittsfield/Housatonic River site has been subject to regulatory investigations dating back to the early 1980s. For several years, these investigations were consolidated under the following regulatory mechanisms: two Administrative Consent Orders (ACOs) with the Massachusetts Department of Environmental Protection (MADEP) and a Corrective Action Permit with EPA under the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA).

In 1991, EPA issued a RCRA Corrective Action Permit to the GE-Pittsfield facility. Following an appeal and subsequent modification, the permit became effective in 1994. The permit included the 254-acre facility, some former fill oxbows, Silver Lake, the Housatonic River and its floodplains and adjacent wetlands, and all sediments contaminated by PCBs migrating from the GE facility.

In addition to the permit, the two ACOs between GE and MADEP became effective in 1990 and included those areas defined in the permit as well as three additional study areas. Under the ACO, GE has performed several investigations and short-term cleanups.

EPA proposed the Site to the Superfund National Priorities List in September of 1997. The federal and state government agencies and GE entered into negotiations late in 1997 in an attempt to reach a comprehensive settlement which included remediation, redevelopment, and restoration components.

In September 1998, representatives of the federal and state government agencies, GE, the City of Pitttsfield, and the Pittsfield Economic Development Authority reached a tentative agreement in principle relating to GE's Pittsfield facility, other contaminated areas in Pittsfield, and the Housatonic River. This agreement was translated into a Consent Decree, lodged with the federal court on October 7, 1999, and approved by the court on October 27, 2000. The agreement provides for, among other things, the cleanup of the GE plant facility, cleanup and restoration of the former oxbows, cleanup and restoration of Silver Lake, cleanup of Allendale School, environmental restoration of the Housatonic River and floodplains, compensation for natural resource damages, and government recovery of past and future response costs (the Consent Decree, including a summary version, is available for viewing under "Cleanup Agreements" on EPA's website). Entry of the agreement also makes possible large-scale redevelopment of the GE facility, for which GE is funding approximately $45 million. Below is a description of the different areas that are subject to cleanup.

DESCRIPTION OF CLEANUP AREAS

The Housatonic River

The Housatonic River cleanup is divided into three segments: the first ½ mile adjacent to the facility, the next 1 ½ miles downstream to the confluence of the East and West Branches, and the Rest of River downstream of the confluence. The actions for these three segments are described below.

Upper ½ Mile Reach Removal Action

The first ½ mile of the Housatonic River subject to remediation is located in a densely populated area near the center of Pittsfield. The area is primarily commercial/industrial, although there is one recreational property abutting the River. A portion of GE's 254-acre property abuts the River to the north and several commercial/industrial properties, a playground, and additional GE property abut the river to the south. The entire ½ mile section of the River was channelized by the city and the USACE in the 1940s and, as a result, there are relatively steep banks and minimal floodplain in this area. Five of the former oxbows discussed above are present in this stretch of the River. Many of the historical discharges to the Housatonic River were likely to have occurred within this ½ mile. The Building 68 tank release referenced below occurred at the approximate mid-point of the first ½ mile.

Remediation in the first ½ mile consists of two separate cleanups. In December 1996, EPA issued GE a Unilateral Order to remove highly contaminated sediments and bank soils in the area adjacent to Building 68. As a result, in 1997 and 1998 GE excavated and disposed of 5,000 cubic yards of heavily contaminated sediments (average PCB concentration of approximately 1,534 ppm) from a 550-foot section of the river and 2,230 cubic yards of heavily contaminated bank soils (average concentration of surficial soils of 720 ppm and average concentration of subsurface soils of 5,896 ppm) from a 170-foot stretch of the riverbank. Sediment removal activities were performed "in the dry"; that is by installing sheetpile into the river and diverting the flow of the river around the sheetpile, dewatering small sections, and removing the sediments with standard excavating equipment located on top of the riverbank.

