

APPENDIX VI
Responsiveness Summary

RESPONSIVENESS SUMMARY

Town of Salina Landfill Site Sub-Site of the Onondaga Lake Superfund Site

INTRODUCTION

This Responsiveness Summary provides a summary of citizens' comments and concerns received during the two public comment periods related to the Salina Landfill Sub-Site (Site), Remedial Investigation and Feasibility Study (RI/FS) and Proposed Plans, and the responses of the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Environmental Protection Agency (EPA) to those comments and concerns. All comments summarized in this document have been considered in NYSDEC and EPA's final decision in the selection of a remedy to address the contamination at the Site.

SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

The RI report, FS report, and FS Addendum, and Proposed Plans for the Site were made available to the public in both the Administrative Record and information repositories maintained at NYSDEC Albany and Syracuse offices, the information repository at the Salina Town Hall, 201 School Road, Liverpool, New York; the information repository at the Salina Free Library, 100 Belmont Street, Syracuse, New York; the information repository at the Onondaga County Public Library, Syracuse Branch at the Galleries, 447 South Salina Street, Syracuse New York; and the information repository at the Atlantic States Legal Foundation, 658 West Onondaga Street, Syracuse, New York.

In January 2003, fact sheets were sent to over 240 addressees on the Site mailing list, articles appeared in the local newspapers, and selected mailings of the Proposed Plan were made to local officials and interested parties. A public meeting was held at the Salina Town Hall on January 28, 2003. Approximately 50 people, including local residents and representatives of the media, environmental groups, Honeywell International, Inc. (hereinafter, Honeywell, a potentially responsible party), and federal, state, and local governmental officials, attended the public meeting. The public comment period was to have ended on February 12, 2003, however it was extended to March 14, 2003, in response to a request for an extension.

In December 2006, fact Sheets were sent to over 450 addressees on the Site mailing list, articles appeared in the local newspapers, and selected mailings of the revised Proposed Plan were made to local officials and interested parties. The mailing list includes local citizens, businesses, local, state and federal governmental agencies, media, and environmental organizations. A notice of availability of the above-referenced documents was published in the *Post Standard* on December 30, 2006.

A public meeting was held at the Salina Town Hall, on January 30, 2007. Approximately 40 people, including local residents and representatives of the media, environmental groups, and federal, state, and local governments, attended the public meeting. The meeting included presentations by NYSDEC and New York State Department of Health (NYSDOH) officials on the results of the Remedial Investigation and Feasibility Study and discussions of the proposed remedy. The meeting provided an opportunity for the public to ask questions, discuss their concerns, and provide comment on the revised Proposed Plan. The public comment period ended on February 12, 2007.

OVERVIEW

In January 2003, NYSDEC and EPA released a Proposed Plan describing the remedial alternatives considered for the Site and identifying the preferred remedy with the rationale for the preference. The primary elements of the preferred remedy included constructing impermeable caps over the landfill areas north and south of Ley Creek, constructing groundwater/leachate collection trenches north and south of Ley Creek, and pumping the collected groundwater/leachate to the Metropolitan Syracuse Wastewater Treatment Plant (METRO) for treatment.

Comments received during the public comment period indicated that Onondaga County has a policy not to accept wastewater from inactive hazardous waste sites for treatment at METRO. The Town of Salina and the County participated in extended negotiations for an agreement to allow the landfill's groundwater/leachate to be treated at METRO (with or without pretreatment). No agreement was reached. Therefore, two on-Site groundwater/leachate treatment alternatives were evaluated in a September 2006 Addendum to the May 2002 Town of Salina Landfill Feasibility Study Report (hereinafter "FS Addendum"). A revised Proposed Plan was released to the public for comment in December 2006.

SUMMARY OF COMMENTS AND RESPONSES

Commenters on the Proposed Plans included Atlantic States Legal Foundation, General Motors, Onondaga County, the Onondaga Nation, National Grid, three local businesses, and local citizens.

Responses to the comments received at both public meetings and in writing during both public comment periods are included.

The public comments received and corresponding NYSDEC and EPA responses have been organized into the following topics:

- Waste Containment Versus Removal
- Waste Excavation and Incineration
- Part 360 Cap versus a Soil Cover
- Leachate Collection South of Ley Creek
- Leachate and Contaminated Groundwater Treatment
- Threat to Groundwater and Surface Water
- Contaminated Groundwater, Surface Water, and Sediments
- Old Ley Creek Channel
- Wastewater Treatment
- Risk Assessment
- Emissions of Hazardous Volatile Organic Compounds
- Site Development
- Potentially Responsible Parties and Cost Recovery
- Cost of the Remedy
- Drainage Ditch Sediments
- Government-to-Government Consultation
- National Grid Facilities at the Site
- Existing On-Site Structures: Sewer Line and Culvert
- Maintenance and Monitoring
- Miscellaneous

Attached to this Responsiveness Summary are Appendices VI-a and VI-b, which consist of letters submitted during the public comment period and a transcript of the public meeting for the Proposed Plan, respectively.

A summary of the comments and concerns and NYSDEC and EPA's responses are provided below:

Waste Containment Versus Removal

Comment #1: Several commenters expressed concern about the long-term reliability of landfill containment, especially in

light of the fact that the Town had previously placed soil covers on the landfills.

