Raymark Industries, Inc.

Stratford, CT

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND

THE SUPERFUND PROGRAM *protects human health and the environment by locating, investigating, and cleaning up often-abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and ground-water to productive use.*

YOUR OPINION COUNTS: OPPORTUNITIES TO COMMENT ON THE PLAN

EPA will be accepting public comment on this Proposed Plan from September 16, 2010 through October 16, 2010. If you have a concern, suggestion, or preference regarding EPA's Proposed Plan and its Administrative Record, EPA wants to hear from you before making a final decision on how to protect your community. EPA is also specifically soliciting public comment concerning its determination that the alternatives chosen are the least damaging practicable alternatives for protecting wetland and floodplain resources.

To provide your opinion you may:
(a) Offer oral comments during the October 6, 2010 public hearing, or
(b) Send written comments to EPA postmarked or emailed no later than October 16, 2010.
See the last page for details about how to provide oral or written comments. If you have questions about how to comment, or if you have specific needs for the public events or questions about the facility and its accessibility, please contact the EPA Community Involvement Coordinator. For more information about these meetings contact EPA's Remedial Project Manager. (below)

Public Informational Meeting
Wed., Sept. 15, 2010, 7-9p.m.
Stratford High School
44 N. Parade
Stratford, CT

Public Hearing
Wed., Oct. 6, 2010 at 7p.m.
Stratford Town Hall
Council Chamber
2725 Main Street
Stratford, CT

SUMMARY OF THE PROPOSED PLAN

Over the past ten years, EPA has worked with officials from the Town of Stratford, the Town-appointed Raymark Advisory Committee (RAC), and then, more recently, with the Raymark Superfund Team (RST), in an effort to reach consensus on moving forward with the cleanup of the Raymark Industries, Inc. Superfund Site. Throughout the years this effort has involved EPA's Regional Administrators, Connecticut Department of Environmental Protection's (CTDEP) Commissioners, and numerous federal, state, and local officials. The development of a cleanup approach with both long-term and short-term goals has been the objective of these meetings. While EPA is still seeking consensus on a long-term cleanup plan to address the areas in Town that remain contaminated with Raymark waste (see page 20 for summary of operable units (OUs)), conceptual agreement has been reached on final cleanup actions at four properties and temporary ("interim") actions for the remaining OU6 prop-

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In accordance with Section 117 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §9601 et seq. (CERCLA), the law that established the Superfund program, this document summarizes EPA's cleanup proposal for a portion of the Raymark Industries, Inc. Superfund Site. For more detailed information concerning the remedial alternatives evaluated for use at the Site, please refer to the 2010 Raymark Industries, Inc. OU6 Feasibility Study and the accompanying Administrative Record, which are available for review at the Site information repositories or online at: www.epa.gov/ne/superfund/sites/raymark. The Site information repositories are located at the Stratford Public Library, 2203 Main Street, Stratford, CT and at EPA's Records and Informational Center, 5 Post Office Square, Boston, MA.

erties and other areas in Town contaminated with Raymark waste. These final cleanup actions and the interim actions are presented in this Proposed Plan. EPA anticipates, after the comment period closes, that an Interim Record of Decision will be issued for OU6. *Note that EPA may change this proposed cleanup approach based upon public comment or new information.*

SUMMARY OF PROPOSED CLEANUP PLAN

Beacon Point Area of Concern 2 (AOC 2) – Final Action

- Place institutional controls (ICs) that restrict excavation and groundwater use on a portion of this Town-owned property

The estimated cost is $184,609

576/600 East Broadway – Final Action

- Excavate Raymark waste from the 100 year floodplain to a depth of four feet and place on the upland portion of the two properties to be capped
- If capacity allows, place Raymark waste excavated from Third Avenue onto the properties
- Place a low permeability cap on all Raymark waste on the properties located above the 100 year floodplain
- Integrate final slopes with abutting residential properties (and for potential future development)
- Continue monitoring of groundwater and perform cap maintenance, as required
- Institutional controls that restrict excavation into the capped area and the use of groundwater

The estimated cost is $3,349,396

Third Avenue – Final Action (To be included only if consolidation capacity exists at 576/600 East Broadway)

- Excavate all Raymark waste from the property
- Backfill the excavation with clean fill and return property to existing conditions
- Transport excavated Raymark waste to a temporary location and sample
- Transport any Raymark waste above certain regulatory standards to an out-of-town treatment and disposal facility
- Consolidate remaining Raymark waste on 576/600 East Broadway (if available capacity)

The estimated cost is $370,533

Interim Actions

Place institutional controls on all remaining locations throughout Stratford that contain Raymark waste. Institutional controls may include restrictions on excavations, groundwater use, and notification requirements such as fencing or signage. The types of institutional controls necessary will be determined on a property by property basis and are only temporary measures to reduce the potential of exposures to Raymark waste. These temporary measures will remain in place until final remedies are selected and completed.

The estimated cost is $855,858

PUBLIC INVOLVEMENT

Raymark Advisory Committee (RAC)

From June 2000 through September 2007, EPA, CTDEP, and Town officials worked with the RAC, with EPA-funded third-party facilitation and technical assistance. The RAC was a Town appointed committee that attained a thorough understanding of the complex technical, legal, regulatory, and financial constraints relative to the development of cleanup alternatives to address the Raymark contamination in Stratford. At the RAC's request, EPA focused on the cleanup of OU6 properties, a group of 24 residential, commercial, state, and municipal properties that contain Raymark waste.

In September 2007, the RAC presented a final Report to the Town Council which included sections on Accomplishments, Constraints, and Recommendations; however, consensus on a cleanup approach was not reached.

Raymark Superfund Team (RST)

In July 2008, the EPA Regional Administrator and the Connecticut DEP Commissioner met in Stratford with representatives of the newly organized community group, Save Stratford, former members of the Raymark Advisory Committee, and local elected and Town officials in an effort to find common ground on potential cleanup options to address the remaining Raymark waste locations in Stratford.

The team met from August through December 2008. While several plans for long-term options were discussed, there was no consensus reached on a permanent solution for Stratford's Raymark waste contamination. There was, however, unanimous agreement by the RST that EPA should propose the cleanup actions on the four properties and the interim actions for other properties that are presented in this Proposed Plan. This Proposed Plan is consistent with the agreements reached with the RST's recommendations, which are subject to public comment and a final EPA decision.

EPA and CTDEP are continuing to work with the Stratford community to develop an appropriate solution to permanently address the remaining Raymark waste contamination in Stratford.

A CLOSER LOOK AT EPA'S PROPOSED CLEANUP APPROACH

The Raymark Industries, Inc. Superfund Site has been divided into nine parts or Operable Units (OUs) (see page 20). The Remedial Investigation for OU6, which consists of 24 commercial, residential, and recreational properties owned by the State, Town, or privately held, determined the nature and extent of the Raymark waste on each of these properties. The findings of the Remedial Investigation were used to develop a Feasibility Study, which identified numerous cleanup alternatives that EPA considered for cleanup of OU6. These cleanup alternatives consisted of different combinations of plans to restrict access to, contain, remove, or treat contamination to protect human health and the environment.

Scope and Role of this Proposal

Based upon the alternatives evaluated in the OU6 Feasibility Study, which are presented briefly on pages 7 & 8 , EPA's preferred cleanup approach for addressing the contaminated soil at four properties with permanent remedies is presented below. In addition, temporary measures for addressing other locations in Stratford where exposures to Raymark waste is a concern are also proposed. These temporary measures, which reduce but do not eliminate potential exposures to Raymark waste, will remain in effect until permanent remedies are proposed and implemented. EPA will continue to work with the Stratford community to develop an appropriate solution to permanently address the remaining Raymark waste contamination in Stratford.

Groundwater monitoring is a component of the remedies proposed in this Plan. EPA is evaluating the cleanup of groundwater, however, separately under another operable unit (OU2). All properties included in OU6 are served by a public water supply. There is no known use of groundwater for any purpose in the area.

Beacon Point AOC 2 – Final Remedy Alternative 2:

Alternative 2 (Restrictions with Long-Term Monitoring) is the proposed permanent remedy for this portion of the Town-owned Beacon Point parcel (see Figure 4-14 on pg. 21). Alternative 2 will be a final action that will provide permanent protection through the placement of institutional controls which will restrict any activity that might result in potential exposure to Raymark waste. These institutional controls will include restrictions on excavations and use of the groundwater. Because waste will be left in place, annual reporting and five year reviews will be required. It is estimated that it will take approximately 3 months to implement Alternative 2 at a cost of approximately $184,609 (total present value).

The Beacon Point Area property consists of approximately 7.4 acres of commercially-zoned land (waterfront business) located immediately to the north of 1 Beacon Point Road. Beacon Point AOC 2 is located within the central paved portion of the property. Based on soil sampling results collected during the Remedial Investigation, the Raymark waste in this area is estimated to be 17,000 square feet with an estimated 1,260 cubic yards located at a depth of 8-10 feet which is below the seasonal high water table. The water table is approximately 5 feet below the ground surface in this area.

There are some exceedences of state regulatory standards on Beacon Point AOC 2 beyond those caused by Raymark waste. Contamination remaining on the property not associated with Raymark waste will not be addressed by EPA's cleanup action.

576/600 East Broadway – Final Remedy Alternative 3:

Alternative 3 (Capping) is the proposed final action for 576/600 East Broadway (see Figure 4-6 on pg 22). This is a permanent remedy that will excavate Raymark waste to a depth of four feet from within the 100 year floodplain and place the excavated material on the portion of the properties to be capped. A RCRA low permeability cap will be constructed on the portion of the properties that contains Raymark waste. The capping will occur outside the 100-year flood plain and avoid wetlands. Grades are anticipated to be gentle with the overall height at the center of the properties increased by approximately 5 feet. Reuse of the properties may occur and EPA will work with the Town, potential developer(s), and the public, as appropriate, to integrate reuse possibilities into the cap during the remedial design.

In addition to the construction of a cap, Alternative 3 will provide protection through the placement of institutional controls which will restrict any activity that might result in potential exposure to Raymark waste. These institutional controls will include restrictions on excavations and use of the groundwater on both properties. Because waste will be left in place, monthly cap inspections, annual reporting, groundwater monitoring, and five year reviews will be required. It is estimated that it will take approximately 14 months to implement Alternative 3 at a cost of approximately $3,349,396 (total present value).