The second phase of the cleanup consists of bank soil and sediment excavation throughout the first ½ mile. This action began in October, 1999. Excluding the areas remediated during the Building 68 cleanup, the average surficial (0-1 foot depth) sediment PCB concentration was 54.8 ppm and average concentration of PCBs in the top three feet of riverbank soils was 56 ppm. Sediment excavation was performed in a manner similar to the Building 68 remediation. Sheetpile was driven into the middle of the river channel and the flow will be diverted to ½ of the river channel. Sections of the river are then dewatered and the "dry" sediments removed by conventional equipment (e.g., backhoes, cranes, etc.). Sediment removal occurred wherever there was surficial contamination (approximately 75% of the area) and proceeded to depths of 1.5 to 2.5 feet in many locations, and to as deep as 11 feet where dense non-aqueous phase liquids were encountered. Contamination will remain therefore, restoration of the riverbed includes the placement of a cap containing a silty sand sorptive layer, covered by an armored layer to return the riverbed to its existing elevation and as a substrate for restoration. The ½ mile remediation and restoration was completed in September 2002. Approximately 11,800 cubic yards of sediment and 6,400 cubic yards of bank soils were removed.

1 ½ Mile Reach Removal Action

The next 1 ½ miles of the river are located in an area with residential, commercial, industrial and undeveloped/recreational properties. In all, there are approximately 40 residential properties located within or adjacent to the floodplain. Approximately 1,500 feet of this reach was channelized by the city and the USACE in the 1940s and three former oxbows are within this stretch of the river. In the first mile, the riverbanks are generally steep and the floodplain narrow. In the last ½ mile, the riverbanks are relatively low, resulting in a broad floodplain. The 1 ½ Mile Reach ends at the confluence of the East and West Branches of the Housatonic River.

The average concentration of PCBs in the surficial sediments (0 to1 foot depth) is 21 ppm and the average concentration of PCBs in sediments at all depths is 29 ppm. For the riverbanks, the average concentration of PCBs in the top foot is approximately 23 ppm and the average concentration of PCBs in the top three feet is 40 ppm.

EPA initiated the cleanup of the sediments and riverbanks in this 1 ½ Mile Reach under the Consent Decree in June 2002. GE has agreed to reimburse EPA as part of a cost sharing arrangement (see the Consent Decree language under "Cleanup Agreements" on EPA's website for more details). As of October 2004, EPA has completed 50% of the 1 ½ Mile Reach using a combination of the "dry excavation" technique discussed above and a gravity fed bypass system. The bypass system consists of a dam, which was installed approximately 1400 feet downstream from the Lyman Street Bridge, which diverts the river flow into two 54 inch movable plastic pipes. These pipes are placed along one side of the river channel while the opposite side of the river bed and bank are excavated. Then the pipes are rolled to the cleaned side of the river bed and the process is repeated. Additional pipes are added as the excavation progresses. To date, approximately 52,000 cubic yards have been excavated from the 1 ½ Mile Reach. This portion of the river clean up scheduled to be completed in 2006 or 2007.

Rest of River Investigation

EPA has conducted an investigation of the Rest of River below the 1 ½ Mile Reach into Connecticut, which was focused on collecting information for and preparing the human health and ecological risk assessments and the modeling of PCB fate and transport in the river. Both of the risk assessments and three aspects of the modeling effort are required under the Decree to undergo formal peer review, with the peer review of the modeling framework having taking place in April 2001, the peer review of the human health risk assessment taking place in November 2003, and the peer review of the ecological risk assessment taking place in January 2004. The remaining modeling peer reviews are scheduled to take place in 2005 and 2006 GE has submitted a RCRA Facility Investigation Report, and is scheduled to submit draft Interim Media Protection Goals, and a Corrective Measures Study for EPA review and approval. A decision by EPA on remediation is scheduled for 2007. GE and other members of the public can appeal EPA's decision. More details are available under "The Site" on EPA's website, including EPA's June 2003 Human Health Risk Assessment, and July 2003 Ecological Risk Assessment, both of which were subject to peer review. The most recent data for the different reaches of the river are available under "The Site" on EPA's website.

Allendale School Property

The Allendale School Property is located to the north of the GE facility across the Tyler Street Extension, and is bordered on the other three sides by residential areas. The school building occupies approximately 40,000 square feet within a property of approximately 12 acres in size. In 1991, a 2-foot soil cap (with geotextile) was placed over much of the playground area by GE. In 1998, some soil outside the existing cap was found to contain PCBs exceeding 2 ppm and was removed by GE. In July 1999, GE, pursuant to the Consent Decree, commenced a removal action for the Allendale School Property pursuant to an Action Memorandum issued by EPA on July 12, 1999. The work was completed in the Fall of 1999.