Response #1: The selected remedy is consistent with EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites*¹, which calls for an impermeable landfill cap, measures to control landfill leachate, source area groundwater control to contain the plume, and institutional controls. EPA determined that "...containment technologies generally would be appropriate for municipal landfill waste because the volume and heterogeneity of the waste generally make treatment impracticable."²

The Town placed a two-foot thick soil cover over the landfills in 1982. While the soil covers prevent direct contact with contaminated soils, they allow rainwater and snow melt to permeate through the covers into the waste mass. As a result, the soil covers have not significantly reduced the amount of leachate and contaminated groundwater produced by the wastes in the landfill. A multilayer cap meeting the current 6 NYCRR Part 360 regulations, on the other hand, will significantly reduce the mobility of contaminants caused by infiltrating rainwater and snow melt.

The reliability and long-term effectiveness of the caps will be assured through routine inspections and maintenance (*i.e.*, mowing, fertilizing, reseeding, and repairing any erosion or burrowing rodent damage).

Comment #2: A commenter suggested that hot spot waste removal in combination with containment would be a more reliable alternative than containment alone, since it would permanently reduce the overall toxicity of the Site.

¹ EPA Publication 9203.1-021, SACM Bulletins, *Presumptive Remedies for Municipal Landfill Sites*, April 1992, Vol. 1, No. 1, and February 1993, Vol. 2, No.1, SACM Bulletin *Presumptive Remedies*, August 1992, Vol.1, No. 3. and EPA Directive No. 9355.0-49FS, *Presumptive Remedy for CERCLA Municipal Landfill Sites*, September 1993.

² EPA Directive No. 9355.0-49FS, *Presumptive Remedy for CERCLA Municipal Landfill Sites*, September 1993 at p. 1.

Response #2: During the RI, only one contaminant hot spot area was identified on-Site. This hot spot was located in an area where the north leachate collection system is to be installed. This area will be excavated and disposed of off-Site in order to install the leachate collection trench.

While there could be contaminant hot spots located inside the landfills' waste mass, considering the fact that the landfills are an average thickness of 15 feet over 55 acres, it would be very difficult to identify such hot spots in the landfills. Since capping the landfills will significantly reduce the influx of rainwater and snow melt, the mobility of any contaminant hot spots will be significantly reduced. Therefore, it is believed that capping the landfills will reliably contain any contaminant hot spots that might be present. This approach is also consistent with EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites* which calls for characterization and treatment of hot spots only where the hot spot waste is a principal threat waste, the containment system would be compromised if the waste was left in place, and there would be a significant reduction in risk by treating hot spots. These circumstances do not apply to the Site.

Comment #3: Several commenters suggested that the entire contents of the landfill be removed and disposed of off-Site so that the Site can be restored to pristine conditions.

Response #3: Considering the size of the landfills, removing the waste mass would be extremely expensive, would be difficult to implement, would result in significant truck traffic on local roads, and would consume considerable space in an off-Site hazardous waste disposal facility. The caps will be protective of public health and the environment since they will prevent exposure of humans and wildlife to contamination and will reduce the production of leachate and contaminated groundwater. As was noted in Response #1, above, capping the landfills is consistent with EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites*.

Comment #4: A representative of the Onondaga Nation stated that given the sacred, spiritual, historic, archeological, and treaty-based interests, and the Nation's desire for the complete clean up and restoration of Onondaga Lake, the Nation is concerned about the remedy selected for the Site. Specifically, it is the Nation's expectation that this Site, as well as all other sub-sites along the shores of the Lake and all of tributaries, be completely cleaned up and restored so that it can be reclaimed for use by the Onondagas and all of the other residents of central New York.

Response #4: NYSDEC and EPA recognize the unique spiritual, historical and cultural ties of the Onondaga Nation to Onondaga Lake and value its views with respect to cleanup of the Salina Landfill sub-site as well as the other sub-sites of the Onondaga Lake Superfund site. However, given the nature and extent of the contamination at the various sub-sites, the complete removal of the sources of the contamination and the complete restoration of the lake and its tributaries is not possible or practicable.

While the selected remedy for the Salina Landfill site does not result in the removal of all of the contamination, the remedy is protective of public health and the environment. The landfill caps will prevent direct contact and reduce the production of leachate and contaminated groundwater and the groundwater/leachate collection systems will prevent the flow of contaminated groundwater and leachate into Ley Creek, a tributary of Onondaga Lake.

Comment #5: Several commenters suggested that Alternative 3 (waste excavation south of Ley Creek and consolidation north of Ley Creek, Part 360 cap north of Ley Creek, groundwater/leachate collection north and south of Ley Creek, on-Site groundwater/leachate treatment, and long-term monitoring) was more advantageous than Alternative 2 (Part 360 cap north and south of Ley Creek and groundwater/leachate collection north and south of Ley Creek, off-Site groundwater/leachate treatment, and long-term monitoring), the selected alternative, since Alternative 3 would remove the waste south of Ley Creek

and potentially allow the area south of Ley Creek to be restored and reused as well as reduce the potential for landfilled wastes to be subject to erosion.

Response #5: While Alternatives 2 and 3 (as well as Alternatives 4 and 5) would both effectively prevent the risk of incidental contact with waste material, contaminated soils, and contaminated sediment by humans and ecological receptors, Alternative 2 has a number of advantages over Alternative 3:

- Alternative 2 could be implemented more quickly (it is estimated that Alternative 2 would be implemented in 1.5 years, while Alternative 3 would take an estimated two years to implement). In addition the estimated present-worth cost for Alternative 2 is \$2,342,000 less than the estimated present-worth cost for Alternative 3, which presents a significant cost savings to the State of New York and Town of Salina;
- For cost-estimating purposes, it was assumed that 25% of the waste in the waste area located to the south of Ley Creek would be hazardous. If the volume of hazardous waste increases, so would the capital cost for Alternative 3;
- Under Alternative 3, it is likely that over-excavation of the waste to remove underlying contaminated native soils to achieve cleanup objectives would be necessary; this would also increase the cost;
- Alternative 3 has greater potential short-term impacts, such as objectionable odors during excavation; and
- The presumptive remedy for landfills of this size (waste area south of Ley Creek is 4 - 5 acres) is capping.