576 and 600 East Broadway are abutting commercially-zoned (light industrial) parcels totaling approximately 5.8 acres. These parcels are mostly vacant, but contain one small building. They are located on the west side of East Broadway, bounded to the north by the Vacant DOT Lot Abutting I-95, to the northeast by Ferry Creek, and to the south and west by residential neighborhoods. The estimated total volume of Raymark waste currently on these parcels is 42,667 cubic yards.

Additional capacity may also exist under the proposed cap which could allow for additional waste from the Third Avenue property. (See Third Avenue discussion below.)

There are some exceedences of state regulatory standards on 576/600 East Broadway beyond those caused by Raymark waste. Contamination remaining on the property not associated with Raymark waste will not be addressed by EPA's cleanup action.

Third Avenue – Final Remedy (To be included only if consolidation capacity exists at 576/600 East Broadway)

Alternative 5A (modified Alternative 5):

Alternative 5A is the proposed final action and permanent remedy for Third Avenue (see Figure 4-18 on pg. 23). EPA's proposal to address the risks posed by the Raymark waste at Third Avenue is to excavate all Raymark waste on the property. A relatively small volume of Raymark waste (630 cubic yards) is located on this residential parcel, ranging from 2 to 11 feet below the ground surface and both above and within the water table. While Alternative 5, as described in the Feasibility Study, requires excavation of Raymark waste only to the seasonal high water table, EPA is proposing to modify

Understanding Costs

EPA guidance directs the Agency to use cost estimates based upon the present value or present worth method, so that a comparison can be made between cleanup alternatives that have different construction completion dates and operating lifetimes. Present worth analysis produces a single figure representing the amount of money that, if invested at a particular rate of return in the base year - usually the present year - and dispersed as needed, would cover all costs associated with the alternative. In other words, the present worth analysis calculates a single cost number to capture all capital costs (that is, construction costs) and future operation and maintenance costs.

this approach by excavating deeper, into the water table, and removing all of the soil with contamination above established regulatory levels for direct contact and Pollutant Mobility Criteria (PMCs). Excavation to just the water table (6.5 feet) will result in the removal of an estimated 410 cubic yards of Raymark waste. The complete excavation of all Raymark waste (which EPA is proposing) will require the excavation of an additional 221 cubic yards to a depth of 11 feet below ground surface. The removal of all Raymark waste from this property will eliminate any need for future restrictions. It is estimated that it will take approximately 6 months to remove all of the Raymark waste on the property (Alternative 5A) at a cost of approximately $370,533 (total present value).

It is anticipated that excavated waste from Third Avenue, except any portion of the waste requiring off-site treatment and disposal, will be placed under the permanent cap to be constructed at 576/600 East Broadway. This approach is dependent upon the consolidation capacity at 576/600 East Broadway which will be determined during the Remedial Design phase. If consolidation capacity at 576/600 East Broadway is not sufficient to accept all the excavated Raymark waste from Third Avenue, then cleanup of Third Avenue will not be conducted at this time but will be addressed during the next phase of OU6 property remediation. If cleanup is delayed, then the interim actions described below will be required for the Third Avenue property.

The Third Avenue parcel is residentially-zoned and encompasses approximately 0.3 acres. The property is bordered by two other residential properties to the north and south, the Fourth Avenue Pond to the west, and Third Avenue to the east. The Third Avenue property is occupied by a residential home.

There are some exceedences of state regulatory standards on Third Avenue beyond those caused by Raymark waste. Contamination remaining on the property not associated with Raymark waste will not be addressed by EPA's cleanup action.

Interim Actions (temporary measures)
Alternative 2A (modified Alternative 2)

Alternative 2A is the proposed temporary action for all remaining locations throughout Stratford where exposures to Raymark waste could occur. It is important to note that only 4 of the 24 properties that comprise OU6 are permanently addressed under this Proposed Plan. The remaining OU6 properties also contain Raymark waste at levels that are potentially harmful to human health and the environment. In addition, there are a number of other locations throughout Stratford where exposures could also occur. To address these risks, interim actions to reduce or restrict exposure to Raymark waste will be implemented until a final, permanent cleanup plan is developed for each location. These interim actions will reduce, but not eliminate, risks on the properties to be addressed. Risks on the properties were documented in the Remedial Investigation Reports for each OU. The specific temporary measures necessary for each property will be determined by EPA, in cooperation with CT DEP and the Town of Stratford, on a property-by-property basis.

Alternative 2A, a modified version of Alternative 2, is being proposed because, as these are temporary measures, groundwater monitoring will not be required. Alternative 2A will provide protection until a permanent remedy is completed through actions such as restricting access to areas where potential exposures to Raymark waste could occur and restricting groundwater use. Because waste will be left in place, annual reporting and five year reviews will be required. It is estimated that it will take approximately 3 months to implement Alternative 2A a cost of approximately $858,138 (total present value).

IMPACTS ON THE LOCAL COMMUNITY FROM THE CLEANUP

Air Quality
Excavation and movement of Raymark waste will be required as part of the proposed cleanup. Any option that disturbs waste during cleanup has the potential to present short-term risks during excavation, consolidation, capping, or other construction activities. EPA will use engineering practices such as air monitoring and dust suppression to reduce short-term risks. Air monitoring for contaminants, including asbestos, will be performed to protect workers and to ensure that the surrounding neighborhood air quality is not impacted. Dust suppression methods will be employed as necessary.

Truck Traffic
Soil and other materials will need to be delivered in order to construct a cap and to backfill excavated areas. Raymark waste may also need to be transported from the Third Avenue property to 576/600 East Broadway for consolidation. Coordination with the Town, nearby residents, and businesses will take place prior to the beginning of these activities. EPA will work with the community to determine the best routes for minimizing traffic concerns.

Impacts to Wetlands and Flood Plains
Section 404 of the Clean Water Act and Executive Orders 11990 (Protection of Wetlands) and 11988 (Protection of Floodplains) require a determination that there is no practical alternative to taking federal actions in a wetland or floodplain. Should there be no alternative, the federal actions should minimize the destruction, loss, or degradation of wetlands and floodplains and preserve and enhance their natural and beneficial values. Through its analysis of the alternatives, EPA has determined that there will be no expected impacts to wetlands. Because Raymark waste is located within the 100 year floodplain at 576/600 East Broadway and at Third Avenue, however, temporary impacts to floodplains are anticipated. Waste located within the 100-year floodplain will be excavated. Once excavated, the area will be backfilled with clean fill and restored to grade so that the current flood storage capacity will not be diminished after completion of the reme-

dial actions. Best management practices will be used which include erosion control measures, proper regrading, and restoration of impacted areas. **Through this Proposed Plan, EPA is specifically soliciting public comment concerning its determination that the alternatives chosen are the least damaging practicable alternatives for protecting wetland and floodplain resources.**

RAYMARK INDUSTRIES, INC. SITE DESCRIPTION

The Raymark Industries, Inc. Superfund Site consists of 500+ acres of land in the Town of Stratford, Connecticut. The Raymark Facility operated from 1919 until 1989, when the manufacturing plant was shut down and permanently closed. During operation, Raymark waste was disposed of in Stratford as "fill" material at the Raymark Facility, at various commercial, residential, municipal, and recreational locations, and in wetlands adjacent to the Housatonic River. In 1993 the Federal Agency for Toxic Substances and Disease Registry (ATSDR) performed a health assessment in response to a citizen petition and shortly thereafter issued a Public Health Advisory for the Raymark Facility and locations around the Town of Stratford where manufacturing wastes from the former Raymark Facility had come to be located. EPA listed the Site on EPA's National Priorities List (NPL) of Superfund sites on April 25, 1995. A public water supply provides drinking water to the area of concern for Raymark waste. There is no known use of groundwater for any purpose in the area.

The Site includes the (former) Raymark Industries, Inc. Facility and other locations where Raymark waste has come to be located. Raymark Industries, Inc. is bankrupt, and the cleanup is being conducted by the EPA, in coordination with the CTDEP.

WHY CLEANUP IS NEEDED

EPA has determined that there are both current and future potential threats to human health and the environment at the Raymark Industries, Inc. Superfund Site. The Remedial Investigation reports for the various operable units (OU2-9) define the extent of Raymark waste contamination found in groundwater, surface water, sediments, and soil. The definition of Raymark waste and key findings for OU6 are presented below.

Contaminants of Concern – Raymark Waste Defined

Raymark waste contains asbestos, lead, copper, polychlorinated biphenyls (PCBs) and a variety of solvents, adhesives, and resins. Soils containing these wastes were routinely used as fill at the former Raymark Facility and at other locations within Stratford, including the locations that are the subject of this Proposed Plan.

Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm), and asbestos (chrysotile only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268 only) above 1 ppm. While other contaminants are present in Raymark waste, these four contaminants were used as a "fingerprint" to identify Raymark waste locations. (See the OU6 Remedial Investigation Report for further detail.)

Risk and Exposure Pathways Considered

Exposures occur when people eat, drink, breathe, or have direct skin contact with a substance or waste material. Based on existing or anticipated future land use, EPA develops different exposure scenarios to determine potential risk, the appropriate cleanup levels, and potential cleanup approaches to meet the site-specific cleanup goals.

For the Raymark Site, human health and ecological risk evaluations were prepared to determine if and where there are current or potential future unacceptable risk(s) from exposure to Raymark waste based upon a number of circumstances or exposure scenarios, as noted below. (Note: Potential risks from groundwater will be evaluated under a separate operable unit.)