Silver Lake Area

The Silver Lake Area is located immediately to the west of and across Silver Lake Boulevard from the 30s Complex area and includes the lake and its banks. Silver Lake has a surface area of approximately 26 acres and a maximum water depth of about 30 feet. It receives stormwater contributions from several municipal outfalls, a portion of the GE Plant Area (via NPDES-permitted outfalls), and a number of non-GE-owned properties (both commercial and residential). Silver Lake is hydraulically connected to the Housatonic River by a 48-inch diameter concrete conduit located near the intersection of Fenn Street and East Street. This conduit conveys intermittent discharge from Silver Lake and stormwater runoff from Fenn Street and East Street to the Housatonic River. Sampling of the banks will be completed in the spring of 2005. The Consent Decree requires that GE dredge 400 cyds of the most contaminated sediment from the lake and place a sub-aqueous cap on the entire bottom of the lake. Sampling to support the cap design will occur during 2004/2005. A pilot study will then be performed to determine the most effective cap design and installation method. Cap installation is expected in 2007. More information is available under "The Site" on EPA's website.

Former Oxbow Areas

Former Oxbow Areas A and C

Former Oxbow Area A is approximately 5 acres in size and occupies a large open field on the south side of the Housatonic River north of Elm Street and Newell Street. The majority of this area is undeveloped and covered with grass and low brush, although commercial businesses occupy a portion of the parcels containing the former oxbows. Former Oxbow Area C is approximately 2 acres in size and located immediately east of Former Oxbow Area A, along the south side of the Housatonic River, near the end of Day Street. This area consists mostly of an undeveloped field surrounded by trees and brush. Final sampling of this area to meet the characterization requirements in the Consent Decree was completed in 2004. Remediation, if required, is currently scheduled for 2006.

Lyman Street Area

This approximately 9-acre area is located immediately west of the East Street Area 2 - South area and is generally bounded by the Housatonic River to the south, East Street and several commercial/residential properties to the north, and Cove Street to the west. Approximately 3 acres of this area is composed of the GE-owned Lyman Street Parking Lot, which is paved. The remaining GE-owned portions of this area are partially paved and undeveloped. The non-GE-owned portions of this area consist of an undeveloped right of way for high tension electricity transmission lines (containing Former Oxbow Area E) and Former Oxbow Area B. Former Oxbow Area B is approximately 3 acres in size and located north of and across the Housatonic River from Former Oxbow Area C, west of Lyman Street, and immediately east of Cove Street. Nearly all of this former oxbow area is used for parking in support of local commercial businesses, although a building occupies a small portion of this area. The remaining portions are undeveloped. The Conceptual Remedial Design/Remedial Action report for this area was submitted 2004.

Newell Street Area I

This approximately 11-acre area is generally composed of 10 commercial/industrial properties and three recreational properties located along Newell Street. This area is bounded by the Housatonic River to the north, Newell Street to the south, the Hibbard School playground to the east (including the northwest corner of that playground within this area), and Ontario Street Extension and the GE-owned Newell Street Parking Lot to the west. The remedial action for this area was initiated in 2003 and is expected to be completed in 2004.

Newell Street Area II

This approximately 8-acre area is located immediately west of Newell Street Area I and is generally bounded by the Housatonic River to the north, Newell Street and residential property to the south, and Sackett Street to the west. Approximately 3 acres of this area is composed of the GE-owned Newell Street Parking Lot, which is paved. The remaining GE-owned portions of this area are wooded. The non-GE-owned portions of this area consist of an undeveloped right of way for high tension electricity transmission lines, and undeveloped private property. Additional sampling is occurring in this area to support design decisions. The Conceptual Remedial Design/Remedial Action was submitted in 2004. Remediation is scheduled for 2005.