NYSDEC and EPA believe that the selected remedy for the Site will provide the best balance of tradeoffs among alternatives with respect to the evaluation criteria, will be protective of human health and the environment, and

will comply with all applicable or relevant and appropriate requirements.

Comment #6: A commenter stated that since the FS report assumed that, if excavated, 15% of the landfilled wastes south of Ley Creek would be hazardous and, therefore, would require off-Site disposal, the use of a 25% figure in the Proposed Plans arbitrarily inflated the cost of the alternative. The commenter stated that during a recent teleconference, NYSDEC indicated that most of the wastes south of Ley Creek were "construction and demolition debris" and, therefore, unlikely to be very contaminated. The commenter further stated that the actual percentage of waste which might be Toxic Substances Control Act or Resource Conservation and Recovery Act regulated was unknown in 2003, and remains unknown to this day. The commenter asked why the percentage of "hazardous material" was increased from 15% in the FS report to 25% in the Proposed Plans.

The commenter asked why were the costs for a groundwater trench included in Alternatives 3 and 5 when a trench was likely not required. The commenter also asked why a less costly groundwater collection system, such as wells, was not proposed instead of a trench.

The commenter asked what is a reasonable timeframe for attaining the site remedial action objectives through natural attenuation.

The commenter cited 6NYCRR Part 375-1.10, "The goal of the [remedial] program for a specific site is to restore that site to predisposal conditions, to the extent feasible and authorized by law." The consolidation of wastes, as described under Alternative 3, achieves at least a *partial restoration* of the site. The commenter stated that it is incumbent on NYSDEC and EPA to follow the regulatory language in 6NYCRR Part 375-1.10, namely to restore the Site to the extent feasible.

Response #6: The range of percentages and engineering cost estimates are based upon the best available information regarding the anticipated scope of the selected remedy.

The percentage of waste that would be classified as hazardous was increased to more accurately represent the expected percentage that will be disposed of as hazardous. The engineering cost estimates are projected to be within the acceptable +50 to -30 percent of the actual project cost range. The decision to cap the landfill is consistent with EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites*.

The cost for a groundwater collection trench was included for both Alternatives 3 and 5 because this would more accurately represent the anticipated costs for the entire remedy. The collection trench was used in the remedial alternative because it is more protective of the environment, providing less possibility that contaminated groundwater would migrate off-Site.

A reasonable timeframe for a remedy relying on natural attenuation is generally a timeframe comparable to that which could be achieved through active restoration. Timeframes to achieve remedial action objectives through natural attenuation relative to active measures will be assessed during remedial design.

The regulatory provision cited has been recodified in 6 NYCRR Part 375-2.8 which states that "[t]he goal of the remedial program for a specific site is to restore that site to pre-disposal conditions, to the extent feasible. At a minimum, the remedy selected shall eliminate or mitigate all significant threats to the public health and to the environment presented by contaminants disposed at the site through proper application of scientific and engineering principles and in a manner not inconsistent with the national oil and hazardous substances pollution contingency plan [NCP] as set forth in section 105 of CERCLA, as amended by SARA." The remedy for the Site has been selected consistent with the requirements of the NCP which require that candidate remedies be assessed on the basis of nine criteria. All remedies must meet the threshold criteria for protection of human health and the environment and compliance with applicable and relevant appropriate requirements and those alternatives that meet the threshold criteria are subject to further analysis using the other seven criteria to determine the remedy that provides the best balance

among these criteria. This process was conducted for the selection of the remedy for the Site and the selected remedy was determined by NYSDEC and EPA to meet all the remedial; action objectives for the Site and to provide the best balance among the evaluation criteria. This process is described in more detail in the Responses to Comments 36 & 37, below.

Waste Excavation and Incineration

Comment #7: A commenter asked whether excavation of the waste and on-Site incineration had been considered to address the contaminated waste mass.

Response #7: Excavation of the waste and its incineration on-Site was considered, but was screened out during the FS alternatives initial screening process, which assessed effectiveness, implementability, and cost. While excavation of the waste mass and on-Site incineration would be effective and implementable, its costs were grossly excessive when compared to the other alternatives. Therefore, on-Site incineration was eliminated from further consideration.

Part 360 Cap versus a Soil Cover

Comment #8: A commenter stated that although a 6 NYCRR Part 360 cap would significantly reduce the volume of contaminated groundwater and leachate that is generated as compared to a soil cover, the present-worth cost of the selected 6 NYCRR Part 360 caps remedy is approximately \$4 million greater than the present-worth cost of the soil covers alternative (Alternative 3 in the 2003 Proposed Plan). The commenter suggested that since the leachate and contaminated groundwater will be collected anyway (albeit a greater volume would be collected), the less costly soil covers alternative should be selected for the Site. The commenter also stated that a soil cover combined with a contaminated groundwater and leachate collection system (Alternative 3 in the 2003 Proposed Plan) would provide the functional equivalency to a 6 NYCRR Part 360 cap, thereby satisfying the

action-specific applicable or relevant and appropriate requirements of other applicable federal and state environmental statutes and requirements.

Response #8: While the groundwater collection system should be effective in intercepting most of the leachate and contaminated groundwater that is migrating from the landfill, there is the potential for some leachate and contaminated groundwater to bypass the collection system since there is no liner underneath the landfilled waste. Therefore, a soil cover combined with a contaminated groundwater and leachate collection system would not, as the commenter suggests, provide the functional equivalency to a 6 NYCRR Part 360 cap.