The total estimated cost of EPA's proposed clean-up plan is $5.1 million (total present value)

Beacon Point AOC 2	**Alternative 2**	**$ 184,609**
576/600 East Broadway	**Alternative 3**	**$ 3,349,396**
Third Avenue	**Alternative 5A (modified Alternative 5)**	**$ 370,533**
Interim Actions	**Alternative 2A (modified Alternative 2)**	**$ 855,858**

Raymark Industries, Inc. manufactured automotive and heavy vehicle friction parts. Production processes generated waste by-products.	1919-1989
Waste by-products were disposed of in lagoons on the Raymark property. As lagoons became full, waste was excavated and used as fill on the Raymark property and throughout Stratford.	1919-1984
The Town and CTDEP installed a cover on a number of properties, temporarily protecting area residents from direct exposure to contaminated wastes.	1978 and 1993 – 1995
With EPA oversight, Raymark covered four lagoons, removed bags and containers filled with hazardous material, secured the property with fencing, boarded up buildings, and re-routed the on-site drainage system to minimize movement of contamination off the Raymark Facility.	Fall, 1992 – 1995
Sampling of residential, municipal, and commercial properties revealed extensive amounts of lead, PCBs, and asbestos in areas where Raymark fill was used in Stratford. The levels of these contaminants were reviewed by the Agency for Toxic Substances and Disease Registry and were considered a health risk. EPA began collecting and testing soil samples from properties located throughout Stratford where Raymark fill was suspected to have been used. About 40 residential areas showed contamination high enough to need cleanup.	Spring, 1993
EPA conducted residential cleanups by excavating contaminated soils. The excavated material was trucked to and placed at the Raymark Facility.	1993 - 1995
To provide long-term funding, EPA proposed the Raymark site to the National Priorities List (NPL). Listing on the NPL authorizes the expenditure of Superfund monies.	January 18, 1994
The NPL listing was final.	April 25, 1995
Record of Decision for the former Raymark Facility (OU1) signed.	July 3, 1995
Demolition of on-site buildings at the former facility complete.	April, 1996
Stockpiling of contaminated soils from residential removals and Wooster School removal completed.	July, 1996
RCRA impermeable cap liner system installation at OU1 complete.	August, 1997
Site treatment systems began.	December, 1997
Operation and maintenance of Site turned over to CTDEP.	August, 1998
EPA placed a soil and asphalt cover over areas with elevated levels of asbestos, lead, and PCBs in soils at the Housatonic Boat Club property and along Shore Road. This was a second temporary action as an initial cover that CTDEP had completed in 1994 had worn and was no longer protective.	2000
Stratford Town Council established the Raymark Advisory Committee (RAC) to work with EPA and CTDEP in addressing areas containing Raymark waste. At the RAC's request, EPA developed OU6, a group of 24 residential, commercial, state, and municipal properties that contain Raymark waste.	June 2000 – September 2007
First five-year review report for OU1.	September, 2000
Construction of Wal-mart, Shaws, Home Depot on the capped OU1.	2002
EPA and CTDEP installed sub slab depressuration systems in over 100 homes to prevent contaminated ground water vapors from entering the buildings.	2004
Construction of Webster Bank on OU1.	June, 2005
Second five-year review report for OU1.	September, 2005
EPA worked with the Raymark Superfund Team (RST), in an effort to find common ground on potential cleanup options to address the remaining Raymark waste locations in Stratford. The outcomes of this effort with the RST are the actions presented in this Proposed Plan.	August –December 2008

Human Health Risks

The human health exposure scenarios (soil exposures) considered were as follows:

Beacon Point AOC 2:
- Frequent Current Recreational Visitor
- Frequent Future Recreational Visitor

576/600 East Broadway:
- Current Commercial Workers
- Future Commercial Workers

Third Avenue
- Current Resident
- Future Resident

This evaluation determined that Site contamination poses unacceptable current and/or future risks for the following exposure scenarios:

Beacon Point AOC 2:

- Future Frequent Recreational Visitor (at risk from ingestion, dermal contact, and inhalation of contaminated soil, and lead and asbestos exposure)

576/600 East Broadway:
- Current Commercial Workers (ingestion, dermal contact, and inhalation of contaminated soil, and lead and asbestos exposure)
- Future Commercial Workers (ingestion, dermal contact, and inhalation of contaminated soil, and lead and asbestos exposure)

Third Avenue:
- Current Resident (ingestion, dermal contact, and inhalation of contaminated soil, and asbestos exposure)
- Future Resident (ingestion, dermal contact, and inhalation of contaminated soil, and asbestos exposure)

Ecological Risks

All of the properties considered in this evaluation have been disturbed by surrounding development, past uses of Ferry Creek, and filling of wetlands prior to developing the properties. The properties provide only limited use as an area for birds, reptiles, and small mammals to forage, cover, rest, and breed because of the level of development, soil contamination, disturbed nature of the area, and low vegetation density and/or diversity. Because of these factors, none of the properties were found to provide significant habitat to ecological receptors; therefore, Raymark waste does not pose an ecological risk in OU6 areas.

CLEANUP ALTERNATIVES CONSIDERED FOR PROPERTIES THAT CONTAIN RAYMARK WASTE

Once areas of potential risk were identified at the Site, cleanup alternatives were developed to address the potential risk and achieve site-specific cleanup goals. A short synopsis of the alternatives considered is provided below. A more detailed description and analysis of each alternative developed to reduce risks from Raymark waste is presented in the Feasibility Study report which is also available for public review and comment. These alternatives were designed to address the Remedial Action Objective (RAO) for OU6 of preventing direct exposure to Raymark waste in soil.

Alternative 1 - No Action

Under the no action alternative, nothing would be done to reduce the human health and ecological risks associated with direct exposure to contaminants in soil. Any reduction in the toxicity or volume of contaminants would occur only as a result of natural attenuation or degradation processes. EPA is required to look at no action, which provides a baseline for comparison of the other cleanup alternatives.

Ongoing five-year reviews would be conducted to verify that there have been no changes in impacts from the Raymark waste.

Alternative 2 – Restrictions with Long-Term Monitoring

No treatment, removal, or containment of Raymark waste would occur under Alternative 2, but institutional controls would be put in place to restrict access and/or monitor risks to human health and the environment. Restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health and ecological risks. Fencing and warning signs would be constructed to deter trespassers. Quarterly groundwater monitoring would be required for the first two years, then annually thereafter to ensure that there are no changes in the impacts from Raymark waste.

This alternative may also be selected as a component of other remedial alternatives to ensure the long-term effectiveness of a containment remedy. Ongoing five-year reviews would be conducted to verify that there have been no changes in impacts from the Raymark waste. (Note: A modification to Alternative 2 (Alternative 2A) has also been included for properties requiring interim actions. This modification has all the components of Alternative 2, however, as it is not a permanent remedy, groundwater monitoring is not required). *Alternative 2 is EPA's preferred alternative for Beacon Point AOC2; Alternative 2A is EPAs preferred alternative for Interim Actions at locations without permanent remedies in place and potential exposures to Raymark waste are a concern.*

Alternatives 3 and 4 - Low Permeability Cap with In-Town Consolidation or Out-of-Town Disposal

Alternatives 3 and 4 are containment alternatives with an objective to minimize the volume of Raymark waste to be excavated and transported to either an in-town consolidation area (Alternative 3), or an out-of-town treatment/disposal facility (Alternative 4). Under these alternatives, areas of Raymark waste that were delineated at each property would be covered with a RCRA low-permeability cap which will provide a barrier to direct contact and will also limit potential infiltration and potential impacts to groundwater and nearby surface water bodies. Institutional controls would be placed on the property to ensure the long-term protectiveness of the remedy. A long-term operations and maintenance program would be instituted to ensure that the remedy functions as designed. Quarterly groundwater monitoring would be required for the first two years, then annually thereafter to ensure that there are no changes in the impacts from Raymark waste. *Alternative 3 is EPA's preferred alternative for 576/600 East Broadway.*

Alternatives 5 and 6 - Excavation to the Water Table with In-Town Consolidation or Out-of-Town Disposal

Alternatives 5 and 6 require excavation of the entire volume of Raymark waste that is located above the seasonal high water table with transportation of this waste to an in-town consolidation area (Alternative 5) or an out-of-town dis-

posal facility (Alternative 6). The seasonal high water table elevation was selected as the vertical limit of excavation to achieve compliance with CTDEPs requirement regarding pollutant mobility. (Note: A modification to both of these alternatives (Alternative 5A and Alternative 6A) has also been included for some properties with limited volumes of Raymark waste. This modification excavates all waste on the property, both above and within the seasonal high water table). *Alternative 5A is EPA's preferred alternative for Third Avenue.*

Alternatives 7 and 8 - Excavation of either 2 or 4 Feet with In-Town Consolidation or Out-of-Town Disposal *1

Alternatives 7 and 8 would involve excavation of Raymark waste to depths of either 2 feet (for asphalt/paved areas) or 4 feet (non-paved areas) with transportation to an in-town consolidation area (Alternative 7) or an out-of-town treatment/disposal facility (Alternative 8). The depths of these excavations were selected to comply with CTDEPs Direct Exposure Criteria.

Alternatives 9 and 10 – Excavation of 4 Feet with In-Town Consolidation or Out-of-Town Disposal*1

Alternatives 9 and 10 would involve excavation of Raymark waste to the depth of 4 feet and transportation to an in-town consolidation area (Alternative 9), or an out-of-town treatment/disposal facility (Alternative 10). The four feet excavation depth was selected to comply with both CTDEPs Direct Exposure Criteria and their Pollutant Mobility Criteria through an alternative approach allowed under CTDEP's RSR regulations.

*1 Footnote for Alternatives 5-10:
The depth of excavation will be dependant upon the depth of contamination. Should all regulatory standards be met, the excavation will be complete. This could result in a more shallow excavation than initially planned.

EPA'S NINE CRITERIA FOR CHOOSING A CLEANUP PLAN

EPA uses nine criteria to evaluate alternatives and select a final cleanup plan (called a remedial action) that meets the statutory goals of protecting human health and the environment, maintaining protection over time, and minimizing contamination. These nine criteria make up the assessment process used for all Superfund sites.

Threshold Criteria

1. Overall Protection of Human Health and the Environment: Will the alternative protect human health and plant and animal life from the contamination released by the Site? The chosen cleanup plan must meet this criterion.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Does the alternative meet all pertinent federal and state environmental statues, regulations, and requirements? Is a waiver required? The chosen cleanup plan must meet this criterion.

Balancing Criteria

3. Long-term Effectiveness and Permanence: How reliable will the alternative be at long-term protection of human health and the environment? Is contamination likely to present a potential risk again?

4. Reduction of Toxicity, Mobility, or Volume through Treatment: Does the alternative incorporate treatment to reduce the harmful effects of the contaminants, their ability to spread, and the amount of contaminated material present?