Former Oxbow Areas J and K

These areas are located approximately 2,500 feet upstream of the Newell Street bridge. Former Oxbow Area J measures approximately 4 acres in size, and is located on the north side of the Housatonic River near Fasce Place. Former Oxbow Area K occupies approximately one acre and is located on the south side of the Housatonic River across from Former Oxbow Area J near Ventura Avenue. While Former Oxbow Area K is undeveloped, Former Oxbow Area J is composed of residential property to the west and commercial property to the north along East Street. The Conceptual Remedial Design/Remedial Action is due to be submitted in either 2004 or 2005.

Housatonic River

Floodplain Current Residential Properties Adjacent to 1 ½-Mile Reach - Actual/Potential Lawns:

The 1½ Mile Reach is defined by the Lyman Street bridge (upstream) and the confluence with the West Branch. This area includes the non-bank portions of approximately 35 residential properties along this reach, where such areas are located within the floodplain. These properties will be remediated, if necessary, in coordination with the 1.5 Mile Reach sediment and riverbank cleanup.

Floodplain / Non-Residential Properties Adjacent to 1 ½-Mile Reach (Excluding Banks):

As noted above, the 1 ½ Mile Reach is defined by the Lyman Street bridge (upstream) and the confluence with the West Branch, including Fred Garner Park. This area includes non-bank portions of approximately 11 non-residential properties along this reach where such portions are located within the floodplain. Excluded from this area are those properties associated with the Former Oxbow Areas. GE has sampled and EPA has agreed with GE that no additional action is required for the flood plain parcels between the Lyman and Dawes Street bridges. GE has initiated sampling of the flood plain properties between the Dawes and Pomeroy Street Bridges. These properties will be remediated, if necessary, in coordination with the 1.5 Mile Reach sediment and riverbank cleanup.

Floodplain / Residential Properties Downstream of Confluence - Actual/Potential Lawns:

This area begins at the confluence with the West Branch and extends in a downriver direction. This area includes, with some exceptions, residential properties located within the floodplain: approximately 12 residential properties between the confluence and Woods Pond Dam, and other residential properties downstream of Woods Pond Dam. For exceptions, and more detailed definitions, see the Consent Decree available for viewing in the "Cleanup Agreements" section of EPA's website.

GE Plant Site

The GE Plant Area consists of approximately 250 acres including the following areas:

40s Complex

This approximately 9-acre area is located within the western portion of GE's Pittsfield facility and is generally bounded by Kellogg Street to the north, other areas of the GE facility to the south and east, and non-GE owned commercial/industrial areas to the west. Currently, Buildings 42, 43, 43-A, and 44 comprise nearly one-half of this area (eastern portion) while the remainder is mostly paved (asphalt/concrete). Previously, Buildings 40-B, 41, and 41-A comprised much of the western portion of this area; these buildings were demolished in the early 1990s, although the subgrade portions of these buildings remain within this area. Buildings 42, 43, 43-A and 44 are scheduled to be demolished in early 2005. GE has sampled soil as required in the Consent Decree and EPA has concurred with GE that no remedial action is required in this area. This area of the facility is a component of the re-development agreement between GE and the City of Pittsfield, which is available for viewing under "Redevelopment" on EPA's website.

30s Complex

This approximately 20-acre area is located south of the 40s complex, and is generally bounded by Silver Lake Boulevard to the west, East Street to the south, and other areas of the GE facility to the south and east. The surface of this area is generally comprised of asphalt/concrete, some unpaved areas, and several existing buildings. GE has sampled soil as required in the Consent Decree and EPA has concurred with GE that no remedial action is required in this area. This area of the facility is a component of the re-development agreement between GE and the City of Pittsfield, which is available for viewing under "Redevelopment"on EPA's website. Under this agreement, the 30s Complex is expected to be transferred to the Pittsfield Economic Development Authority in late 2004.

20s Complex

This approximately 15-acre area is located immediately east of the 30s Complex within the western portion of the GE facility, and is generally bounded by East Street to the south and other areas of the GE facility to the north and east. Current conditions within this area are predominantly characterized by the existing asphalt parking areas. Previously, these areas were associated with the 20s Complex buildings which have been demolished. GE has sampled soil as required in the Consent Decree and EPA has concurred with GE that no remedial action is required in this area. This area of the facility is a component of the re-development agreement between GE and the City of Pittsfield, which is available for viewing under "Redevelopment"on EPA's website. Under this agreement, the 30s Complex is expected to be transferred to the Pittsfield Economic Development Authority in late 2004.