Leachate Collection South of Ley Creek

Comment #9: Several commenters stated that the proposed leachate collection system on the south of Ley Creek does not appear to fully address groundwater/leachate that could migrate from the landfill. Specifically, the southern collection trench may not fully capture groundwater/leachate that may discharge to the south from the portion of the Town of Salina Landfill located south of Ley Creek.

Response #9: The eastern half of the Site is bounded to the south by the banks of a separate tributary known as the Old Ley Creek Channel (OLCC). Based upon available data and the conclusion that the groundwater flow from the landfill south of Ley Creek is likely to be influenced by a northwestern flowing gradient to the southern collection trench along Ley Creek, a collection trench along the northern side of OLCC may not be needed. If monitoring data indicates a different flow gradient, then the need for a groundwater collection trench along the north side of the OLCC would be evaluated.

Comment #10: A commenter stated that there is no sewer connection to the southwest end of the interceptor trench as depicted by a figure in the revised Proposed Plan.

Response #10: The figure in the revised Proposed Plan is a conceptual depiction showing the major components of the off-Site treatment alternative. There is no need for a sewer connection to the southwest end of the interceptor trench, as there was a connection point at the northeast end of the trench on that figure. Regardless, detailed plans will be generated in the remedial design phase of the project. However, if Alternative 4 is implemented, then a connection to the sewer system would need to be incorporated into the design of the remedy.

Leachate and Contaminated Groundwater Treatment

Comment #11: Several commenters noted that in 1991, the County of Onondaga established a policy not to accept wastewater from inactive hazardous waste sites since such wastewater could inhibit or interfere with treatment plant performance, cause or contribute to passthrough of pollutants without treatment, or adversely affect the quality of the biosolids (the organic materials resulting from the treatment of sewage sludge).

Response #11: In light of the County's policy not to accept wastewater from inactive hazardous waste sites, other alternatives for the treatment of the collected leachate and groundwater were generated, evaluated and presented in the Feasibility Study addendum and revised Proposed Plan. The Town and the County participated in extended negotiations for an agreement to allow the landfill's groundwater/leachate to be treated at County's wastewater treatment facility (with or without pretreatment). No agreement was reached.

Comment #12: A commenter suggested that permeable reactive barrier walls be considered further. In addition, the commenter suggested that consideration be given to reinjecting the collected leachate and contaminated groundwater into the landfill (either untreated or partially treated). This would use the landfill as a bioreactor/treatment system, in which heavy metals are precipitated, organics are biologically degraded, and recalcitrant compounds (e.g., polychlorinated biphenyls [PCBs]) are sorbed to soil particles.

Response #12: While many inorganic and organic contaminants are readily treatable using permeable reactive barriers, their effectiveness in treating some contaminants, such as chlorobenzenes and PCBs (which are present at elevated levels in the leachate and groundwater), is not well known.

A bioreactor is appropriately applied in circumstances where a landfill has been constructed with an engineered bottom liner and a leachate collection system—components that effectively isolate the landfill and leachate from the surrounding groundwater. Since bioreactor technology has never been applied in circumstances where a landfill was unlined, the technology is not appropriate for the unlined landfills at the Site.

Comment #13: A commenter expressed concern about the discharge of “untreated, highly toxic leachate” into Ley Creek after the landfills are capped.

Response #13: Under current conditions, contaminated groundwater originating from the landfills enters Ley Creek. The intent of the selected remedy is to collect the leachate and contaminated groundwater to prevent it from entering the creek. Following its collection, the leachate and contaminated groundwater will be treated to acceptable levels and discharged to Ley Creek.

Comment #14: A commenter expressed concern about discharging the leachate and contaminated groundwater into the sewer system and the potential for the contaminants to leak from the sewer lines or to be bypassed from the sewer lines and directly discharged to surface water during storm events.

Response #14: If Alternative 4 was implemented instead of Alternative 2, then a connection to the sewer system would need to be incorporated into the design of the remedy. In addition, any issues involving the possibility of exfiltration from the sanitary sewers and any combined sewer overflow (CSO) discharges would need to be considered.

Comment #15: A commenter stated that leachate generated at the landfill should not be pre-treated and sent to METRO and that Alternatives 4 and 5 should be screened out. Instead, the commenter encourages NYSDEC and the Town of Salina to explore the possibility of using the newly constructed Honeywell wastewater treatment facility near Willis Ave. for treating this leachate.

Response #15: Alternatives 4 and 5 are viable alternatives that meet the threshold criteria and were assessed against the other remedial alternatives. If the ongoing negotiations between the Town of Salina and Onondaga County are successful before the Remedial Design Work Plan is approved for the Site, then the collected leachate and groundwater will be pre-treated on-Site and conveyed to METRO in lieu of undergoing complete treatment at an on-Site treatment facility and being discharged to Ley Creek (*i.e.*, Alternative 4 would be implemented).

The Honeywell plant was not considered for the treatment of the collected leachate and contaminated groundwater for several reasons: the plant is several miles away and would need a large capital investment for piping from the landfill, as compared to tying into the County's sewer line at the Site; and the capacity of the plant would need to be sufficient to handle the landfill's leachate.

Threat to Groundwater and Surface Water

Comment #16: A commenter asked how the selected remedy will protect downgradient users of groundwater from this component of contaminated groundwater/leachate migration.