5. Short-term Effectiveness: How soon will site risks be adequately reduced? Are there short-term hazards to workers, the community, or the environment that could occur during the cleanup process?

6. Implementability: Is the alternative technically and administratively feasible? Are the materials and services needed to implement the cleanup alternative (e.g. treatment machinery, space at an approved disposal facility) readily available?

7. Cost: What is the total cost of constructing and maintaining the cleanup alternative? Capital costs and the present value of all costs over the anticipated life of the cleanup alternative are presented.

Modifying Criteria

8. State Acceptance: Do state environmental agencies agree with the recommendations? This criterion considers the state's preferences among or concerns about the alternatives, including comments on ARARs or the proposed use of waivers. This criterion is addressed following state input on the Feasibility Study and Proposed Plan.

9. Community Acceptance: Does the local community agree with EPA's analysis and preferred alternative? What are their preferences and concerns about alternatives? This criterion is addressed following community input on the Feasibility Study and Proposed Plan. Comments received on the Proposed Plan are on important indicator of community acceptance.

As part of the Feasibility Study, each alternative is evaluated using two threshold and five balancing criteria. These criteria are also used to compare the alternatives against each other in a process known as a comparative analysis.

ASBESTOS IN SOIL

At the national level, EPA has determined that the amount of asbestos in soil that presents a concern depends on many factors and that a single value for protectiveness may not be appropriate in all instances. Evaluation through activity-based-sampling is the recommended approach for the characterization of soil to ensure protectiveness. With this approach, air monitoring is performed while activities that are likely to take place in the area are conducted. The objective is to characterize air borne particulates based on the likely use of the area. This is believed to produce the most representative air data for potential exposures based on reasonable use.

Activity based sampling, however, has not been performed at the Raymark site. This is because all of the cleanup approaches that have been developed will ensure that future exposures to Raymark waste will not occur. This will be accomplished by either capping the waste in place, complete excavation, excavating first and then capping, or through institutional controls. This approach will be taken at every location where Raymark waste has been found.

COMPARISON OF CLEANUP ALTERNATIVES CONSIDERED FOR PROPERTIES THAT CONTAIN RAYMARK WASTE

EPA uses the nine criteria to balance the advantages and disadvantages of various cleanup alternatives. As summarized below, EPA has evaluated how well each of the cleanup alternatives meets the first seven criteria. Once comments from the State and the community are received and evaluated, EPA will select the final cleanup plan, respond to comments, and issue such plan in a formal Record of Decision or "ROD." This will be a final ROD for Beacon Point AOC 2, 576/600 East Broadway, and Third Avenue and an Interim ROD for properties requiring interim actions. A more detailed evaluation of the alternatives is found in the OU6 Feasibility Study (Nobis, 2010) which can be found on EPA's Raymark webpage. The proposed remedies for each property are described on pages 3 & 4 of this proposed plan.

1. Overall Protection of Human Health:

Alternative 1 (No Action) would not be protective of human health and the environment because no action would be taken to address the risks posed by the Raymark waste contaminated soils.

Alternative 2 (Restrictions with monitoring) would be protective at Beacon Point Area AOC 2 as Raymark waste is found only at depths of 8-10 feet below grade which is below the seasonal high water table. Accordingly, restrictions could be an effective mechanism to prevent an unauthorized excavation. However, Alternative 2 would not be protective at 576/600 East Broadway or Third Avenue as Raymark waste is at or near the surface and exposures could occur more easily.

Alternative 2A (Restrictions without ground water monitoring) could be protective as a temporary measure by restricting access to areas where potential exposures to Raymark waste are possible. Alternative 2A, however, would not be a permanent remedy and has only been evaluated for properties requiring interim actions.

Alternative 3 (Capping of Raymark waste) at 576/600 East Broadway and at Third Avenue would be effective at protecting human health and the environment and would reduce potential infiltration of rain water through the Raymark waste beneath the cap. Capping of the Beacon Point Area AOC 2 would not provide any additional protection to human health or the environment. Raymark waste at Beacon Point Area AOC 2 is only located below the water table – and an impermeable cap, which prevents potential leaching of contaminants, would not add any additional protection.

CLEANUP APPROACH FOR SOIL EXCAVATION

EPA has developed Preliminary Remediation Goals for both residential and commercial settings. Preliminary Remediation Goals are upper concentration limits for specific chemicals in specific environmental media that are anticipated to protect human health or the environment. The development of Preliminary Remediation Goals generally requires some knowledge or anticipation of future land use.

The cleanup approach will be to first determine the horizontal extent of Raymark Waste by using the Raymark waste definition (see Contaminants of Concern – Raymark Waste Defined, page 5), and then determine the vertical extent of excavation using applicable Preliminary Remediation Goals.

The horizontal extent or area determined to contain Raymark Waste will be excavated approximately 12 inches deep with the perimeter walls of the excavated area sampled to confirm that all wastes meeting the definition of Raymark Waste have been included. Once the horizontal extent of Raymark Waste has been confirmed, the vertical extent will then be evaluated.

The depth of the excavation is where Preliminary Remediation Goals will be applied. It is assumed that the vertical extent of waste present on a property will continue to the proposed excavation depth (2 feet, 4 feet, or to the seasonal high water table, depending on the selected alternative). If, however, during the initial 12-inch removal of contaminated soil, and prior to reaching the anticipated excavation depth, evidence suggests (visual or otherwise) that Preliminary Remediation Goals may have been met, then confirmation samples will be collected from the floor of the excavation. These soil samples will be analyzed for Preliminary Remediation Goals and Connecticut's regulatory levels for direct contact and Pollutant Mobility Criteria based upon either a commercial or residential setting, as applicable to the property use. Excavations will continue vertically in the vicinity of any soil sample not found to meet Preliminary Remediation Goals and established regulatory levels for direct contact and Pollutant Mobility Criteria.

If cleanup levels are not met initially, further excavation will be conducted and then additional confirmation sampling can be conducted. This iterative process will continue until confirmation sampling confirms that the remaining soil meets Preliminary Remediation Goals and Connecticut's regulatory levels for direct contact and Pollutant Mobility Criteria based upon either a commercial or residential setting, or until the planned depth of the excavation is reached. If the analysis determines that the soil meets all regulatory requirements before the planned depth of the excavation is reached, then the excavation will be complete.

The Preliminary Cleanup Goals are:

	Residential	Commercial
Lead	400 ppm	1,000 ppm
Asbestos	1%	1%
PCBs (Aroclor 1268)	1 ppm	10 ppm
Copper	2,500 mg/kg	76,000 mg/kg

Beacon Point AOC2 Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative[1]	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 1 - No Action	☐	☐	☐	☐	◪	◪	$21,578	TBD	TBD
Alternative 2 - Restrictions with Long-Term Monitoring	◪	■	◪	☐	◪	◪	$184,609	TBD	TBD
Alternative 3 - Low-Permeability Cap with In-Town Consolidation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 4 - Low-Permeability Cap with Out-of-Town Disposal	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 5 - Excavation to the Water Table with In-Town Consolidation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 6 - Excavation to the Water Table with Out-of-Town Disposal	NA	NA	NA	NA	NA	NA	NA	NA	NA

Legend

☐	Does not meet criterion
◪	Meets criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

*Beacon Point AOC 2 Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

[1]Alternatives 3 through 10 were not evaluated.

Beacon Point AOC2 Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative[1]	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 7 - Excavation to Either 2 Feet or 4 Feet with In-Town Consolidation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 8 - Excavation to Either 2 Feet or 4 Feet with Out-of-Town Disposal	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 9 - Excavation to 4 Feet with In-Town Consolidation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 10 - Excavation to 4 Feet with Out-of-Town Disposal	NA	NA	NA	NA	NA	NA	NA	NA	NA

Legend

□	Does not meet criterion
◪	Meets criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

*Beacon Point AOC 2 Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

[1]Alternatives 3 through 10 were not evaluated.

576/600 East Broadway Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative[1]	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 1 - No Action	☐	☐	☐	☐	◪	◪	$32,367	TBD	TBD
Alternative 2 - Restrictions with Long-Term Monitoring	☐	◪	☐	☐	◪	◪	$823,882	TBD	TBD
Alternative 3 - Low-Permeability Cap with In-Town Consolidation	■	■	◪	◪	◪	◪	$3,391,089	TBD	TBD
Alternative 4 - Low-Permeability Cap with Out-of-Town Disposal	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alternative 5 - Excavation to the Water Table with In-Town Consolidation	■	■	■	◪	◪	■	$3,489,510	TBD	TBD
Alternative 6 - Excavation to the Water Table with Out-of-Town Disposal	■	■	■	◪	◪	■	$12,851,331	TBD	TBD

Legend

☐	Does not meet criterion
◪	Meets Criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

* 576/600 East Broadway Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

[1]Alternative 4 was not evaluated.

576/600 East Broadway Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative[1]	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 7 - Excavation to Either 2 Feet or 4 Feet with In-Town Consolidation	■	◪	◪	◪	◪	◪	$2,683,588	TBD	TBD
Alternative 8 - Excavation to Either 2 Feet or 4 Feet with Out-of-Town Disposal	■	◪	◪	◪	◪	◪	$8,701,166	TBD	TBD
Alternative 9 - Excavation to 4 Feet with In-Town Consolidation	■	◪	◪	◪	◪	◪	$2,741,590	TBD	TBD
Alternative 10 - Excavation to 4 Feet with Out-of-Town Disposal	■	◪	◪	◪	◪	◪	$8,988,177	TBD	TBD

Legend

□	Does not meet criterion
◪	Meets Criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

* 576/600 East Broadway Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

[1]Alternative 4 was not evaluated.