East Street Area 2 - South

This area comprises approximately 50 acres of the western portion of the GE facility. It is generally bounded by East Street to the north, Newell Street to the east, the Housatonic River to the south, and the Lyman Street Area to the west. T he western portion of this area is comprised mostly of the 60s Complex, and is otherwise mostly paved. The eastern portion of this area contains a former Housatonic River oxbow that was formed when the river meandered through this area. This area is currently characterized as mostly open areas, with a relatively small wooded area located south of the former oxbow. GE has completed the sampling as required in the Consent Decree and are evaluating the data to determine if remedial actions will be necessary. The Conceptual Remedial Design/Remedial Action was submitted to EPA recently and remediation is expected in 2005.

East Street Area 2 - North

This approximately 50-acre area is also located within the western portion of the GE facility. It is currently covered mostly with buildings and pavement. However, several relatively small grassy areas are present within the eastern portion of this area. This area is generally bounded by Tyler Street to the north, New York Avenue to the east, Woodlawn Avenue and the 40s Complex to the west, and Merrill Road, the 20s Complex, and East Street Area 1 to the south. GE has completed the sampling as required in the Consent Decree and the Conceptual Remedial Design/Remedial Action is due in 2005.

East Street Area 1 - North

This approximately 5-acre area is located immediately south of East Street Area 2 - North and east of the 20s Complex. This area is mostly unpaved, and is generally bounded by Merrill Road to the north and west, East Street to the south, and a non-GE owned commercial area to the east. This area also includes the area currently occupied by a commercial-use building (of which GE owns a portion), and a relatively small unpaved GE-owned property south of East Street, which contains a NAPL containment/recovery system. GE has sampled this area as required by the Consent Decree and has evaluated remedial requirements. GE has proposed, and EPA has concurred that no remedial action will be required for this area.

Hill 78 Consolidation Area

This approximately 6-acre area currently rises approximately 15 feet above grade, and is located near the center of the GE facility. This area includes the former Hill 78 landfill, which was originally created in the early 1940s as an on-site disposal area for excavated soils generated within the GE facility and was capped in 1991 with a geotextile layer and either one foot of crushed stone or soil. This area will be utilized as an on-plant consolidation area for certain materials excavated or otherwise removed as part of various Removal Actions at the Pittsfield/Housatonic River Site. A portion of the Hill 78 landfill is expected to be capped in 2005.

Building 71 Consolidation Area

This approximately 5-acre area is also located within the central portion of the GE facility. It is located immediately to the east of the Hill 78 Consolidation Area. With the exception of the Building 71, this area is unpaved and is generally bounded by paved parking areas to the north and east, by the Hill 78 Consolidation Area to the west, and U.S. Generating Company facilities to the south. This area will be utilized as an on-plant consolidation area for certain hazardous materials excavated or otherwise removed as part of various Removal Actions at the Pittsfield/Housatonic River Site.

Hill 78 Area - Remainder

The remaining portion of the Hill 78 Area comprises approximately 60 acres of the GE facility. T hese areas are generally bounded by the Tyler Street Extension to the north, Merrill Road to the south, New York Avenue and other areas of the GE facility to the west, and other areas of the GE facility to the east. With the exception of paved roadways associated with Building 78, the U.S. Generating Company's cogeneration facility, the remaining areas of the Hill 78 Area are generally open. A small portion of this area (on the northeast corner of New York Avenue and Merrill Road) is used for non-hazardous materials disposal. GE will initiate sampling of this area per the Consent Decree requirements in 2005.

Unkamet Brook Area

This approximately 140-acre area consists of the eastern portion of the GE facility and is bounded by Dalton Avenue to the north, Plastics Avenue and the Hill 78 Area - Remainder to the west, Merrill Road to the south and to the east by railroad tracks. This area also contains commercial/recreational property located between Merrill Road and the Housatonic River to the south.