Comment #16: NYSDEC and NYSDOH identify potential downgradient users of groundwater at inactive hazardous waste disposal sites. No downgradient users were identified for this Site. The Site is surrounded by the New York State Thruway to the north, the Onondaga County Resource Recovery Agency Transfer Station to the west, Ley Creek and the Old Ley Creek Channel to the south, and Route 11 to the east. The area around the Site is

served by public water. The remedy will be protective of off-Site groundwater because the Site's contaminated groundwater/leachate would be collected by the groundwater/leachate collection trenches.

Comment #17: A commenter stated that the inherent dangers to the groundwater and to Ley Creek from the unlined landfills is not clear.

Response #17: Since the landfills are uncapped and unlined, contaminated groundwater and leachate are currently migrating from the landfills to Ley Creek unabated. Capping the landfills in combination with the installation of leachate/contaminated groundwater collection trenches will reduce the creation of leachate and contaminated groundwater and its migration to Ley Creek, respectively. The groundwater/leachate collection trenches will be keyed into the clay layer that act as an aquitard between the shallow and deep aquifers at the Site. Where the clay layer is not present or is of insufficient thickness, the leachate collection trenches will be keyed into the dense glacial till. Additional investigation of the permeability of the glacial till will be conducted during the remedial design phase. If the glacial till is determined to not be a sufficiently low permeability material, then additional measures (e.g., installation of sheet piling downgradient of the collection trenches) may be implemented to ensure that groundwater flow will not bypass the collection trenches.

Comment #18: A commenter asked if the source of PCBs upstream of the Site has been identified and if it could recontaminate Ley Creek after the Site is capped.

Response #18: The principal source of PCBs upstream of the Site can be attributed to the former GM Inland Fisher Guide Facility and Ley Creek Deferred Media Sub-Site. A number of Interim Remedial Measures have been implemented at this Site to eliminate or reduce the migration of PCBs and other contaminants from this sub-site to Ley Creek. An RI/FS is also underway at that site. Once it is completed, any additional measures that may be needed will be identified and evaluated and will

be presented to the public prior to the selection of a remedy. Any necessary remedial work at that site should be completed before remedial work begins to address contamination in Ley Creek and its banks, at and downstream of the Route 11 Bridge. Since the Site does not include Ley Creek and should be remediated before Ley Creek is remediated (in order to avoid the potential recontamination of the tributary), implementation of the remedy at the Site can proceed prior to and independently of the remedy in Ley Creek.

Contaminated Groundwater, Surface Water, and Sediments

Comment #19: A commenter expressed concern that the landfills are leaching contaminants into Ley Creek, which flows directly into Onondaga Lake.

Response #19: One of the objectives of the selected remedy is to minimize the migration of Site-related contaminants to the groundwater and Ley Creek. Capping the landfill will minimize the production of leachate and contaminated groundwater and the construction and operation of a groundwater/leachate collection system north and south of Ley Creek will minimize the migration of contaminated groundwater to Ley Creek.

Comment #20: A commenter stated that if Onondaga Lake is not cleaned up, then cleaning up the Salina Landfill site is not warranted.

Response #20: In July 2005, a ROD selecting a remedy for the Lake Bottom sub-site was issued by NYSDEC and EPA. In October 2006, NYSDEC, New York State Department of Law, and Honeywell signed an agreement that requires the company to conduct the cleanup of contaminated sediments in the lake in accordance with the ROD. PCBs are among the contaminants that were considered in determining the location and extent of sediment removal to be undertaken in Onondaga Lake. Remedial design activities are underway for the Lake Bottom sub-site and it is anticipated that cleanup of the Lake will commence in approximately 5 years. However, the timing of remedial activities in Onondaga Lake will need to be

coordinated with the remedial activities at upland sites. While considerable progress has been made at some of the upland sites over the past few years, the cleanup at other sites, such as the Salina Landfill sub-site, will need to be completed as soon as possible so as not to delay the onset of remedial activities for the Lake.

Comment #21: A commenter suggested that the contaminated surface water and sediments in Ley Creek located adjacent to the landfill should be addressed as part of the selected remedy for the Landfill.

Response #21: The portion of Ley Creek adjacent to the landfill is not part of the Site, due to the presence of upstream sources of contamination that need to be addressed. It is anticipated that surface water and sediment contamination in Ley Creek adjacent to the landfill, as well as in the Old Ley Creek channel, will be addressed in a subsequent investigation.

Old Ley Creek Channel

Comment #22: A commenter stated that there is no technical justification for separating what has been referred to as the OLCC site from the southern portion of the Town of Salina Landfill. Therefore, the selected remedy should also address any contamination associated with the OLCC to the extent that it involves areas that are related to landfilling activities.

Response #22: Since the channelization of Old Ley Creek in the early 1970s, the former creek bed's PCB-contaminated sediments and bank materials have remained in place. The Salina Landfill's southern waste mass ends before the banks of Old Ley Creek and there are no leachate seeps along the landfill-side of the OLCC. In addition, it appears that the waste areas are separate and distinct. Moreover, there are known upstream sources of contamination to OLCC that need to be investigated, and the sediment, surface water, and banks of OLCC and Ley Creek under and downstream of the Route 11 Bridge are collectively a separate Class 2 New York State inactive hazardous waste disposal site and will be

investigated. The upland areas of Ley Creek and OLCC, including the Salina Landfill site, will likely need to be remediated before the tributaries in order to minimize the possibility of the tributaries becoming recontaminated by the unremediated upland areas.

Comment #23: Several commenters suggested that there should be coordination with the remediation of Ley Creek and the OLCC.

Response #23: Since the OLCC is a tributary to Ley Creek, any remediation of this tributary and its banks will need to be conducted prior to any remediation of Ley Creek and its banks at and downstream of the confluence the OLCC and Ley Creek.