Third Avenue Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 1 - No Action	☐	☐	☐	☐	◪	◪	$21,578	TBD	TBD
Alternative 2 - Restrictions with Long-Term Monitoring	☐	◪	☐	☐	◪	◪	$518,440	TBD	TBD
Alternative 3 - Low-Permeability Cap with In-Town Consolidation	◪	■	◪	◪	◪	◪	$741,940	TBD	TBD
Alternative 4 - Low-Permeability Cap with Out-of-Town Disposal	◪	■	◪	◪	◪	◪	$863,256	TBD	TBD
Alternative 5 - Excavation to the Water Table with In-Town Consolidation	■	■	■	◪	◪	■	$510,858	TBD	TBD
Alternative 5A (Modified Alt. 5) - Excavation to and within the Water Table with In-Town Consolidation	■	■	■	◪	◪	■	$387,501	TBD	TBD

Legend

☐	Does not meet criterion
◪	Meets Criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

* Third Avenue Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

Third Avenue Property Group*
Comparative Analysis of Alternatives Summary
Raymark Industries Superfund Site OU6
Stratford, Connecticut

Remedial Alternative	Protection of Human Health & Environment	Compliance with ARARs	Long-Term Effectiveness & Permanence	Reduction of Toxicity, Mobility, & Volume Through Treatment	Short-Term Effectiveness	Implementability	Cost (Total Present Value)	State Acceptance	Community Acceptance
Alternative 6 - Excavation to the Water Table with Out-of-Town Disposal	■	■	■	◪	◪	■	$780,470	TBD	TBD
Alternative 6A (Modified Alt.6) - Excavation to and within the Water Table with Out-of-Town Disposal	■	■	■	◪	◪	■	$801,041	TBD	TBD
Alternative 7 - Excavation to Either 2 Feet or 4 Feet with In-Town Consolidation	◪	◪	◪	◪	◪	◪	$702,260	TBD	TBD
Alternative 8 - Excavation to Either 2 Feet or 4 Feet with Out-of-Town Disposal	◪	◪	◪	◪	◪	◪	$848,924	TBD	TBD
Alternative 9 - Excavation to 4 Feet with In-Town Consolidation	◪	◪	◪	◪	◪	◪	$705,370	TBD	TBD
Alternative 10 - Excavation to 4 Feet with Out-of-Town Disposal	◪	◪	◪	◪	◪	◪	$871,243	TBD	TBD

Legend

□	Does not meet criterion
◪	Meets Criterion
■	Best meets criterion
TBD	To be determined and addressed during the Public Comment Period.
NA	Not Applicable

* Third Avenue Table is a simplified summary of the evaluation of criteria EPA uses to assess alternatives and is included to facilitate understanding by the community. It is not, however, a substitution for the detailed analysis EPA is required to provide under Superfund.

TREATMENT OF RAYMARK WASTE

The National Contingency Plan, which governs EPA cleanups, at 40 CFR Section 300.430(a)(1)(iii), states that EPA expects to use "treatment to address the principal threats posed by a site, wherever practicable" and "engineering controls, such as containment, for waste that poses a relatively low long-term threat" to achieve protection of human health and the environment. This expectation is further explained in an EPA fact sheet (OSWER # 9380.3-06FS), which provides additional guidance that should be taken into account when categorizing waste for which treatment or containment generally will be suitable.

For OU6 properties at the Raymark site, the vast majority of the Raymark waste source material is not considered to be "principal threat waste," but rather "low-level threat waste."

However, some of the Raymark waste being addressed as part of the OU6 response action does meet the definition of "principal hazardous constituents (PHC)" within Part 264, Subpart S, of the Resource Conservation and Recovery Act. In general, PHCs are those "carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10^3, and non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose." Therefore, based on existing sampling data from the 24 properties within OU6 and consistent with the above-noted fact sheet, the Region believes that approximately 10% of the Raymark waste being addressed at OU6 can be considered "principal threat waste." Finally, the Region also believes that, within the same 10% of the Raymark waste that meets the definition of PHCs, some of this source material is also above the "universal treatment standards (UTS)" under the RCRA land disposal restrictions which would require treatment. This fact further supports the finding that 10% of the Raymark waste material to be addressed as part of the OU6 response action is "principal threat waste" and will require treatment, wherever practicable. The Region, therefore, has proposed to treat this assumed 10% of Raymark waste at an off-site treatment/disposal facility whenever excavated Raymark waste is transported off properties.

Alternatives 5-10 include varying amounts of excavation depths with in-town and out-of-town disposal options. While Alternatives 5-10 all provide similar levels of protection to human health and the environment, Alternatives 5 and 6 remove Raymark waste to the depth of the seasonal high water table. However, even with all Raymark waste removed down to the water table, Raymark waste would still remain below the water table at both 576/600 East Broadway and Third Avenue Alternative 5A and 6A, (complete excavation) would remove all Raymark waste on the property and would be the most protective. Alternatives 5A and 6A have only been evaluated for Third Avenue because of the limited volume of Raymark waste below the water table at that property.

2. Compliance with Applicable or Relevant and Appropriate Environmental Requirements (ARARs):

Alternative 1 (No Action) would not comply with ARARs as no action is being taken to address risks. Alternative 2 (Restrictions with monitoring) would not comply with ARARs at 576/600 East Broadway or Third Avenue as Raymark waste would remain in soils within 4 feet of the ground surface which is considered to be accessible under the Connecticut Remediation Standards Regulations. Alternative 2 would comply with ARARs at Beacon Point AOC 2 since Raymark waste is only located at depths greater than 4 feet which is below the seasonal high water table at that location. Alternative 2A (Alternative 2 without groundwater monitoring) would not comply with ARARs and would only be utilized as a temporary action. Alternative 2A would not be a permanent remedy and has only been evaluated for properties requiring interim actions.

Alternatives 3-4 (Capping), 5-6 (Excavation to water table), and 5A-6A (Complete Excavation) could all be designed to comply with all chemical-specific, action-specific, and location-specific ARARs for 576/600 East Broadway (Alternative 4, 5A, and 6A not applicable to 576/600 East Broadway) and Third Avenue

Alternatives 7-10 (Excavation with engineered controls) at 576/600 East Broadway and Third Avenue could be designed to comply with all ARARs, including the CT Direct Exposure Criteria. Alternatives 9-10 would comply with the CTDEP Pollutant Mobility Criteria through an alternative approach allowed under the Polutant Mobility Criteria regulations.

Alternatives 3-10 would not be necessary at Beacon Point Area (AOC 2) as the Raymark waste is only located below the water table.

3. Long-Term Effectiveness and Permanence:

The magnitude of residual human health risk associated with Raymark waste would be highest for Alternative 1 (No Action) at all locations as no actions would be taken to mitigate human health risks. Residual human health risks for Alternative 2 (Restrictions with monitoring) would be lower than Alternative 1, but would still be above acceptable human health risk levels at 576/600 East Broadway and Third Avenue Alternative 2 could provide adequate long-term effectiveness and permanence at Beacon Point AOC 2 as all Raymark waste is located below the seasonal high water table, is greater than 4 feet below ground surface, and with ongoing monitoring, this Town-owned parcel could be permanently maintained. Alternative 2A (Alternative 2 without groundwater monitoring) would not provide long-term effectiveness and permanence and would only be utilized as a temporary action. Alternative 2A would not be a permanent remedy and has only been evaluated for properties requiring interim actions.

Alternative 3 (Capping) would be effective at providing long-term effectiveness and permanence at 576/600 East Broadway. This six acre commercially zoned property has the potential for future development which could incorporate coordination for long-term operation and maintenance requirements. Capping (Alternatives 3 & 4) at Third Avenue, a small (0.3 acre) residential parcel, would also require monitoring and maintenance to ensure the necessary institutional controls are continued and enforced in the long-term. Because this is a residential parcel, ensuring long-term effectiveness and permanence of a cap could prove burdensome. Further, as time passes and the title transfers to new owners, the continuation of institutional controls can become challenging. In general, these controls are only adequate and reliable if they are monitored and enforced in the long-term. Capping of the Beacon Point Area (AOC 2) would not provide any additional long-term effectiveness and permanence as the Raymark waste is located below the water table – an impermeable cap, which prevents potential leaching of contaminants, would not add any additional effectiveness or permanence.

Alternatives 5-10 include varying amounts of excavation depths with out-of-town and in-town disposal options. While Alternatives 5-10 all provide basically the same level of long-term effectiveness and permanence, Alternatives 5 and 6 remove Raymark waste to the depth of the seasonal high water table. However, even with all Raymark waste removed down to the water table, Raymark waste would still remain below the water table at both 576/600 East Broadway and Third Avenue Alternative 5A and 6A, (Complete excavation) would remove all Raymark waste on the property and would be the most effective and permanent. Alternatives 5A and 6A have only been evaluated for Third Avenue because of the limited volume of Raymark waste within the water table at that property.

4. Reduction of Toxicity, Mobility, and Volume through Treatment:

Treatment is not an inherent part of any of the cleanup alternatives. This is because Raymark Waste contains a complex mixture of contaminants and treatment to levels suitable for on-site reuse would require multiple stage treatment processes. On-site treatment would involve a great deal of manipulation and handling of waste materials and would result in increased volumes requiring disposal. The complexity required for on-site treatment was found not to be practicable.

Treatment is, however, a component of all alternatives requiring excavation with off-site disposal. Based on historical sampling, it is estimated that approximately 10% of all Raymark waste will require treatment prior to disposal. Because of this, treatment of 10% of all excavated Raymark waste with off-site disposal has been assumed for Alternatives 3-10.

No treatment of Raymark waste would occur under Alternative 1 (No Action), Alternative 2 (Restrictions with monitoring), or Alternative 2A (Restrictions without groundwater monitoring) as these alternatives do not include any out-of-town disposal. Alternatives 3-10 would result in off-site disposal and treatment of Raymark waste from Third Avenue, and Alternatives 5-10 would result in off-site disposal and treatment of Raymark waste from 576/600 East Broadway. (Alternative 3 does not require off-site disposal for 576/600 East Broadway and because of this, Alternative 4 was not evaluated). Because a larger amount of Raymark waste could be excavated under Alternatives 5 and 6 (and Alternatives 5A and 6A for Third Avenue), the portion of Raymark waste anticipated to require treatment (10%) will also be a larger volume, resulting in a greater amount of reduction in toxicity, mobility, and volume.

Alternatives 3-10 and thus, out-of-town disposal, will not occur at Beacon Point Area (AOC 2) as the Raymark waste is only located below the water table.

5. Short-Term Effectiveness

No short-term impacts would result from Alternative 1 (No Action) as there would be no cleanup actions taken. Alternative 2 (Restrictions with monitoring) and Alternative 2A (Restrictions without groundwater monitoring) would present very minimal short-term impacts to the community, workers, or the environment.