The GE-owned portion of this area located west of Unkamet Brook is mostly paved and covered with large buildings. The GE-owned portion of this area east of Unkamet Brook, as well as much of the land between Merrill Road and the Housatonic River, is undeveloped (except for the area associated with Building OP-3 and the commercial area along Merrill Road). GE has initiated sampling of this area per the requirements of the Consent Decree. The sampling is expected to be completed in 2005.

Groundwater

Groundwater associated with much of the aforementioned areas is being actively monitored as five distinct Groundwater Management Areas (GMA 1, 2, 3, 4 and 5). Area groundwater is not used as a source of drinking water. The primary concern is to prevent contaminated groundwater from adversely affecting surface water, e.g. Unkamet Brook, Housatonic River, and Silver Lake. Groundwater is also being evaluated to ensure that any vapors emitting from the groundwater do not pose a risk to occupants of nearby buildings. GMAs 1 and 3 also have significant plumes of non-aqueous phased liquids (i.e., PCB contaminated oils) which are being actively collected.

ATTACHMENT V
The PCB Clean up Effort
NPDES Permit No. MA0003891
General Electric Company

Since obtaining final court approval for the overall cleanup plan and Consent Decree in October 2000, much progress has been made in the PCB cleanup. Major highlights are as follows:

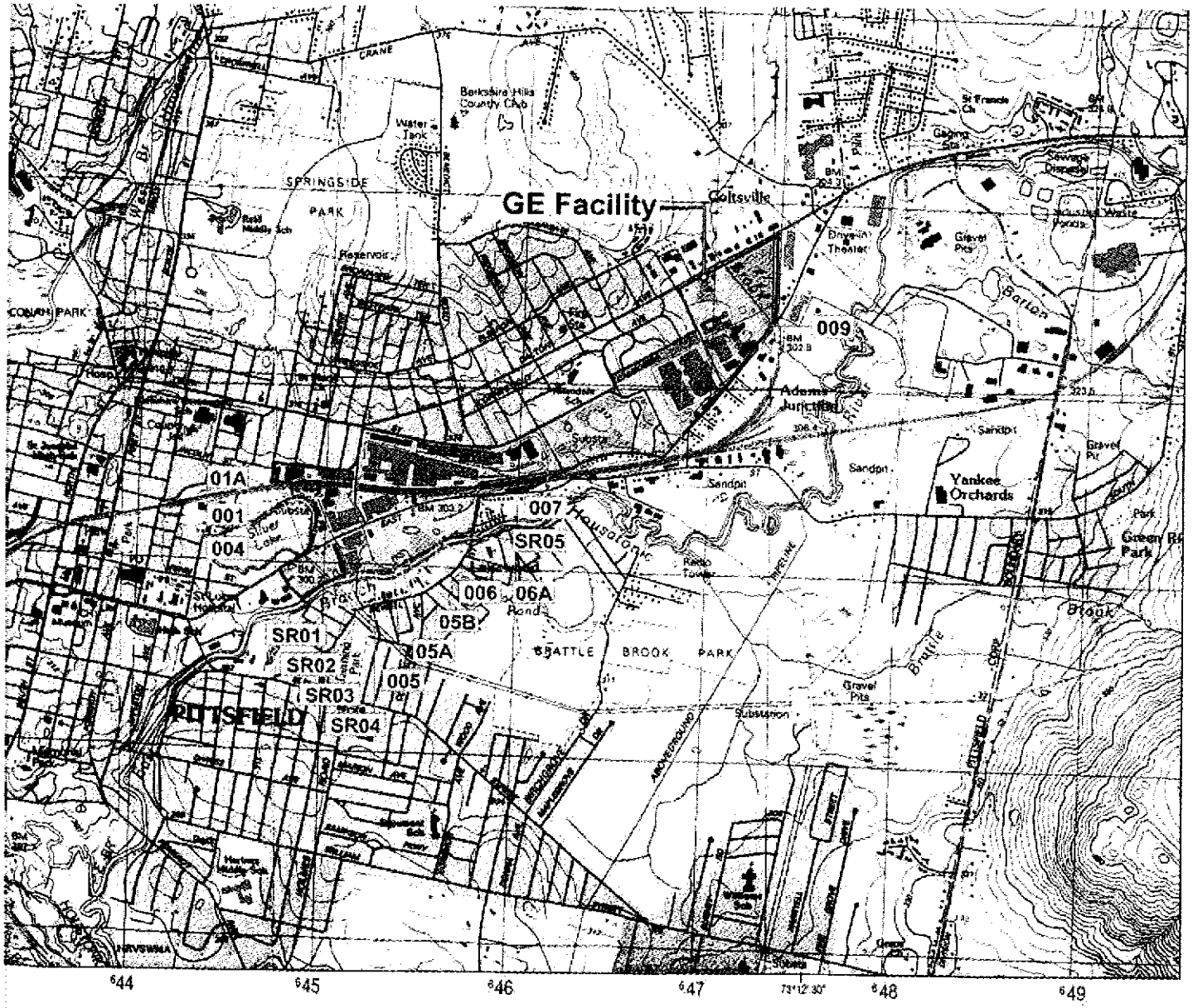
* Cleanup of First Half-Mile of the Housatonic River is complete: Approximately 18,400 cubic yards of contaminated bank soil and sediment were removed from the River channel.