Comment #24: A commenter noted that PCBs are not the only constituents of concern in Ley Creek.

Response #24: Other contaminants, such as arsenic, cadmium, chromium, lead, nickel, silver, zinc and polycyclic aromatic hydrocarbon compounds, have been detected at elevated levels in Ley Creek.

Wastewater Treatment

Comment #25: A commenter asked to what degree the contaminated groundwater/leachate will be treated.

Response #25: Contaminated groundwater/leachate will be treated at an on-Site wastewater treatment plant in conformance with New York State surface water discharge limits prior to being discharged to Ley Creek. The area of Ley Creek located adjacent to the landfill is identified by New York State as "Class B" waters. This designation requires that the discharge limits be consistent with primary and secondary contact recreation and fishing.

Comment #26: A commenter asked what will happen to pollutants such as cadmium and lead that are removed from the contaminated groundwater/leachate.

Response #26: While the treatment process will need to be designed to address the contaminants that are present, metals, such as cadmium and lead, are typically removed through the addition of chemical coagulants that promote a flocculation/sedimentation process. The metals and other solids, in a sludge form, are then sent to a thickener and filter press for dewatering. The solid materials are transported to an approved off-Site disposal facility.

Comment #27: A commenter asked how long will leachate collection and treatment be necessary and what measures are there to ensure that water collection/treatment will continue and that funding will be available?

Response #27: The leachate/contaminated groundwater collection, treatment and discharge system will need to be operated for thirty years or more. Since wastes will remain on-Site in excess of levels that would permit unrestricted access, the Superfund law requires that the remedy be reviewed every five years to ensure that it remains protective of human health and the environment. See also Comment and Response # 33 below.

Comment #28: A commenter noted that the 2003 Proposed Plan did not include wastewater pre-treatment costs under the alternatives which call for off-Site treatment.

Response #28: In the revised Proposed Plan, costs for wastewater pre-treatment are included in the alternatives which call for off-Site treatment.

Risk Assessment

Comment #29: A commenter expressed concern that the risk assessment considers only on-Site human health and ecological exposures, not off-Site exposures.

Response #29: Ley Creek surface water and sediments are not part of the Salina Landfill site (in part due to the presence of upstream sources) and therefore were not evaluated in the baseline human health and ecological risk

assessments conducted for the Town of Salina Landfill sub-site RI/FS. It is anticipated that risks to humans and ecological receptors resulting from exposure to contaminated surface water and sediments in Ley Creek adjacent to the landfill will be assessed in a subsequent investigation.

Comment #30: A commenter stated that people trespass on the landfill.

Response #30: Signage exists at the gate of the landfill, and measures have been taken by the Town to prevent vehicular access to the Site. Even though people can traverse the Site, there is limited exposure to the contaminants due to the vegetative cover on the Site. In order to restrict further trespassing, fencing of the Site is included in the selected remedy.

Emission of Hazardous Volatile Organic Compounds

Comment #31: A commenter expressed concern about hazardous vapors emanating from the landfill and the fact that the human health risk assessment did not evaluate air emissions as an exposure pathway.

Response #31: Inhalation exposure from volatile organic compounds (VOCs) was not considered a potential exposure pathway in the baseline human health risk assessment for the Site because VOCs were not identified as contaminants of concern in surface soil, sediment, or surface water. Also, based upon the limited detections and low levels of VOCs found around the perimeter of the landfill during the RI, it was concluded that additional testing was not warranted. While VOCs were detected at levels of concern in groundwater under the landfill, groundwater flows toward Ley Creek and not toward businesses and residences. Although the properties adjacent to the Site are not situated above contaminated groundwater, the potential for soil vapor intrusion into nearby structures will be assessed during the design phase because of the concerns that have been expressed.

To address the potential for gas releases from the landfill, the caps called for in the selected remedy have

a gas collection layer. The collected gas will either be vented, flared or treated depending on the concentrations of the VOCs in the gas.

Air monitoring will be performed during the construction of the landfill remedy. A post-construction monitoring plan will also be developed and implemented if soil gases are detected at levels of concern. If necessary, additional remedial measures may be warranted if soil gases are determined to pose a long-term problem.

Site Development

Comment #32: A commenter expressed concern that the selected remedy will preclude the potential development of the 55-acre property.

Response #32: While certain development-related restrictions would be necessary to protect public health and the integrity of the selected remedy, the redevelopment of the Site is not precluded. Redevelopment of former landfills has been successfully undertaken in many communities, resulting in the creation of recreational areas, such as parks and golf courses, industrial/commercial reuse areas, such as retail shopping and regional transportation centers, and wildlife enhancement areas.

Potentially Responsible Parties and Cost Recovery

Comment #33: The land containing the Site is currently owned by five parties. Since the Town of Salina only owns 29 acres of the 55-acre Site, a commenter asked why the Town of Salina is responsible for paying for the entire cost of the remedy as well as any future response costs.

Several commenters supported an aggressive effort by both NYSDEC and EPA to identify all industrial contributors of hazardous waste to the Salina Landfill and to use the legal resources available to those agencies to assign financial responsibility to those industries. A commenter stated that the Town of Salina is not financially able to undertake the remediation of the

Site on its own. Another commenter asked if there is a list of potentially responsible parties (PRPs)?

Response #33: The Town of Salina was the operator of the landfill during the disposal period. In 1997, NYSDEC negotiated a consent order with the Town to perform the RI/FS, the remedial design, and the remedial action. Subsequently, the Town entered into a State Assistance Contract under the 1986 Environmental Quality Bond Act of New York State. This contract allows for the reimbursement of 75% of the eligible costs during the RI/FS. This contract can be amended to include reimbursement of 75% of the eligible costs for the remedial design and remedial action costs, as well. The Town of Salina is responsible for 100% of the operation, maintenance and monitoring costs.