Alternatives 3-10, which all assume that some or all of the Raymark waste would be excavated and transported off the property, would have limited potential impacts to the community, workers, or the environment. These potential impacts could be addressed with engineering controls with proven effectiveness and reliability for the various engineering measures (for example, erosion and sedimentation controls, decontamination of equipment, dust control, etc.). Air-quality data would be collected to monitor the excavation areas to ensure the protection of on-site workers and nearby residents, and transportation routes within Stratford would be carefully coordinated with local officials.

Short-term impacts from capping and excavation alternatives (Alternatives 3-10) would all require a similar volume of truck traffic to either construct a cap (Alternatives 3 and 4) or for excavation and backfilling (Alternatives 5-10). Alternative 5 through 10 would require the greatest amount of waste handling and corresponding short-term impacts to the community, workers, or the environment because Raymark waste would be excavated and transported off the properties.

At 576/600 East Broadway, Alternative 3 would take approximately 14 months to complete, while Alternatives 5 and 6 would each take approximately 10 months. Alternatives 7 through 10 would each require approximately 6 months. For Alternatives 5, 7, and 9, the estimated time to complete does not include the amount of time necessary to address closure requirements at an in-town consolidation location.

At Third Avenue, Alternatives 3-10 would all require approximately 6 months to complete. For Alternatives 3, 5, 5A, 7, and 9, the estimated time to complete does not include the amount of time necessary to address closure requirements at an in-town consolidation location.

Alternatives 3-10 would not be necessary at Beacon Point Area (AOC 2) as the Raymark waste is only located below the seasonal high water table.

6. Implementability

No actions would be taken under Alternative 1 (No Action) so there would be no implementation issues. Alternative 2 (Restrictions with monitoring) and Alternative 2A (Restrictions without groundwater monitoring) would require only institutional controls (i.e. fencing, signage, excavation and groundwater use restrictions, etc.) and no implementability issues are foreseen with these limited actions.

For 576/600 East Broadway and Third Avenue, Alternatives 3 and 4 (Capping), Alternatives 5 and 6 (Excavation to water table), Alternatives 5A and 6A (Complete excavation), and Alternatives 7-10 (Excavation with engineered controls), all require excavation which can be implemented through standard construction and environmental remediation methods. Alternatives 3 and 4, and 7-10 require excavations in floodplains, specific site grading, placement of cap materials based on design specifications, and operation and maintenance into the future. Alternatives 5 and 6 would involve the excavation of a large volume of Raymark waste (at least 14,222 CY at 576/600 East Broadway and 410 CY at Third Avenue). (For Alternatives 5 and 6 any horizontal expansion of the Raymark waste area due to confirmatory sampling will lead to a larger volume of excavated Raymark waste compared to Alternatives 7 through 10 due to the excavation depth to the seasonal high water table.) Alternatives 5A and 6A require an addition excavation into the water table of 221 CY at Third Avenue (661 CY total).

Alternatives 5 and 6 would be more reliable than Alternatives 3 and 4 and 7-10 because there would be no Raymark waste left in place above the seasonal water table and protection of human health and the environment would not be dependent on the maintenance of a low-permeability cap, soil, or paved cover. Ray-

mark waste would, however, still remain below the seasonal high water at both 576/600 East Broadway and Third Avenue

Alternatives 5A and 6A would remove all Raymark waste both above and within the water table at Third Avenue. Excavation into the water table could present additional implementation issues such as dewatering and sidewall stabilization requirements, however, with complete excavation long-term monitoring would not be required and there would be no restrictions on future use of the property. An overall costs savings would also be realized (See Cost table below).

Additional remedial actions could be difficult (costly) to implement for Alternatives 3 and 4 due to the presence of a RCRA-compliant cap. Alternatives 7 thru 10 are all equally amenable to additional remedial actions, should they be deemed necessary in the future.

Alternatives 3 - 10 would all require operation and maintenance of a cap/cover (not required for Alternatives 5A and 6A). Alternatives 5 & 6, and 5A & 6A are expected to require only two years of quarterly groundwater monitoring as all Raymark waste will be removed either to the seasonal high water table (Alternatives 5 & 6) or would be completely excavated (Alternatives 5A and 6A). All other Alternatives (2, 3 & 4, 7 & 8, and 9 & 10) would require two years of quarterly groundwater monitoring then ongoing annual groundwater monitoring.

Alternatives 3-10 would not be necessary at Beacon Point Area (AOC 2) as the Raymark waste is only located below the seasonal high water table.

7. Cost

Alternative 1 (No Action) has no capital costs and Alternative 2 (Restrictions with monitoring) has only limited capital costs (fencing, signage, etc.). Alternatives 3, 4, 5, 7, and 9 have relatively moderate costs. Alternatives 6, 8, and 10 have relatively high costs.

COST SUMMARY*1

All costs in present value.

EPA's preferred alternatives are in shaded boxes.

		Beacon Point AOC 2	576/600 E Broadway*2	Third Ave *3
Alternative 1	No Action	$21,578	$32,367	$21,578
Alternative 2	Restrictions with Long-Term Monitoring	$184,609	$823,882	$518,440
Alternative 3	Low Permeability Cap with In-Town Consolidation	NA	$3,349,396	$741,940
Alternative 4	Low Permeability Cap with Out-of-Town Disposal	NA	NA	$863,256
Alternative 5	Excavation to the Water Table with In-Town Consolidation	NA	$3,365,799	$504,748
Alternative 5A (modified 5)	Complete Excavation both above and within the Water Table with In-Town Consolidation	NA	NA	$370,533
Alternative 6	Excavation to the Water Table with Out-of-Town Disposal	NA	$12,736,830	$774,359
Alternative 6A (modified 6)	Complete Excavation both above and within the Water Table with Out-of-Town Disposal	NA	NA	$786,559
Alternative 7	Excavation of either 2 or 4 Feet with In-Town Consolidation	NA	$2,668,794	$702,260
Alternative 8	Excavation of either 2 or 4 Feet with Out-of-Town Disposal	NA	$8,686,372	$848,924
Alternative 9	Excavation of 4 Feet with In-Town Consolidation	NA	$2,726,796	$705,370
Alternative 10	Excavation of 4 Feet with Out-of-Town Disposal	NA	$8,973,382	$871,243

*1 Costs for Alternative 2A (Interim Actions) are $855,858 and have been evaluated for all locations throughout Town containing Raymark waste without a permanent remedy.

*2 Costs are similar for Alternative 3 and 5 at 576/600 E. Broadway. However, because consensus for an in-town consolidation location has not been reached, Alternatives 5, 7, and 9 are not viable options for 576/600 E. Broadway. Alternatives 6, 8, and 10 have high costs relative to the protectiveness of the alternatives.

*3 Footnotes for Third Avenue, Alternatives 5A & 6A:

- Both Alternative 5A & 6A excavate all Raymark waste on the property, both above and within the seasonal high water table.
- Costs for Alternative 5A are less than Alternative 5 because long-term groundwater monitoring is not required when all waste is removed.
- Costs for Alternative 6A are comparable to Alternative 6 even though long-term groundwater monitoring is not required when all waste is removed. This is because the additional costs for out-of-town disposal are greater than the savings realized from the elimination of long-term groundwater monitoring.

WHY EPA RECOMMENDS THIS PROPOSED CLEANUP PLAN

Based on the results of the Remedial Investigation and human health and ecological risk evaluations, EPA has prepared the Feasibility Study and Administrative Record and recommends this proposed cleanup plan for the four properties of OU6 of the Raymark Superfund Site because EPA believes it achieves the best balance among EPA's criteria used to evaluate various alternatives. The Proposed Plan also meets the Remedial Action Objective of preventing direct exposure to Raymark waste.

The following is a summary in general terms of why EPA recommends the cleanup plan for each property. See the Feasibility Study and the Administrative record for more details.

- For Beacon Point AOC 2, the institutional controls of Alternative 2 (Restrictions with Long-Term Monitoring) are protective given that all Raymark waste on the property is located below the seasonal high water table and well below ground surface. The other capping and excavation remedies are more costly, and, when compared to Alternative 2, they will not provide any additional protection to human health and the environment.
- For 576/600 East Broadway, Alternative 3 (capping) is the most appropriate remedy. Alternatives 5,7, and 9 are not viable options because they involve in-town consolidation and agreement has not been reached on an in-town consolidation location. Alternatives 6, 8, and 10 involve cost-prohibitive out-of-town disposal, given that a cap is a protective remedy.
- For the Third Avenue property, Alternative 5A is preferred because it will excavate and remove all Raymark waste on this residential property. Such excavation is more protective than the other excavation alternatives, which leave Raymark waste on the property. Alternative 5A is also the least costly viable alternative because long-term monitoring is not needed. Given the size and use of the property, construction of a cap (Alternatives 3/4) presents difficulties with future long term maintenance.
- The interim actions are necessary given the potential for exposure to Raymark waste. The properties subject to interim actions will be addressed with a final action at a later date.

The Proposed Plan is protective of human health and the environment while, at the same time, is cost effective. This cleanup plan provides both short-term and long-term protection of human health and the environment; attains federal and state applicable or relevant and appropriate requirements (ARARs); reduces the toxicity, volume, and mobility of contaminated soil through treatment to the maximum extent practicable; utilizes permanent solutions, and uses institutional controls to prevent unacceptable exposures in the future to all wastes that will be contained on-site. EPA has consulted with CTDEP regarding this Proposed Plan, and EPA believes that CTDEP will support this proposal.

COMMENTING ON EPA'S CLEANUP PROPOSAL

Two types of public meetings will occur with respect to the Proposed Plan. The first will be a Pubic Information Meeting on September 15 to explain the proposed remedies and answer any questions that may arise. This meeting will focus on a discussion of the Proposed Plan and is considered informational only. Comments that are made during this meeting will not be part of the official record.

The second type of meeting on October 6, a Public Hearing, will occur during the official comment period. At this meeting, EPA will provide a brief summary of the cleanup proposal and then the floor will be open for spoken comments. A stenographer will be present to record all of the comments offered during the hearing. Comments made must be limited in duration in order to allow all individuals present to have an opportunity to speak their comments into the official record. EPA does not respond to any of the comments made at the Public Hearing other than to indicate the time limits or to request clarification. At the close of the formal comment session, if time permits, EPA will be available to answer questions.