* Remediating the Next 1 ½ Miles of River: The remediation is complete down to the Dawes Avenue bridge. Approximately 52,000 cubic yards of contaminated bank soil and sediment have been removed from the River channel. The 1.5 Mile Reach remediation is over 50% complete.

* Evaluating the "Rest of the River": EPA has been undertaking a massive investigation - one that has involved collecting thousands of water, biota, sediment and floodplain samples - to characterize the remaining downstream portions of the river in Massachusetts and Connecticut. That investigation, modelling and risk assessments should be complete within the 1 to 1.5 years. A decision on remediation of the Rest of River is scheduled for 2007.

* Redeveloping GE's Pittsfield Facility: Since October 2000, two major soil investigations have been completed on the GE property, one involving the 50 acres that the Pittsfield Economic Development Authority (PEDA) is taking over and another in an area that was recently developed into a new Little League baseball field. The agency has also started five groundwater investigations that will cover most of the property. Soil remediation has been completed at most of the Newell Street I commercial properties and soil investigations are ongoing or completed at Silver Lake, Unkamet Brook. Hill 78, East St. Areas I North and II South, Newell Street II, and floodplain properties. Remediation has been completed on a portion of the Newell Street I properties and several cleanups are targeted for 2005 and 2006.

* Residential Cleanups: Although not part of the Consent Decree, the Massachusetts Department of Environmental Protection has made substantial progress getting residential properties cleaned up. 175 properties have been remediated in the past seven years.



LEGEND:

007 = Approximate location of drainage discharge point

⊙ = Approximate location of hazardous waste storage area

AREA LOCATION

2000' 0 2000'

Approximate Scale: 1" = 2000'

REFERENCE: Base Map Source USGS 7.5 Minute Quads. Series Pittsfield, East, Massachusetts, and Pittsfield West, Mass.-NY.

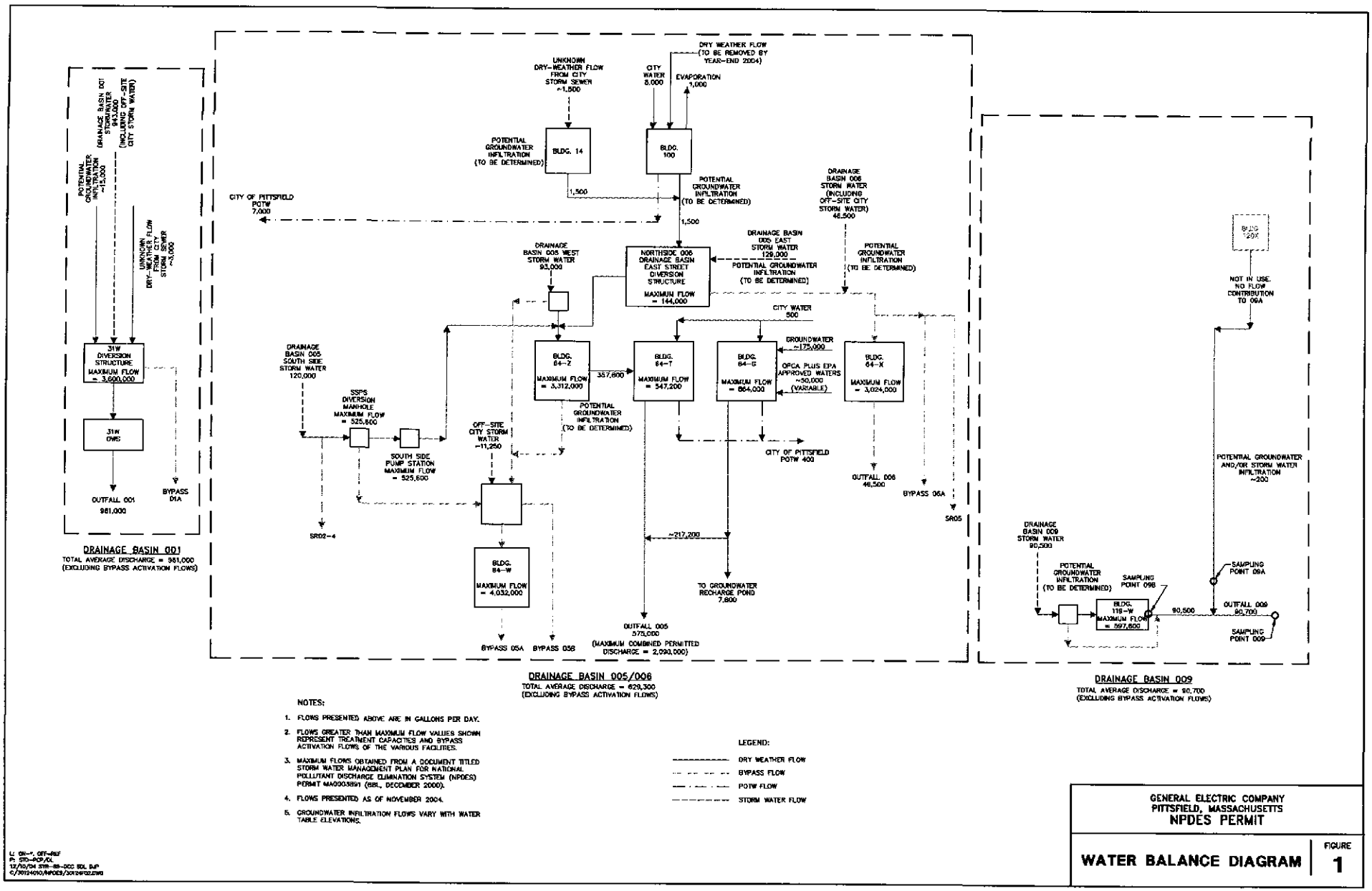
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NPDES PERMIT RENEWAL APPLICATION

FACILITY LOCATION MAP AND APPROXIMATE NPDES OUTFALL LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1



NOTES:

1. FLOWS PRESENTED ABOVE ARE IN GALLONS PER DAY.
2. FLOWS GREATER THAN MAXIMUM FLOW VALUES SHOWN REPRESENT TREATMENT CAPACITIES AND BYPASS ACTIVATION FLOWS OF THE VARIOUS FACILITIES.
3. MAXIMUM FLOWS OBTAINED FROM A DOCUMENT TITLED STORM WATER MANAGEMENT PLAN FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT MA0003891 (GBL, DECEMBER 2000).
4. FLOWS PRESENTED AS OF NOVEMBER 2004.
5. GROUNDWATER INFILTRATION FLOWS VARY WITH WATER TABLE ELEVATIONS.

LEGEND:

- DRY WEATHER FLOW
- BYPASS FLOW
- POTW FLOW
- STORM WATER FLOW

LC: ON-Y, OFF-REF
P: STD-ACP/XL
12/10/04 SYR-GS-DCC SDL SJP
C:\3012\410\NPDES\3012FIG2.DWG

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WATER BALANCE DIAGRAM | FIGURE **1**