Recognizing that the Town of Salina is not the only potentially responsible party (PRP) at the Site, pursuant to its State Assistance Contract with NYSDEC, the Town is responsible for cost recovery from other PRPs for the Site. NYSDEC will assist with this effort.

A PRP search to identify all the responsible parties for the Site has been initiated. As the search is not yet complete, there is no final list of PRPs to date.

Comment #34: A commenter asked if monies are recovered from a PRP, would the State and the Town be reimbursed at the 75% to 25% ratio?

Response #34: The Town may seek reimbursement from NYSDEC for up to 75% of the approved project cost less amounts collected from the PRPs and past and present insurance carriers. Successful cost recoveries would be shared by the State and the Town in proportion to their respective shares of the costs, after transaction costs have been paid.

Comment #35: A commenter asked how successful has the State been in achieving cost recovery at sites where there are viable PRPs.

Response #35: The Town's responsibility to recover eligible costs from the PRPs is among its obligations under its State Assistance Contract. NYSDEC often assists municipalities in this cost recovery effort. NYSDEC does not maintain a survey of municipal landfill cost recovery results under the Environmental Quality Bond Act program.

Cost of the Remedy

Comment #36: Given the fact that complete excavation and removal of all of the wastes in the landfills would cost an estimated \$75 million and the fact that this Site is a sub-site of a federal Superfund site, a commenter urged EPA to provide the additional funding necessary for the complete excavation and removal of the contents of the landfills.

Response #36: Cost was only one of the nine criteria that was considered in the evaluation of the various alternatives. Under the Superfund regulations, EPA is required to consider eight other evaluation criteria. The primary criteria are the ability of the various remedial alternatives to protect human health and the environment, and compliance with applicable, or relevant and appropriate requirements. Other factors that are considered include long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, support agency acceptance, and community acceptance.

Considering the size of the landfills, removing the waste mass would not only be much more expensive than the other alternatives that were considered, but would be difficult to implement, would result in significant truck traffic on local roads, and would consume considerable space in an off-Site hazardous waste disposal facility. The caps will be protective of public health and the environment since they will prevent exposure of humans and wildlife to contamination and will reduce the production of leachate and contaminated groundwater. As was noted in Response #1, above, capping the

landfills is consistent with EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites*.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) established the Superfund to provide monies to investigate and clean up hazardous substance releases at hazardous waste sites for which PRPs have either not been identified or, if they have been identified, are unwilling or unable to conduct the necessary investigatory and clean up work. This is not the case at the subject Site.

Comment #37: Considering the significant costs related to the action alternatives, a commenter suggested that the no action alternative makes the most sense for the taxpayers of the Town of Salina and New York State. Another commenter asked how were remedial action objectives developed for the Site.

Response #37: As was noted in the previous response, cost was only one of the nine criteria that was considered in the evaluation of the various alternatives. While it is more costly than the no action alternative, the selected remedy meets the requirements for remedial actions set forth in CERCLA in that it is protective of human health and the environment; complies with applicable federal and state requirements; is cost-effective; utilizes permanent solutions; and provides for the reduction of toxicity, mobility, and volume of contaminated media (*i.e.*, groundwater) through treatment.

Remedial action objectives (RAOs) are site-specific goals to protect human health and the environment. These objectives are based on available information and standards such as state and federal requirements and unacceptable exposures established in the risk assessment. The following RAOs were established for the Site:

- Reduce/eliminate contaminant leaching to ground water;
- Control surface water runoff and erosion;

- Prevent the off-Site migration of contaminated groundwater and leachate;
- Restore groundwater quality to levels which meet state and federal drinking-water standards;
- Prevent human contact with contaminated soils, sediment and ground water; and
- Minimize exposure of aquatic species and wildlife to contaminants in surface water, sediments, and soils.

The no action alternative would not meet the RAOs.

Drainage Ditch Sediments

Comment #38: A commenter asked why sediments in the western drainage ditch at the Site will be excavated/restored, but sediments in the northern and eastern drainage ditches will be lined with low permeability materials.

Response #38: The primary reason for removing contaminated sediments from the western drainage ditch is to avoid permanent impacts to the adjacent wetland which would result in the loss of the habitats of species in and around Ley Creek.

The northern and eastern drainage ditches, which run through areas of contaminated soil, will be lined to prevent the infiltration of surface water into the waste mass, which would increase the amount of contaminated groundwater that is generated. It will also allow for drainage from off-Site sources to be transmitted across the Site without coming in contact with contaminated sediment. Since wetlands in these areas will not be able to be restored, mitigation for their loss will be required.

Government-to-Government Consultation

Comment #39: The Onondaga Nation expressed concern that consultation³ related to the project did not occur at the very beginning of the project.

Response #39: EPA's 1984 Indian Policy recognizes the government-to-government relationship between EPA and the Nations, as one sovereign to another. Executive Order 13175 (November 6, 2000), *Consultation and Coordination with Indian Tribal Governments* was issued "in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, to reduce the imposition of unfunded mandates upon Indian tribes." Unfortunately, the EPA staff members that were coordinating with NYSDEC concerning the Site were unaware of the government-to-government provisions in the Indian Policy consultation requirement. When this oversight was discovered during an internal EPA review of the draft Proposed Plan for the Site, EPA sent a letter in mid-January 2003 to Chief Irving Powless of the Onondaga Nation initiating government-to-government consultation with the Onondaga Nation with respect to the preferred remedy for the Site. EPA met with the Onondaga Nation, provided documents for review, and has continued to keep the Nation informed as to the status of this project.

National Grid Facilities at the Site

Comment #40: A representative of National Grid stated that there are natural gas lines and electric facilities crossing the Site

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and that the remedial design and remedial action must not inhibit or impair National Grid's continued safe, reliable and uninterrupted operation of its facilities.

Response #40: Coordination with National Grid to identify the location of all of its utility lines, structures, and facilities will be done in order to identify design requirements for uninterrupted access by National Grid and to ensure safe construction of the selected remedy. The remedy will be designed to ensure National Grid's continued access to all gas and electric facilities, located on-Site.

Comment #41: A representative of National Grid stated that the natural gas pipeline cannot be under the landfill cap.

Response #41: The landfill cap will not be placed over the gas line, and access to the pipeline will be maintained during and after the construction of the remedy. This may necessitate the excavation of some wastes around the pipeline. If necessary, all excavation within 2 feet of the pipeline will be done by hand to protect the pipe and its coating. Travel across the pipeline will be done only in areas protected by a 2-foot thick mat of run-of-crush limestone underlaid with filter fabric. Care will also be given to natural gas witness posts, test stations, and other related natural gas facilities. Blasting will not be used in the construction process.

Comment #42: A representative of National Grid stated that any construction activities of the landfill cap near electrical transmission lines' rights-of-way must meet ground-to-line clearances required by the National Electric Safety Code, and that the landfill cap cannot tie into utility poles or towers.

Response #42: The "Conditions for Proposed Activities within Transmission Line Rights-of-Way" Guideline (Document Number GL.06.01.307) will be factored into the design of the remedy, as well as the ground clearances as required by the National Electric Safety Code.

Existing On-Site Structures: Sewer Line and Culvert

Comment #43: A commenter suggested that the abandoned 48" sanitary sewer running through the landfill could be relined and used as a sampling conduit for the landfill.

Response #43: There is no need to use the abandoned sewer line as a sampling conduit. The groundwater monitoring wells provide the necessary information. The sewer line will be sealed in order to prevent the sewer from promoting migration of contaminated groundwater.

Comment #44: A commenter suggested that cured-in-place pipe reconstruction process, in addition to slip-lining, can rebuild the existing culvert at the landfill to as-new condition, with minimal loss to the cross-sectional area, and that the hydraulics of the culvert will be improved considerably.

Response #44: The exact method of securing the culvert, cured in place lining or slip-lining, will be assessed during the remedial design process.

Maintenance and Monitoring

Comment #45: A commenter suggested that an independent monitor should be retained to confirm the effectiveness of the remedy once it is implemented. Additionally, a public information program should ensure that the results of this annual independent monitoring are promptly available for public review.

Response #45: The Town will monitor the effectiveness of the remedy under NYSDEC oversight. The monitoring will include site inspections and environmental sampling. NYSDEC will split a select number of samples with the Town to verify the sampling results.

Because the remedy will result in contaminants remaining on-Site above health-based levels, CERCLA requires that the Site be reviewed every five years. The purpose of five-year reviews is to ensure that implemented remedies protect public health and the

environment and that they function as intended by the site decision documents.

The monitoring reports and the five-year review reports will be placed in the document repositories.

Comment #46: A commenter suggested that long-term maintenance and monitoring provisions be provided for public review.

Response #46: A Site-specific operation and maintenance and environmental monitoring plan will be developed. This document will be placed in the document repositories so that the public will have the opportunity to review it.

Miscellaneous

Comment #47: A commenter asked if a cutoff wall built around the Site to isolate groundwater from the waste, as was done at the LCP Bridge Street sub-site, was considered.

Response #47: An upgradient cutoff wall was considered during the screening of alternatives during the FS, but was not considered further since it would alter groundwater flow gradients which could produce adverse effects on adjacent properties and the wetlands to the north of the Site, and potentially interfere with drainage of the New York State Thruway.

Comment #48: A commenter stated that the dump was closed previously and no additional actions were thought to be necessary. The commenter asked if the selected remedy will be the final action or if additional actions will be needed.

Response #48: Although a soil cover was placed on the landfills in 1982, it was not effective in controlling leachate outbreaks or reducing the generation of leachate in the landfills. Under the selected remedy leachate outbreaks will be eliminated and less leachate will be generated. In addition, leachate and contaminated groundwater will be intercepted and treated prior to discharge. The multimedia cap and the leachate/contaminated groundwater collection, treatment, and discharge system

represent permanent measures that will be maintained at regular intervals to ensure their structural and operational integrity.

Comment #49: A commenter asked what guarantees are there that the selected remedy will not need to be modified by new or changes to existing regulations.

Response #49: In general, a remedy selected at the time a ROD is issued will not need to be reopened or modified because of new or revised regulations or standards. However, since wastes will remain in place at the Site, CERCLA requires that the Site be reviewed every five years to ensure that the remedy remains protective of human health and the environment. During the course of these reviews, cleanup levels and standards applied when the ROD was issued will be reviewed to determine if they are still valid and protective. If they are not, then additional remedial measures to ensure that the remedy is protective may need to be considered.

Comment #50: A commenter asked what is the rate of the groundwater flow?

Response #50: Based on data collected during the RI, the groundwater flow velocity at the Site was estimated to be 0.95 feet per day.

Comment #51: A commenter asked when will the Site be fenced?

Response #51: At this point in time, it is not known when the fence will be erected at the Site. A schedule for all remedial activities will be developed during the remedial design phase.