To provide an opportunity for public input on this Proposed Plan, EPA will hold a 30 day public comment period from September 16, 2010 to October 16, 2010. EPA will hold a Public Information Meeting on September 15, 2010, the day before the public comment period begins, as well as a Public Hearing on October 6, 2010, just prior to the end of the comment period.

EPA welcomes input provided during the public comment period and uses comments to improve the remedy selection decision. There are three ways for individuals to express their comments on the Proposed Plan:

- Written comments may be mailed and postmarked by October 16, 2010 to Ron Jennings, U.S. EPA, 5 Post Office Square, Suite 100 (OSRR 07-1), Boston, MA 02109-3912 .
- Written comments may be emailed to jennings.ron@epa.gov by October 16, 2010.
- Oral comments may be spoken into the official record during the Public Hearing on October 6, 2010.

Whether you have concerns or support the Proposed Plan, EPA encourages you to express your opinion during the public comment period. Any of these three mechanisms above are acceptable for providing comments and all comments are welcome and given equal consideration.

The public comment period lasts a minimum of 30 days. If requested, EPA will typically grant a 30 day extension. Once the public comment period has ended, EPA will assemble, evaluate, and respond to all of the submitted comments. EPA will then select and document the remedy selection decision in a Record of Decision (ROD). The ROD and summary of responses to comments received will be made available to the public at the Stratford Public Library and the EPA Records and Information Center in Boston.

For More Detailed Information
Select technical and public information, including the Administrative Record for this Proposed Plan, are available for public review at the following locations:

Online
www.epa.gov/ne/superfund/sites/raymark

EPA Records and Information Center
5 Post Office Square
Boston, Massachusetts
(617) 918-1440

Stratford Public Library
2203 Main Street
Stratford, Connecticut
(203) 385-4161

RAYMARK INDUSTRIES SUPERFUND SITE
SUMMARY OF OPERABLE UNITS

Operable Unit 1: Former Raymark Facility - Location of former manufacturing facility - approx 33 acres in size. In a removal action from 1991-1995, EPA excavated soil contaminated with Raymark waste from 46 residential properties and consolidated approximately 100,000 cubic yards of the waste at the former facility property. OU1 is complete with an impermeable cap over contaminated soils and active contaminant recovery systems. CTDEP took over O&M in 1998. The site has been redeveloped and now houses a Home Depot, ShopRite Supermarket, Walmart, and Webster Bank.

Operable Unit 2: Groundwater (Site wide) - The groundwater investigation focuses on a 500 acre area - extending from the Facility to a surface water body (Ferry Creek) to the Housatonic River. Contaminants include volatile organic compounds VOCs (50,000+ ppm) and metals. Groundwater is not used as a drinking water supply in Stratford. VOCs were found to be volatilizing into buildings (primarily residential dwellings). In 2003-4, EPA and CTDEP installed 106 subslab ventilation systems into residential homes (two were commercial buildings) to mitigate potential vapor intrusion.

Operable Unit 3: Ferry Creek (Area 1) - This area encompasses Ferry Creek and approx. 5 acres of adjacent wetlands where Raymark wastes were deposited through dumping or erosion. Primary risks are from contaminated sediments.

Operable Unit 4: Raybestos Memorial Field - Former ballfield and park that was built on top of over 100,000 CY of contaminated Raymark wastes. Upwards of 18 feet of contaminated fill is found on portions of this 14 acre area. Under a 1992 removal action, the area was fenced, drums were removed, and a temporary six inch soil cover was placed over the Raymark waste area.

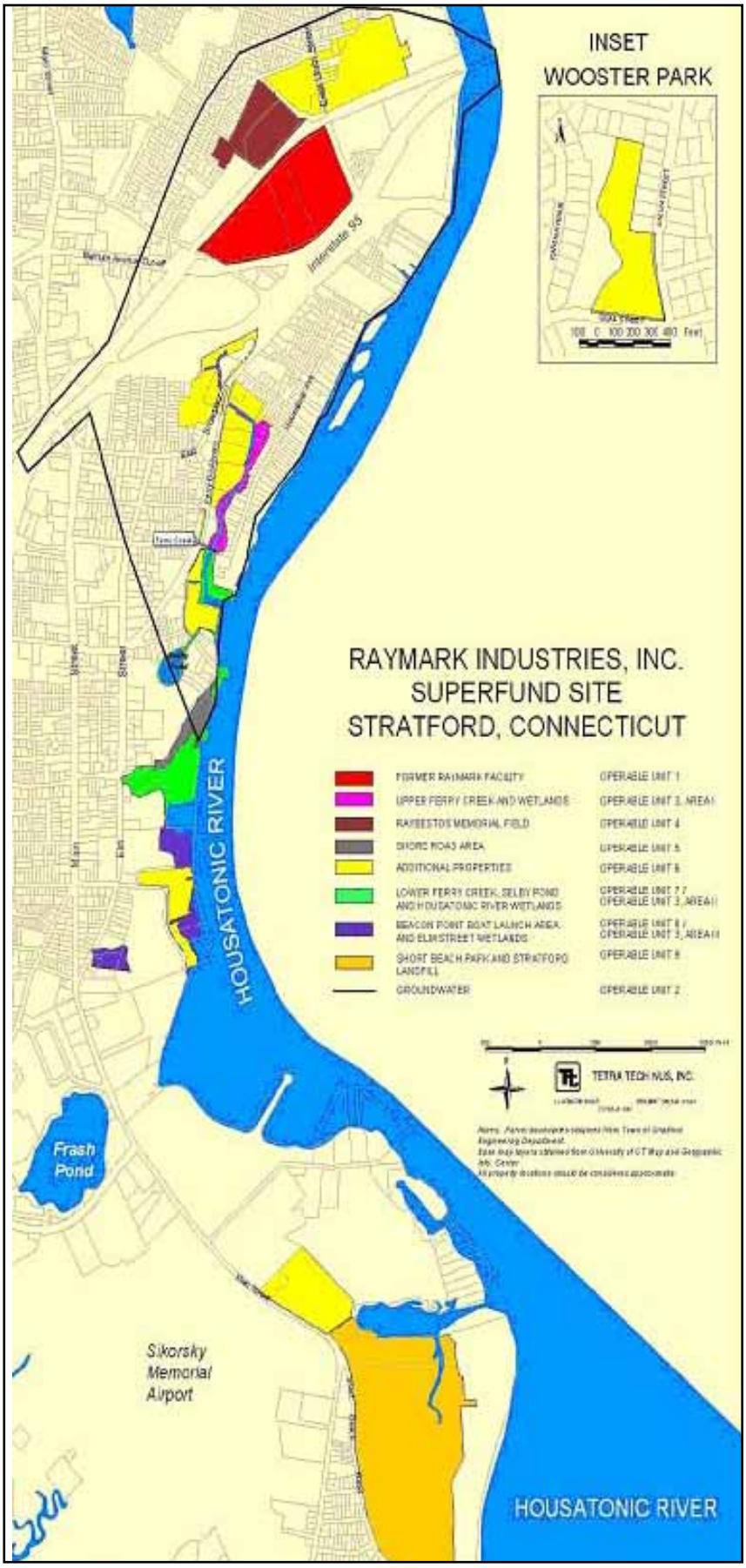
Operable Unit 5: Shore Road - Four acre area at the Housatonic Boat Club and near the former Shakespeare Theater bordering on the Housatonic River. Area was previously a wetland which was filled with Raymark waste and other contaminated material. EPA installed a soil and asphalt cap in 2000.

Operable Unit 6: Additional Properties - This 151.7 acre area consists of 24 individual properties (16 commercially owned, two residentially owned, two state owned, and four town owned) that contain Raymark waste.

Operable Unit 7: Ferry Creek (Area 2) - This area includes approx. 26 acres of wetlands, shoreline, and a small pond. Risks are predominately ecological; however, human health risks are present from potential exposure to contaminated sediments.

Operable Unit 8: Ferry Creek (Area 3) - This area includes approximately 14 acres of wetlands and shoreline along the Housatonic River. Risks are predominately ecological, however, human health risks are present from potential exposure to contaminated sediments.

Operable Unit 9: Short Beach Park and Stratford Landfill - OU9 is approx. 94 acres in size consisting of a municipal landfill and portions of an abutting recreational area. The areas are former disposal sites containing Raymark wastes. Between 1993 and 1995, the State installed approximately five feet of soil cover over a portion of the area containing Raymark waste so that the area could be used for soccer fields.



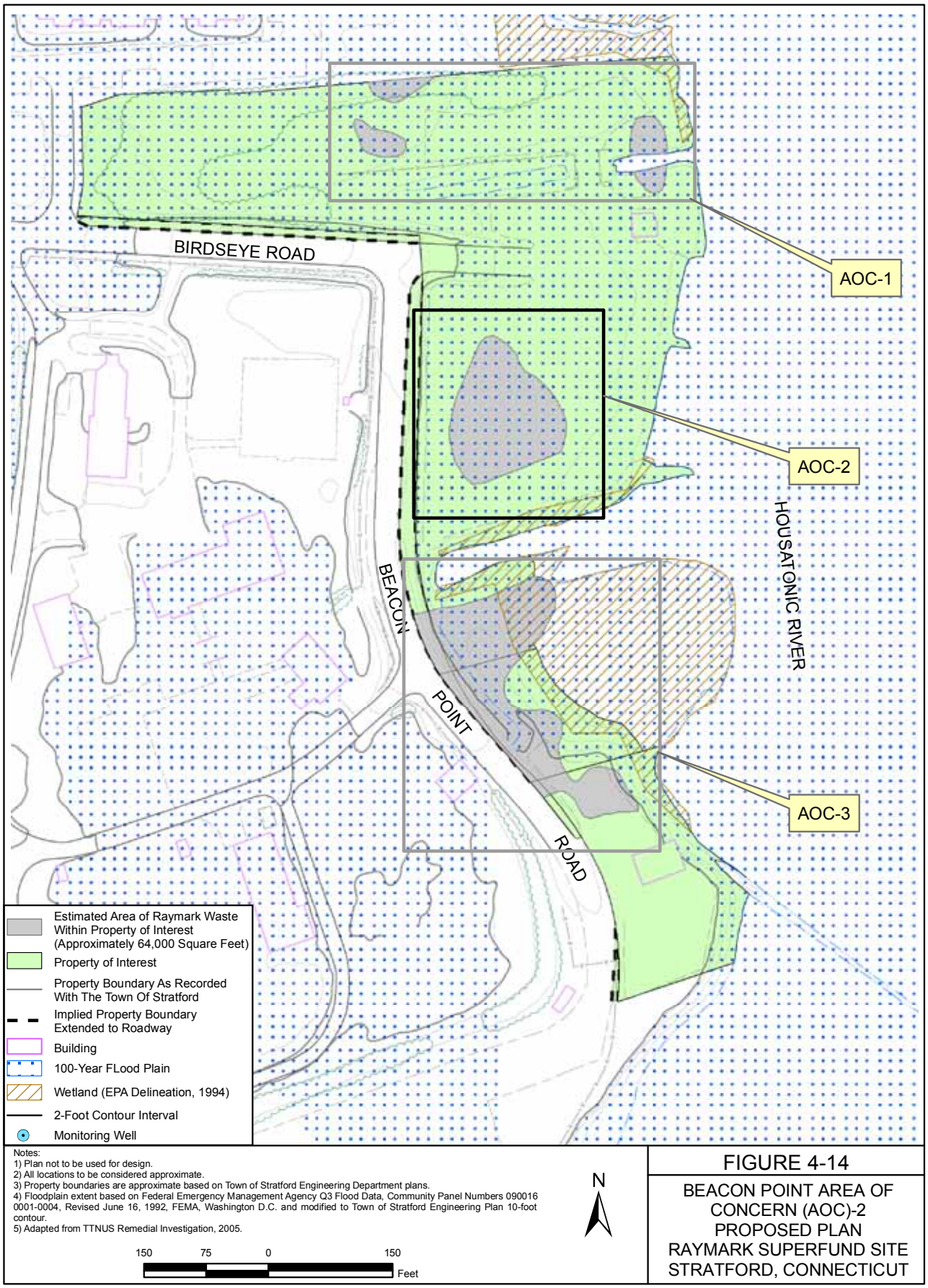


FIGURE 4-14

BEACON POINT AREA OF CONCERN (AOC)-2
PROPOSED PLAN
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

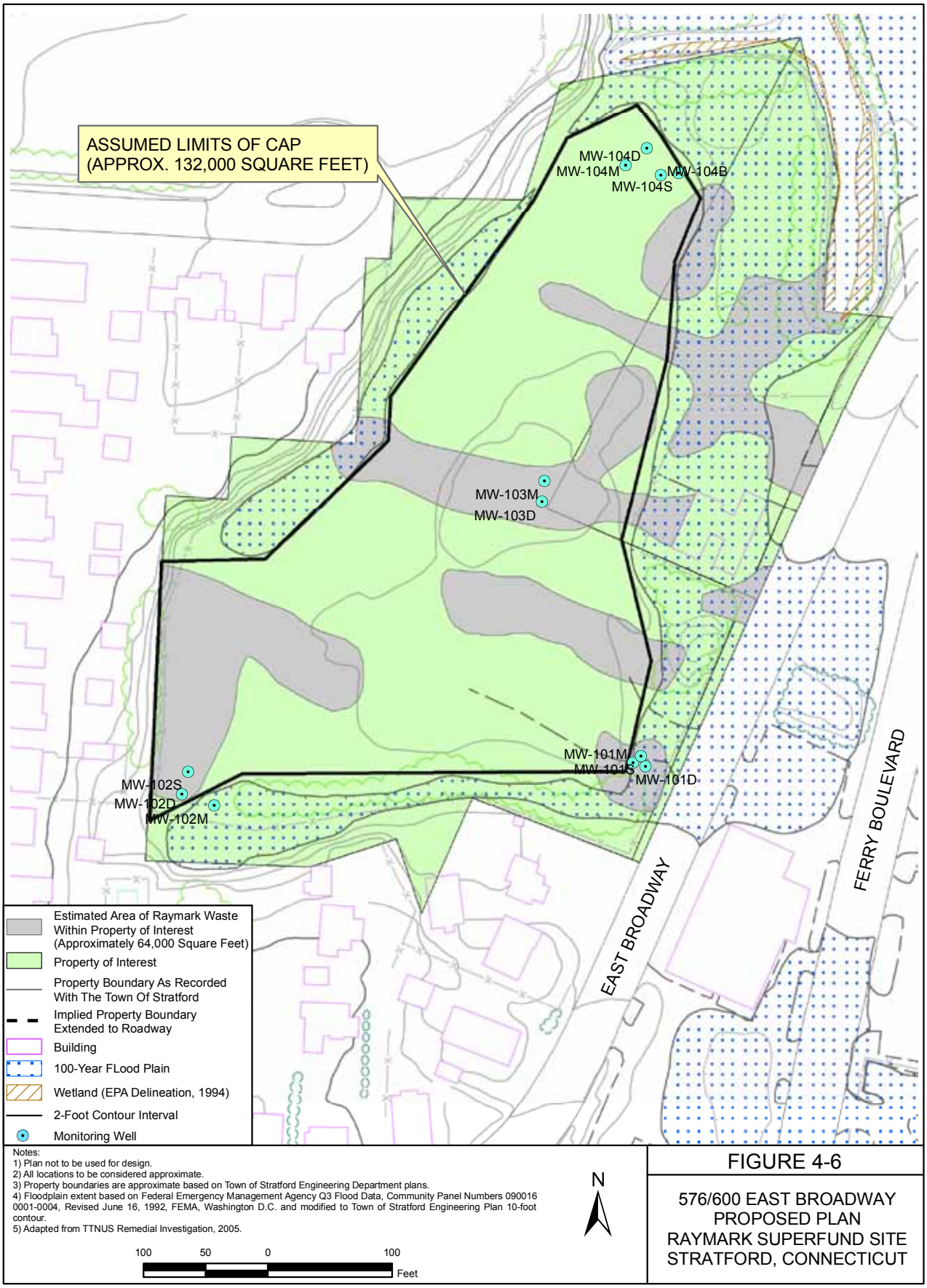


FIGURE 4-6

576/600 EAST BROADWAY
PROPOSED PLAN
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

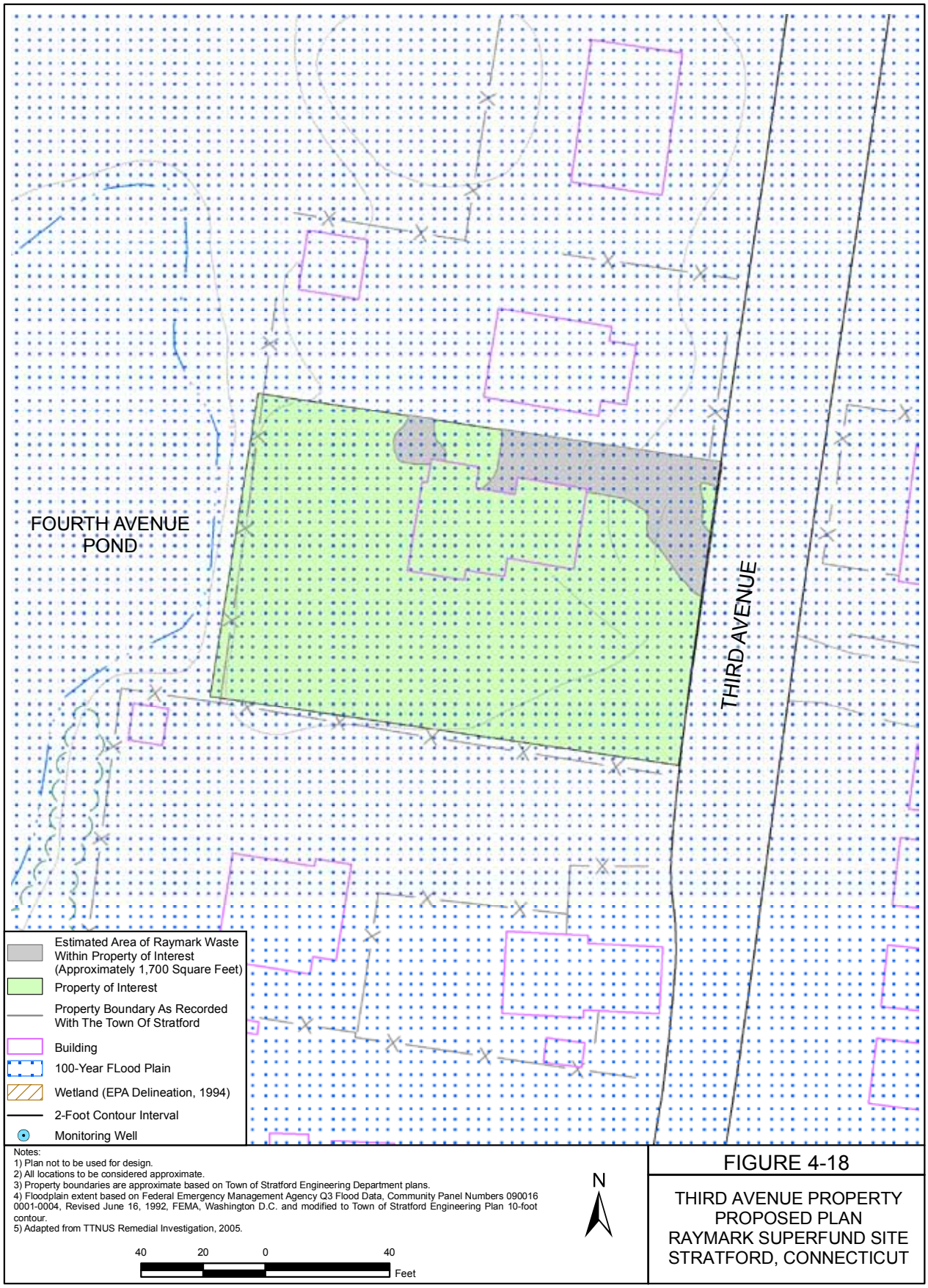


FIGURE 4-18

THIRD AVENUE PROPERTY
PROPOSED PLAN
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT