FINAL REVISION

Draft Environmental Impact Statement

Amsterdam Materials Recycling Project
Edson Road
City of Amsterdam, Montgomery County, New York

Lead Agency:
Amsterdam Industrial Development Agency (AIDA)
Amsterdam City Hall
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February 20, 2007

Project Sponsor:

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MAIN TEXT

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

EXECUTIVE SUMMARY

I. Overview of the Proposed Action

This Draft Environmental Impact Statement (DEIS) has been prepared to assess the potential impacts associated with the proposed development of a construction and demolition (C&D) debris[1] material recycling and disposal facility on a 39.0 ± acre portion of the Edson Street Industrial Park owned by the Amsterdam Industrial Development Agency (AIDA), in the City of Amsterdam, Montgomery County, NY. AIDA intends to lease the property to Amsterdam Materials Recycling, LLC (AMR), who will operate and manage the facility.

The AIDA's industrial park is located north of NYS Route 5 and the Mohawk River, in the southeast corner of the City of Amsterdam, West of County Route 8 (Widow Susan Drive) and south and east of NYS Route 67. The project site is located in the southern portion of the industrial park, adjacent to and south of Sam Stratton Road. The project is currently a vegetated undeveloped parcel, the central portion of which is traversed by a 70-foot wide Niagara Mohawk overhead power line and high pressure natural gas transmission line easement.

The proposed action involves the following program elements:

- A C&D debris materials landfill cell will be located on the northwestern portion of the project and will comprise approximately 14 ± acres of the 39.0 ± acre project site. Bedrock will be excavated in the cell area to generate gravel needed for site development, to create adequate storage for the construction debris and to balance cut and fill materials on the site. The landfill will be constructed in accordance with NYS Department of Environmental Conservation 6 NYCRR Part 360 requirements. C&D wastes will be accepted from all sources, regardless of geographic location. To avoid handling non-conforming wastes, AMR will enforce a strict quality assurance program. The landfill will have a life of approximately 6 to 10 years.

- Approximately 6.4 acres of the southeastern portion of the project site will be used to construct and operate a material storage and recycling center. Operations to be performed at the recycling center will include materials recycling and sorting, to the extent necessary to separate recyclable materials from the C&D waste. Recyclable materials such as concrete, brick, metals and wood will be separated and temporarily stored on-site. Some level of crushing, compaction and wood chipping/grinding may be integrated with the recycling operation to render materials re-usable and shippable. The nature and extent of sorting and recycling operations will

[1] Construction and demolition debris consists of the waste generated during construction, renovation, and demolition projects and includes materials such as wood, concrete, steel, brick, and gypsum.

be driven by market conditions. However, AMR will endeavor to maximize the amount of recovered/recycled materials and minimize the quantities to be disposed in the landfill. When sufficient material quantities are accumulated, materials will be transported off-site to a re-use location or facility. The remainder of the construction debris, which is not recycled, will be placed into the landfill on the site.

The recycling center includes a 150-foot by 200-foot partially covered pad, for dumping, sorting and loading the incoming debris. Approximately one-half of the pad will be uncovered for dumping and initial segregation of the debris, with the other half under a roof for final sorting and loading. The remaining area is for processing of the recycled materials, such as by crushing concrete and chipping wood, and storage of the recycled materials in containers or stockpiles until pick up for off-site shipping

The recycling center is surrounded by a high berm. The purpose of the berm is two-fold. 1) The berm is a convenient location to hold soil from the landfill construction, the soil will be used at the end of the active life of the landfill for restoration; and 2) it provides substantial noise and visual buffer to surrounding land uses.

- The remaining portions of the site will be used for other project related activities including access roadways, stormwater management areas, greenspace buffer areas, (both existing[2] and proposed utilities), and berm areas.

- The entire 39-acre site will be surrounded by a security fence with a single gated entrance to ensure safety and security of operations. A second gated access will be provided for use in emergency situations only.

Upon completion of the project, the landfill will be capped in accordance with NYSDEC Part 360 requirements. Following closure, the closed landfill site will be monitored and maintained for a period of no less than 30 years in accordance with Part 360 to ensure the integrity of the cell. AMR will be solely responsible for maintaining the environmental and structural integrity of the closed landfill and the post-closure monitoring.

To facilitate the access to AMR's facilities, an access road will be constructed from NYS East Main Street to allow ingress and egress of transfer vehicles from the Route 5 Corridor.

The project will require the establishment of two at-grade crossings. A 60-foot wide railroad crossing will be required on the southern project area and a

[2] The Niagara Mohawk overhead power line transmission easement

crossing will be required across the existing Niagara Mohawk electric utility right-of-way which traverses the central site area. Appropriate agreements/permits will be obtained to establish these crossings.

The areas where the proposed C&D landfilling and recycling activities will occur are currently zoned light industrial (LI). Landfilling and other disposal operations are not permitted uses in the LI zone (or any other zone within the City). The proposed recycling operation and the associated storage activities are permitted uses in the LI zone since light processing uses and the associated storage facilities are permitted uses within the LI zone. Mining is also a permitted use in the LI zone. AMR will seek confirmation of this conclusion from City officials. The project will require a zoning change to permit the proposed landfilling activity and, depending, upon the interpretation of City zoning officials, may require a change to permit the recycling and associated storage activities as well.

This DEIS has examined the impacts of such a zoning change under the assumption that the change would take the form of the designation of a new zoning district in §250-5 of the zoning code. All provisions related to LI districts in the zoning code would be identical in the newly created district except that landfilling of C&D debris (and recycling and storage of C&D debris, if necessary) would be additional permitted uses. The amendment would not permit the landfilling of any other types of materials or wastes. Only the parcels in the project areas where these activities are occurring would be redesignated into the new zoning district. All environmental impact analysis has been conducted under this assumption.

AIDA will retain ownership of the project property and lease or sell these lands to AMR through the duration of the project. At the end of the operational phase, AIDA will take back full control of the lands, except that AMR will maintain the closed cell and sample wells during the post-closure monitoring period.

The project will be subject to one or more agreements between AIDA, the City of Amsterdam and AMR. The agreement(s) will encompass the leasing or sale of land from AIDA to AMR, the financing of the Project through AIDA tax-exempt bonds and a commitment by AMR to construct additional infrastructure in the industrial park. The agreement(s) will also provide host benefit compensation to AIDA, the City of Amsterdam, and residential neighbors of the project site.

II. Purpose, Need and Benefit of the Proposed Action

The project is intended to serve a number of needs.

- The project will provide disposal and recycling capacity for the C&D debris generated in the City of Amsterdam. Removal of C&D debris will be needed as part of the City's urban renewal effort.

- The proposed facility would help remedy a cost-competitive deficit in C&D debris management capacity in the eastern and central areas of New York
- State. Current tipping fee (January 2007) for C&D debris in the area of the project average $70-$80 per ton. Tipping fees at Seneca Meadows and High Acres Landfill are currently in the $28-$32 per ton range.

- The project will provide an unrestricted source of funding to the City of Amsterdam for other projects.

- The project will provide a number of site improvements in the industrial park that will benefit the community. These include:

  - Two new sites to support additional industrial/commercial development;

  - A new access road that will divert existing traffic off local streets;

  - A new parking area and/or community recreation area; and,

  - Improved site drainage and storm water controls.

- The project will provide a vehicle for remediating historic damage done to the federal wetlands in the industrial park.

- The project will remove and dispose of soils that were contaminated from materials generated at the Ward Products site.

- The project will provide temporary jobs during the construction period and permanent jobs during the operating phase.

III. Permits and Approvals

Permits and approvals that are required from involved agencies for construction and operation of the proposed project include:

- City of Amsterdam: zoning amendment, subdivision approval, site plan review, special use permit (possible), curb cut permit for access to East Main Street. Agreement to deliver leachate to City Wastewater Treatment Plant.

- Amsterdam Industrial Development Agency (AIDA): land acquisition and associated contracts.

- NYSDEC: Permit to Construct, 6 NYCRR Part 360 and variance from Part 360-7.3(b)(5) (separation from groundwater rule); SPDES General

Stormwater Permit for Construction and for Industrial Activities; Section 401 Water Quality Certification (6 NYCRR 608.9); Mined Land Reclamation Permit, 6 NYCRR Part 421.

In addition, the project will require permits and approvals an advisory opinion from the following interested agencies:

- Montgomery County Planning Department: General Municipal Law Section 239-M Advisory Review

Although not subject to SEQRA, the proposed project may also require the following federal approvals and/or private agreements:

- CSX Transportation Inc.: Private Road Crossing Agreement
- Niagara Mohawk: Utility right-of-way crossing permit
- United States Army Corps of Engineers (USACOE): Disturbance of jurisdictional wetland areas exceeding one-tenth of an acre will require approval.

IV. SEQR Process

This DEIS has been prepared pursuant to the State Environmental Quality Review Act (SEQR) Article 8 of the New York Environmental Conservation Law and the regulations promulgated under 6 NYCRR Part 617. The goal of the DEIS is to provide the means for the public, involved and interested agencies, and other interested groups to review and comment on the proposed action and provide a sound basis for informed decision-making.

The document identifies the affected resources by topic area, analyzes the proposed action against the existing conditions and determines the relevant beneficial and adverse effects associated with the proposed action. The environmental effects analyzed are both direct effects (those caused by the proposed action and occurring at the same time and place) and indirect effects (those caused by the proposed redevelopment but occurring later in time or farther removed in geographical distance from the site but still reasonably foreseeable). Where reasonable and applicable, measures to avoid, minimize, or mitigate potentially significant adverse effects are presented. In accordance with SEQR requirements, the content of DEIS is based on a Scoping Document prepared by the lead agency and has been prepared to identify and evaluate potentially adverse and beneficial environmental impacts of the proposed action as well as identify mitigation measures and reasonable alternative to the proposed action.

An earlier version of this DEIS was accepted by the lead agency, AIDA, as complete for public review on December 22, 2003. AIDA established a public review period that included a public hearing. As a result of the comments received, AIDA requested AMR to review the comments to determine which warranted changes or clarifications to the DEIS. AMR then resubmitted the revised DEIS for AIDA's review.

Pursuant to SEQR regulations (6 NYCRR 617.12), a public review and comment period will followed the lead agency's acceptance of this revised DEIS. A Final Environmental Impact Statement (FEIS) will then be developed and will incorporate comments and responses received on the DEIS.

V. Potential Environmental Impacts and Mitigation Measures

Potentially adverse environmental impacts associated with the project will be avoided or appropriately mitigated such that they do not constitute a significant adverse impact. Potential impacts and mitigation measures identified and evaluated in this DEIS include:

(a) Topography and Slope

The proposed project will involve extensive grading and alteration of surface topography. The proposed project involves clearing of forested and vegetated areas, particularly in the eastern and western portions of the site. Development of the landfill will alter existing topography during construction and operation and present the potential for soil erosion.

Site grading and surface alterations present concerns for soil erosion. Erosion and sediment control measures will be implemented during construction to limit erosion and will be maintained during landfill operation and post-closure to mitigate these impacts.

(b) Soils and Geology

Potential impact to soils relate to grading and construction activities for the preparation of the landfill, staging areas, recycling facility, new roads and utilities. Surficial soils will be affected by extensive excavation and grading activities performed as part of the proposed project. Native soils will be excavated and stockpiled on the project site and may be used as fill in certain areas of the site. Anticipated impacts to soils and surficial geology from the proposed project include the potential for erosion and the generation of fugitive dust.

Impacts to soils and geology will be mitigated through implementation of erosion and dust control measures during construction, landfill operation and post-closure.

Construction activities are expected to generate approximately 169,000 cubic yards of excessive cut material. Excess cut materials generated from construction activities will be transported off-site. The transportation of excess material from the site during construction will result in an increase in truck activity during that period. The transportation of excess cut materials is a short-term activity related which will occur during a short period during the construction phase and is considered to be an unavoidable, temporary adverse impact.

(c) Hydrogeology

Operation of a C&D landfill and materials recycling facility presents the potential for adverse impacts to groundwater quality from waste disposal and/or leachate contamination. Additionally the potential exists for impacted groundwater to migrate off-site.

To prevent leachate releases, the landfill will be lined with a state-of-the-art composite liner system consisting of low permeability clay soil, manufactured geosynthetic clay liner and a geosynthetic membrane liner. Leachate accumulating above the liner will be collected and discharged to the municipal sewer system for off-site treatment. In accordance with 6 NYCRR Part 360, groundwater monitoring wells have been installed around the project site to detect any potential groundwater contamination related to leachate releases that might bypass the liner. As required by law, groundwater will be monitored throughout the active life of the landfill and for a minimum 30-year period following closure of the landfill. If leachate were to escape the liner system, the following natural and engineered site conditions will be in-place to minimize potential adverse groundwater impacts:

- The liner system will be underlain by 10 feet of low-permeability compacted clay soils to serve as an added barrier separating the landfill from the bedrock groundwater;

- A pore-pressure relief system will be installed within the bedrock separation layer. The pore-pressure relief system is intended to drain natural groundwater away from the liner system. The quality of this groundwater drainage will be monitored as part of the groundwater quality monitoring program and will serve as an early warning system for leachate migration through the liner system;

- The natural site geology beneath and adjacent to the landfill liner consists of low permeability overburden soil materials overlying low permeability bedrock; and,

- Potentially downgradient properties which could be impacted by offsite leachate migration are served by a public water supply, so although not all

downgradient properties currently use their public water supply connection, access to public water is available to all potentially impacted sites.

The Ward Products Facility (NYSDEC Site Code 429904) is located at 61 Edson Street, approximately 0.4-miles north of and apparently topographically upgradient of the project site. Since 1957 the Ward Products site was used for the manufacture and assembly of automobile antennas. Until 1973, electroplating sludges and process wastewater that were generated during manufacturing were reportedly discharged to an open ditch located on the Ward Products property and allowed to infiltrate into the ground or evaporate. Between 1973 and 1985, successive process improvements were made to reduce and eventually eliminate contaminant discharges. Metal plating operations reportedly ceased in 1985.

The Ward Products Corporation has a groundwater plume of trichloroethene (TCE, an industrial solvent), which extends approximately 350-feet southwestward from the Ward facility, in the general direction of the AMR site. Recent sampling data collected on the Ward Products site has demonstrated that the plume has stabilized and has not migrated further southward. Currently the site is under an Order on Consent to develop and implement a remedial investigation and feasibly study. The current property owner has and will continue to perform Interim Remedial Measures (IRMs) to address contamination on the Ward Products facility.

As summarized in a letter dated January 5, 2005 from Normandeau Associates, Inc., consultants for the Ward Products Facility, the NYSDEC has agreed that the extent of contaminant plume has been delineated, with the contaminants of concern (chromium and volatile organic compounds) attenuating to concentrations below the NYSDEC standards upgradient of the AMR wells.

The site is not located within a FEMA flood zone. Potential impacts to surface water resources associated with the proposed action could occur as a result of placement of fill or other disturbance of a waterway and deposition of sediment associated with construction activities. Additionally, the proposed action has the potential to adversely impact surface water resource from the migration of landfill leachate and/or contaminated stormwater runoff to surface water bodies.

The project will minimize potential impacts on surface waters by limiting the degree of work performed within or adjacent to surface water resources and by implementing best management practices for stormwater management and erosion control during construction activities. Specific control plans for the management of leachate and stormwater have been developed and will be implemented to control these potential impacts. In addition, stormwater controls that comply with the General SPDES Permit for Industrial Activities will be employed to manage site drainage during the active period of the landfill and recycling facilities.

Stormwater management implemented as part of the proposed project will positively impact the City of Amsterdam's existing drainage on the southern portion of the industrial park where managing existing stormwater flows has been problematic. The proposed project involves the maintenance of existing drainage culverts and the construction of new stormwater retention basins throughout the proposed facility. The upgraded stormwater management system will collect and control stormwater flows to improve existing drainage patterns, effectively manage stormwater run-off from the proposed development, and continue the conveyance of upland watershed run-off without adversely altering downstream conditions.

A leachate collection and management system will be implemented to collect, and store leachate generated on the project site. All leachate generated at the site will be conveyed to on-site storage tanks and discharged to the municipal sewer for treatment at the City of Amsterdam's Publicly Owned Treatment Works (POTW).

(d) Wetlands

No NYSDEC Regulated Wetlands are present on the project site. A wetland delineation performed by The Chazen Companies in May 2003 confirmed that Federally Regulated Wetlands on the site are generally confined to three narrow, intermittent stream corridors. The total area of these wetlands is 2.575 acres, however only 1.9 wetland acres are located on the project site.

The proposed project will involve the filling of some wetland areas. The proposed project has minimized adverse impacts to the maximum extent practicable; however it does result in wetland impacts to approximately 1.8 acres of low quality ravine habitat. Chazen's evaluation indicates the function and value of these the impacted wetlands is related to the management of stormwater flows and minimization of soil erosion. The limited functions and values of these areas will be replaced through the comprehensive stormwater management plan to be implemented during construction, operation and post-closure care phases of the project site. The upgraded stormwater management system on the site, consisting of detention basins, drainage swales, culverts and buried conduits, will continue to convey flows at all three stream outlets along the southern portion of the site in a flow rate and volume similar to the pre-existing conditions. Therefore, the downstream ravines, which are already significantly degraded and channelized, will not be adversely impacted by this project.

Potential impacts to wetlands will be mitigated off-site, either through off-site creation, enhancement or preservation. Off-site wetland mitigation would provide additional flexibility in mitigation design, and allows for wetlands to be potentially established in an area closer to the Mohawk River, where greater public and environmental benefits could be produced. Any off-site mitigation will be subject to the review and approval of the US Army Corps of Engineers.

(e) Flora and Fauna

Project construction and operation will result in the disturbance of site vegetation. The vegetative community types to be impacted under the proposed action include successional northern hardwoods, red maple hardwood and shrub. These species have global and statewide rankings of G5/S5 and G5/S4 which indicate that they are demonstrably (rank 5) and apparently (rank 4) secure in New York State and throughout its range. Given that the communities on the project site are considered to be common types which are not classified as rare or threatened, the impacts to habitat communities are expected to be minor.

Wildlife will be displaced during site construction and may be gradually displaced from undeveloped portions of the property. Some habitat will be permanently lost due to the site construction and site development. Sufficient and comparable wildlife habitats exist on the project site for habitat re-establishment once construction is complete. The habitat within the project area is not unique and fauna which utilized the site habitat will have comparable habitat in the general site area. No critical environmental areas are located on the project site or within the project area. Given these conditions, the proposed project is not anticipated to have any significant impacts to flora and fauna and will not impact critical environmental areas

(f) Air Resources

The proposed project is anticipated to result in temporary air quality impacts during construction activities, primarily from the release of combustion emissions (primarily CO, CO_2, nitrogen oxides and volatile organic compounds) from construction equipment. Additionally site excavation and grading and the handling and crushing of recycled concrete will likely result in the generation of dust (particulates). Construction equipment will be temporarily operated on the site and all equipment will be maintained and operated in a manner which reduces ambient emissions. Therefore, the operation of construction equipment on the site property is short term and is not expected to result in significant air quality impacts.

It is anticipated that much of the fugitive dust generated by construction activities will consist of larger particulate matter, which would be expected to settle-out within a short distance from the construction area. Dust control measures will be implemented on the site to reduce the emission of fugitive dusts on the project site. Additionally, the preservation of a natural vegetative buffer surrounding the project site will help to contain fugitive dusts generated during construction and prevent the off-site migration of fugitive dusts.

Landfill gases will be managed in a manner which is protective of the health and safety of landfill operators/facility personnel, site occupants and the surrounding community. Landfill gases will be managed and minimized through the use of a

daily cover material within the landfill cell, collection and management of landfill leachate, and through the implementation and maintenance of a post-closure landfill gas control system. Landfill gas generation and migration will be assessed throughout the operational period, and in accordance with Part 360, will continue to be assessed during the 30-year post-closure period.

(g) *Cultural Resources*

Phase IA and IB Cultural Resource Surveys conducted by Landmark Archeology Inc. confirmed that no State or National Register of Historic Places historic sites and no archaeological resources were located on-site. Based on the findings of the Phase I archeological survey, the proposed project will have no effect on archeological resources. Therefore no mitigation measures are considered necessary.

(h) *Land Use*

Potential impacts to nearby land use include changes to the visual character of the site, drainage and groundwater impacts and impacts from site operations (i.e. visual character, noise, landfill gas odors). These potential impacts and mitigation measures are described separately as Sections g, k and l.

(i) *Planning and Zoning*

Proposed use of the site as a C&D landfill and materials recycling facility is not a permitted use under existing zoning laws and will require an amendment to the existing zoning laws. However, the proposed use is limited in time and would serve as a means to many of the goals articulated in the recently adopted comprehensive plan. These goals include:

a. Providing an economic mechanism to address the demolition costs related to tax delinquent parcels that must precede redevelopment.

b. Control rising tax rates that have been a cause of urban flight.

c. Provide a source of public moneys to stimulate private investment in the City.

d. Allow for a further buildout of the Edson Street Industrial Park.

e. Provide an alternative access road to the Industrial Park that avoids taking traffic through local streets.

As part of the City of Amsterdam's comprehensive planning and initiative to enhance and develop the Edson Street Industrial Park, the City recognizes that zoning and other regulations need to be carefully reviewed to ensure that desired types and forms of development are clearly articulated.

(j) *Visual Character*

The Visual Impact Analysis concluded that the proposed project will not result in a significant adverse visual impact, either during operational or post-closure phases. Although no significant adverse visual impacts are anticipated, visual screening will be used, as needed, along the property line to minimize any visual impact.

(k) *Noise*

The proposed project is anticipated to generate noise during the construction phase from the operation of construction equipment and passing trucks and during operations from truck traffic and waste processing equipment (i.e. landfill compactor, concrete crusher, and wood grinder).

Several receptors along the property lines have the potential to be impacted by noise associated with the project. A noise evaluation study indicated the construction and operation of the site will be in conformance with the NYSDEC's Regulations (6 NYCRR Part 360) and Noise Policy on Assessing and Mitigating Noise Impacts (DEP-00-01). Noise generated on the project site during the construction and operational phases of the project will be mitigated through traffic noise barriers, isolation berms, limited hours of operation, and the use of high performance mufflers and brakes in all trucks.

(l) *Lighting*

No lighting currently exists on the project site; however lighting is utilized on the northerly adjoining developed portions of the industrial park.

It is anticipated that construction activities will be limited to daytime operations. Additionally vegetative screening located along the southern portion of the site will buffer the views for nearby residences. Facility design, hours of operation and vegetative screening will serve to minimize the effect of lighting and therefore lighting is not expected to present a significant adverse impact.

(m) *Vibration*

Developed properties are greater than 10-feet from the proposed operational areas of the project site where vibration-inducing equipment may be used and are greater than 10-feet from proposed haul roads. Given the proximity of developed properties with respect to the project site and the location of areas where vibration-inducing equipment may be used, vibration potentially produced on the project site from equipment use and truck movement is not anticipated to present an architectural damage impact to nearby structures.

If blasting is performed during the construction phase, the potential for nearby residences to experience vibratory effects from blasting operations exists. Prior to any blasting, a structural integrity survey will be performed at nearby residences. The survey will include a structural evaluation of residences to establish baseline conditions (i.e. cracks etc.) prior to blasting activities.

(n) Traffic

The potential traffic impacts were analyzed by Creighton Manning Engineering, LLP (CME) by evaluating traffic volumes, trip generation, trip distribution and trip assignment at six study intersections for the full-build out, no-build and build scenarios. Potential traffic impacts were examined by evaluating existing traffic conditions in the project area, projecting future traffic volumes, adding peak hour trip generation of the site and comparing the operating conditions of the study area after completion of the project. The traffic analysis determined that approaches to the study intersections currently operate at good levels of service and are expected to continue to operate at good levels of service through the no-build and build conditions. The CME Traffic Impact Study identified the following conditions relative to truck access on existing roadways:

- Steep grades on Widow Susan Road and Truax Road currently make it difficult for trucks to stop at intersections.
- The southbound approach of Widow Susan Road requires the radius to be increased to accommodate right-turning trucks.
- Chapman Drive is in poor condition and appears to require extensive work to accommodate trucks. Montgomery County has plans to repave Chapman Drive from the Amsterdam City Line to Truax Road. (This work appears to have been completed after the traffic study was completed). The scope of work planned will not increase the structural integrity of the road to accommodate the truck traffic anticipated at the site.
- Trucks traveling from the east on NYS Route 5 West cannot navigate the right turn from NYS Route 5 West to East Main Street.

To mitigate the potential impact on these local roads and avoid likely improvements needed to accommodate truck traffic, it is proposed to establish a designated truck route to the site. Level of service calculations indicate that there is sufficient capacity at the intersections of NYS Route 5 /Main Street/Park Drive and NYS Route 5 West/East Main Street to accommodate the additional 8 truck-trips/hour (72 truck-trips per day, 36 trucks per day,) anticipated for the proposed project. (Note: A truck trip is defined as a truck entering or exiting the

facility. One truck results in two truck-trips: one for entering and one for exiting the facility.) To mitigate the truck access issues identified on NYS Route 5 West the following alternate westbound truck routes were proposed by CME:

- From the West: trucks should travel through the City of Amsterdam on NYS Route 5 East and access the site from East Main Street
- From Saratoga County: trucks should travel along NYS Route 29 to the junction with NYS Route 30 and finally to NYS Route 5 East and into the site from East Main Street
- From the East: trucks should travel to the City of Amsterdam on Interstate 90 via Exit 27. Access to the site is from East Main Street via NYS Route 30 North to NYS Route 5 East.

(o) *Water Supply*

The proposed project will require a minimal use of potable water for the 15 full-time employees who are anticipated to the work on-site in the trailer/office. It is estimated that the project will require the usage of approximately 180 gallons of water per day over a 6 to 10 year period. In addition, fire hydrants will be installed along the landfill perimeter road near Sam Stratton Drive and near the recycling center as a source of water for fire protection. The proposed project will require connection to the existing 8-inch potable water line which extends south off Sam Stratton Drive terminating near the entrance to the recycling center, and extension of the 12" potable water line at the cul-de-sac of Sam Stratton Drive.

The existing water service is anticipated to adequately service the proposed project. The proposed project will require connection to the existing municipal water main however, no adverse impacts to potable water supply are anticipated and no mitigation measures have been identified.

(p) *Sewage and Stormwater Disposal*

Sanitary wastewater is anticipated to be generated in minimal quantities by the 15 full-time employees who are anticipated to the work on-site in the trailer/office. It is estimated that the project will generate 180 gallons of sanitary wastewater per day over a 6 to 10 year period. The proposed action will require connection to the existing municipal system which is anticipated to handle site sanitary wastewater discharge.

The sewer service is anticipated to adequately service the proposed project with respect to sanitary wastewater. Therefore no adverse impacts to sewer utilities are anticipated and therefore no mitigation measures have been identified.

Stormwater will be managed on the project site through the use of culverts, drains and retention basins. Stormwater runoff from the property will discharge to existing drainage culverts and adjacent surface waters and ultimately to the Mohawk River. Stormwater which comes into contact with the waste mass will be treated as leachate and disposed of at the City's wastewater treatment plant.

(q) *Private Utilities*

Electric service is currently present on the project site and is provided by Niagara Mohawk. A 69-kV overhead electric transmission line traverses the project site from north to south. Niagara Mohawk provides natural gas service to the project site via a high-pressure gas line which parallels the overhead electric power line.

The proposed project will require a minimal use of electricity for lighting in the work trailer/office and for general facility lighting. No natural gas is proposed to be utilized on the project site. Site utility use will be from service connections in the park and not from transmission lines and high-pressure gas mains. The existing electric service is anticipated to adequately service the proposed project. Therefore no adverse impacts to electric utilities are anticipated.

(r) *Community Services*

Information provided by local community service organizations, including the local fire department, police department and emergency medical service organizations stated that the proposed project will not have deleterious impacts on these organizations' ability to service the project area and community.

There are no educational facilities on or adjacent to the project site and therefore construction activities and subsequent facility operations are not expected to adversely impact local educational facilities. Educational facilities in the project area will benefit financially from the project through increased assessed valuations and increased tax revenues.

(s) *Fiscal Conditions*

Construction and operation of the proposed project is anticipated to substantially increase the assessed value of the project property, thus generating additional tax revenues for the City of Amsterdam, Montgomery County and the Greater Amsterdam Central School District. Although the facility would be located on tax-exempt land, AMR would enter into an agreement make payments in lieu of taxes (PILOT).

The economic impacts of construction projects are anticipated to stimulate the local economy through construction-related expenditures for services, and materials, and other goods related to the construction industry. Operation of the project is anticipated to create approximately 15 full and part-time employment positions. The creation of jobs is anticipated to stimulate the local economy as these individuals are anticipated to buy goods and services in the City of Amsterdam. In additional to these primary economic benefits, the City of Amsterdam and local community is anticipated to benefit from indirect project-related measures, including improved roads and access to the industrial park. The proposed project is considered to be a beneficial action for the City of Amsterdam. The project is offering a host benefit to the City of Amsterdam AIDA. Given the estimated capacity of the facility, the project will result in an estimated 15 to 20 million dollars in revenue to the City of Amsterdam.

Given these conditions the proposed project is anticipated to positively impact the local economy through increased revenues from property and school taxes, host benefit fee from project operation, creation of new jobs and improvement of services.

VI. Alternatives Analysis

The no-action alternative represents the environmental conditions if current land use and activities were continued into the future and assumes that the project site would remain undeveloped land within the industrial park.

Under the current zoning classifications, a significant amount of development could occur on and around the project site including light industrial operations, industrial warehousing, research and development, multi-tenant commercial facilities and general office space. To reach this zoned potential, the site would need to be re-graded or filled resulting in much the same change as is proposed by this project. However, the site for the proposed facility is in a deep ravine and grading is estimated to cost approximately $350,000 per acre. Given the prevailing cost of commercial property in this area, this cost would make development infeasible.

Layout and design of the proposed project is dependent on the nature of the project itself, and is guided by conditions related to the landfill cell, recycling center and associated management areas (i.e. stormwater management area, green space etc.). Given these considerations, alternative development plans were evaluated. Alternate development plans including a smaller facility and a larger facility were evaluated in this DEIS. Re-design of the proposed project to include a smaller operation is not feasible. Given the need of a C&D debris material disposal facility and the anticipated quantity of C&D to be generated by the City, a smaller landfill cell would not support these actions. Given the nature of the project and the resultant design considerations, the existing facility design is considered to be the minimal size which can support the proposed action.

While a larger facility can be designed, the existing project site cannot accommodate such a facility. The existing project lands are the only lands under the control of the sponsor that can accommodate the proposed project. A search was conducted for all parcels of land with a minimum of 28 acres which could support the project. Based on this screening; no alternate properties in the City of Amsterdam were found that would meet the minimum requirements for the project.

1.0 INTRODUCTION

1.1 Purpose and Process of the DEIS

This section will describe the SEQR process as it relates to this project as well as the specific purpose of the DEIS.

1.1.1 Purpose of the DEIS

This Final Environmental Impact Statement (DEIS) has been prepared to assess the potential significant impacts associated with the construction and operation of a 14 ± acre construction and demolition (C&D) waste materials landfill cell and recycling facility on a 39.0 ± acre undeveloped portion of the Edson Street Industrial Park located in the City of Amsterdam, Montgomery County, New York.

1.1.2 DEIS Process

The Amsterdam Industrial Development Agency (AIDA) declared its intent to be the lead agency under SEQR on May 14, 2003 and was designated as the SEQR Lead Agency for the environmental review of the proposed action on August 14, 2003. Based on information contained in the Environmental Assessment Form (EAF), and in accordance with 6NYCRR Section 617.12, AIDA issued a Positive Declaration on August 14, 2003 indicating that the proposed action may result in a significant adverse impact. As a result of the Positive Declaration AIDA required preparation of a Draft Environmental Impact Statement (DEIS).

A Draft Scoping Document was prepared to provide an opportunity for public participation and comment in the SEQR process; focus the DEIS on the potentially significant adverse environmental impacts; eliminate non-significant and non-relevant issues; identify the extent and quality of information needed; identify the range of reasonable alternatives to be discussed; and provide an initial identification of mitigation measures. The Draft Scoping document was distributed to interested and involved agencies, interested and involved parties and other stakeholders including the City of Amsterdam, and the Town of Amsterdam. Public comments on the Draft Scoping Document were received during a public scoping session held on August 27, 2003 and were also received through the public comment period which closed on October 15, 2003. Pursuant to the SEQR regulations, a Final Scoping Document which incorporated public comment was prepared and served to provide the outline for this DEIS.

In accordance with SEQR requirements, the content of this DEIS is based on the Scoping Document and has been prepared to identify and evaluate potentially significant adverse and beneficial environmental impacts of the proposed action as well as identify mitigation measures and reasonable alternatives to the proposed action. In accordance with SEQR regulation, on December 22, 2003,

AIDA declared the DEIS acceptable for public review and comment and filed a Notice of Completion of Draft Environmental Impact Statement on December 29, 2003. Pursuant to SEQR regulations (6 NYCRR 617.12), the Lead Agency established a comment period extending to the close of business on Friday, February 13, 2004 and scheduled a public hearing to be held on January 21, 2004. Since substantial revisions to the original DEIS were required, the Lead Agency required the project sponsor to prepare a revised DEIS. The completeness determination of the Lead Agency was published in the Environmental Notice Bulletin on June 1, 2006, and a second public comment period closed on August 4, 2006.

The Final Environmental Impact Statement (FEIS) will then be developed and will incorporate comments and responses received on the DEIS. After the FEIS is adopted, the Lead and Involved Agencies will issue Finding Statements setting forth their conclusions with respect to the project.

As required by Article 8 of the New York Environmental Conservation Law and the regulations promulgated under 6 NYCRR Part 617, the required elements of a Final Environmental Impact Statement are provided in 6NYCRR Part 617.9(b)(8) as follows:

> (8) A final EIS must consist of: the draft EIS, including any revisions or supplements to it; copies or a summary of the substantive comments received and their source (whether or not the comments were received in the context of a hearing); and the lead agency's responses to all substantive comments. The draft EIS may be directly incorporated into the final EIS or may be incorporated by reference. The lead agency is responsible for the adequacy and accuracy of the final EIS, regardless of who prepares it. All revisions and supplements to the draft EIS must be specifically indicated and identified as such in the final EIS.

1.2 Project Purpose and Need

This section identifies the background and purpose for the proposed action, including the project sponsor's objectives and includes discussion of associated social, economic and other benefits.

1.2.1 Project Purpose

The purpose of the proposed action as undertaken by Amsterdam Materials Recycling, LLC (AMR) is to develop a construction and demolition (C&D) debris materials recycling and disposal facility within the existing Edson Street Industrial Park parcel. C&D debris consists of uncontaminated waste generated during construction, remodeling repair, and demolition projects and includes materials such as wood, concrete, steel, brick, and gypsum. The remaining project area

will be used for material storage, recycling and other project related activities. The C&D landfill will be constructed and operated on an approximate 14-acre portion of the existing 39.0-acre Edson Street Industrial Park. The remaining 25-acre area will be used for material storage, recycling and other project related activities.

The project will employ strict quality control measures to ensure that only uncontaminated C&D materials are accepted at the facility. If transporters deliver non-conforming materials their loads will be rejected and they may be barred from future deliveries to the facility. It is the project sponsor's intent to recycle all C&D materials whenever it is economically feasible to do so. In addition, an on-site monitor who will report to AIDA and /or the City of Amsterdam will be present whenever the site is operating.

1.2.2 Project Need and Benefit

The proposed facility exclusively would manage construction and demolition (C&D) debris. It would do so through a combination of disposal and recycling methods. The disposal component is projected to have a capacity of approximately one million tons. The facility is projected to receive about 200,000 tons per year. Depending upon how much of that amount is recycled, the useful life of the landfill likely will be anywhere from 6 to 10 years.

The facility is planned to be state-of-the-art with a leachate collection system and a sophisticated liner system. The proposed liner system is comprised of a compacted clay layer, a geosynthetic clay liner, and a geosynthetic membrane liner. This composite liner system is also combined with a ten-foot layer of low-permeable recompacted clay. Even if leachate were to escape the leachate collection system and the triple-layer composite liner system, it would still have to pass through the 10 feet of recompacted clay to escape into the uncontrolled environment. NYSDEC is unaware of any facility built to these standards that has failed.

In addition to impeding the advancement of the leachate, the clay barriers (12 feet total thickness) act as a filter, removing and retaining contaminants. Thus, in the highly unlikely event that any leachate was to escape into the free environment, it would almost certainly have been stripped of most if not all contaminants.

C&D debris consists predominantly of household items like brick, wood and concrete that has little potential to pollute. It is, for the most part, not putrescible and unlike, food wastes, does not decay leaving harmful bacteria and byproducts behind. Reflecting these facts, the NYSDEC did not even consider it necessary to regulate C&D landfills until the late 1980s. At that time, the more stringent regulation of hazardous waste and municipal waste landfills was encouraging the

illegal disposal of chemical wastes and garbage in unregulated C&D debris sites. In essence, the state began regulating C&D debris disposal not because of its inherent risks but rather because of the concern that other materials were being "cocktailed" in with the legitimate C&D debris.

Therefore, it is obvious that a principal concern for C&D facilities is the commingling of non-C&D wastes. The proposed facility will exceed regulatory requirements by providing an exceptional degree of quality control over input, ensuring that only C&D debris reaches the landfill. All delivered materials will be placed on a concrete pad for inspection. Only after inspection will qualifying C&D be loaded on trucks operated by AMR employees for delivery to the landfill cell. Only AMR trucks will be permitted entry to the landfill area.

The recycling facility would be used to handle all C&D debris for which recycling is economically feasible. This component of the facility has an unlimited useful life, as its capacity is never consumed. It has the potential to extend the capacity of the disposal facility by diverting recycled materials to more useful outlets.

The facility would be what is commonly referred to as a "merchant facility," i.e. one not intended to serve the needs of any particular political subdivision or geographic area but rather one that would accept conforming materials from all locations.

The facility will be privately owned and located on lands in the Edson Street Industrial Park, managed by AIDA. Much of the land for the facility will be leased from AIDA.

The project is intended to serve a number of needs.

1. The project will provide disposal and recycling capacity for the C&D debris generated in the City of Amsterdam. Removal of C&D debris will be needed as part of the City's urban renewal effort.

The proposed facility would help remedy a cost-competitive deficit in C&D debris management capacity in the eastern and central areas of New York State. Current tipping fee (January 2007) for C&D debris in the area of the project average $70-$80 per ton. Tipping fees at Seneca Meadows and High Acres Landfills located approximately 250 miles west of the proposed facility, are currently in the $28-$32 per ton range.

3. The project will provide an unrestricted source of funding to the City of Amsterdam for other projects.

4. The project will provide a number of site improvements in the industrial park that will benefit the community. These include:

    a. Two new sites to support additional industrial/commercial development;

    b. A new access road that will divert existing traffic off local streets;

    c. A new parking area and/or community recreation area; and,

    d. Improved site drainage and storm water controls.

5. The project will provide a vehicle for remediating historic damage done to the federal wetlands in the industrial park.

6. The project will remove and dispose of soils that were contaminated from materials generated at the Ward Products site.

7. The project will provide temporary jobs during the construction period and permanent jobs during the operating phase.

Each of these needs and benefits of the project is discussed in greater detail below.

Increased Disposal Capacity for the City of Amsterdam

The project will provide disposal and recycling capacity for the C&D materials generated in the City of Amsterdam. Removal of C&D materials will be needed as part of the City's urban renewal effort.

As part of its Comprehensive Plan, the City of Amsterdam has identified the need to re-develop old mill sites (See Comprehensive Plan at page III-4 and IV-32). The redevelopment is likely to generate substantial amounts of C&D debris.[3]

The Plan also recognizes the impediments that large numbers of tax delinquent residential properties create to the community's revitalization (See Comprehensive Plan at page IV-29-30). As part of this effort, extensive building demolition and renovation is likely for properties in major disrepair and under-utilized properties throughout the City.

[3] In the case of Mohasco, the C&D debris is to be disposed on on-site in an unlined facility.

The City of Amsterdam currently has a significant residences and numerous old factories that are abandoned and/or in disrepair. Most of these residential or commercial properties have not paid property taxes in many years, shifting their burden to those who remain. [4]

The proposed facility would provide more than enough capacity for any C&D generated in the course of redeveloping industrial or residential sites. It would provide this capacity at very economical rates for the City because the cost of transporting the debris virtually would be eliminated.

The overall cost of C&D management services is heavily reliant on transportation costs. Since the proposed facility would be so close to the demolition activities in the City, the overall cost of C&D debris management services would reflect that advantage. The total cost for handling C&D debris at the proposed AMR facility would be around $45/ton. By contrast, delivery of the same materials to a MOSA transfer station costs $85/ton and that figure does not include the cost of transportation from the site of generation to the transfer station.

In addition to these economic benefits, there are environmental benefits. The closer C&D can be managed to its source of generation, the lesser the impacts of transporting the C&D (e.g. air pollution, safety concerns).

Increased Disposal Capacity for Service Area

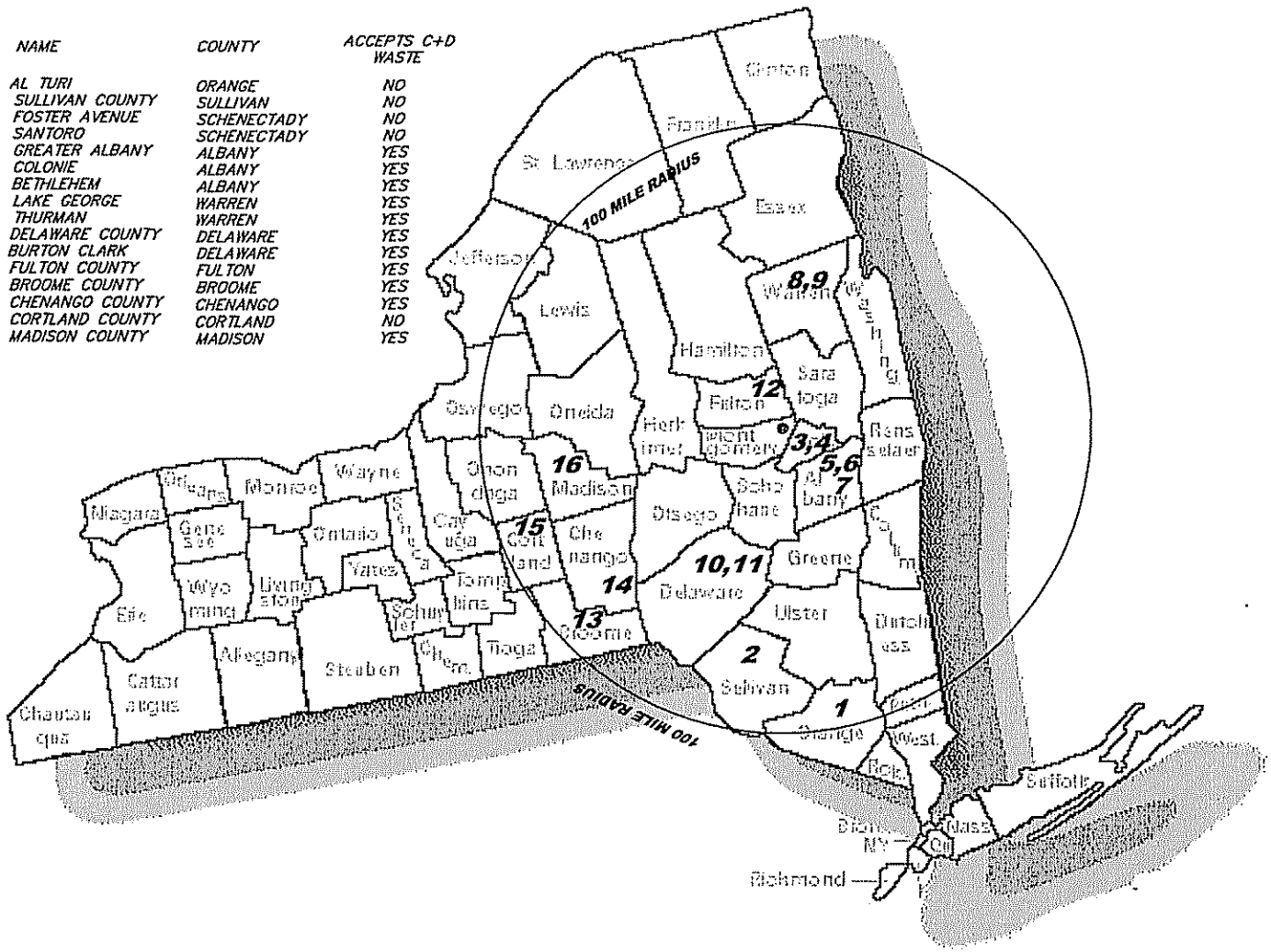
The proposed facility would help remedy a cost-competitive deficit in C&D debris management capacity in the eastern and central areas of New York State. Current tipping fee (January 2007) for C&D debris in the area of the project average $70-$80 per ton. Tipping fees at Seneca Meadows and High Acres Landfills, located approximately 250 miles west of the proposed facility, are currently in the $28-$32 per ton range.

In addition to providing needed capacity to manage C&D debris generated in the City of Amsterdam, the proposed facility would also provide needed capacity for many of the surrounding communities in the eastern and central part of upstate New York.

Currently, there are no C&D debris landfills in Montgomery County. Table 1-1 and Figure 1.1 illustrate the permitted landfills (MSW landfills and C&D landfills over 3-acres in size) accepting C&D debris within a 100-mile radius of the proposed site As shown, many of these facilities are excluding C&D debris or are limiting the geographic areas from which C&D debris will be accepted.

[4] This information is based on conversations with the City Assessor's Office.

	NAME	COUNTY	ACCEPTS C+D WASTE
1.	AL TURI	ORANGE	NO
2.	SULLIVAN COUNTY	SULLIVAN	NO
3.	FOSTER AVENUE	SCHENECTADY	NO
4.	SANTORO	SCHENECTADY	NO
5.	GREATER ALBANY	ALBANY	YES
6.	COLONIE	ALBANY	YES
7.	BETHLEHEM	ALBANY	YES
8.	LAKE GEORGE	WARREN	YES
9.	THURMAN	WARREN	YES
10.	DELAWARE COUNTY	DELAWARE	YES
11.	BURTON CLARK	DELAWARE	YES
12.	FULTON COUNTY	FULTON	YES
13.	BROOME COUNTY	BROOME	YES
14.	CHENANGO COUNTY	CHENANGO	YES
15.	CORTLAND COUNTY	CORTLAND	NO
16.	MADISON COUNTY	MADISON	YES



CRESCENT ENVIRONMENTAL

CRESCENT ENVIRONMENTAL ENGINEERING, P.C
301 NOTT STREET
SCHENECTADY, NY 12305

AMSTERDAM MATERIALS RECYCLING, LLC

FIGURE 1.1
NEW YORK STATE LANDFILLS WITHIN A 100-MILE RADIUS

TOWN OF AMSTERDAMN, MONTGOMERY COUNTY, NEW YORK

sheet no.
1 OF 1

date
02/06/06

project no.
05-363

Table 1-1: New York State Landfills Within A 100-Mile Radius Of The Site

Facility Name	County	Accept C&D Waste	Limitations/Comments
Al Turi	Orange	No	Privately owned.
Sullivan County	Sullivan	No	Accept C&D within County only Publicly owned.
Foster Avenue Landfill	Schenectady	No	
Santoro C&D Landfill	Schenectady	No	Privately Owned. Near Capacity
Greater Albany	Albany	Yes	Limited acceptance of several hundred tons of C&D/year, acceptance amount is discretionary
Colonie	Albany	Yes	Limited to 169,000 tons/year including all waste types (not exclusively C&D).
Bethlehem Rupert Road	Albany	No	Limited. Publicly owned.
Lake George C&D Landfill	Warren	No	Accept C&D within County only Publicly owned.
Thurman C&D Landfill	Warren	No	Accept C&D within County only Publicly owned.
Delaware County	Delaware	No	Accept C&D through contract only, no private C&D accepted. Publicly owned.
Burton Clark C&D	Delaware	Yes	Private Contract Only.
Fulton County	Fulton	Yes	Accept C&D through contract only, no private C&D accepted. Publicly owned
Broome County	Broome	No	Accept C&D within County only.
Chenango County	Chenango	No	Accept C&D within County only.
Cortland	Cortland	No	
Madison	Madison	No	Accept C&D within County only

As indicated in Table 1-1, limited opportunities exist with respect to C&D debris management within a 100-mile radius of the City of Amsterdam. Most small community landfills which formerly accepted C&D debris have closed, presenting problems for residents and businesses with respect to disposal options for C&D debris. Additionally, under the existing regulatory climate, siting new landfills or expanding existing landfills is difficult. Permitted landfill capacity has become a very valuable asset. For this reason, landfills that legally can accept municipal solid waste (MSW) are reluctant to accept C&D debris since, on a volume basis, the disposal of MSW is much more lucrative than is that of C&D debris. As but one simple example, the MOSA authority sends all of its C&D debris to the Hyland Landfill in Allegheny County, traveling a distance of over 200 miles from the point of generation.

There a number of municipalities in the eastern and central sections of upstate New York that, like Amsterdam, have many older structures that will need to be demolished as part of urban renewal efforts. Examples include the cities of Schenectady, Cohoes and Utica.

These communities would also benefit from the availability of relatively nearby state-of-the-art alternative for C&D debris management. Those benefits would accrue to municipalities directly for their own urban renewal efforts and indirectly by reducing the cost of doing business and economic development in their communities.

Funding for the City of Amsterdam

The project will provide an unrestricted source of funding to the City of Amsterdam for tax relief and/or other community projects.

The City's Comprehensive Plan recognizes that high tax rates represent an impediment to achieving its goals is the high tax rate. It states:

> Like many former industrial cities in Upstate New York, Amsterdam appears trapped in a downward economic spiral. As industries closed or scaled back their operations, property tax revenues from these facilities were reduced and jobs were lost. The loss of employment opportunities also lead to declining population, reduced home ownership, distressed neighborhoods, and reduced quality of life; furthering erosion of the City's tax base and placing pressure on the City's infrastructure and services. Finally, older or poorly maintained infrastructure, diminished services, poor quality of life, and/or higher taxes limit the City's ability to attract or retain businesses and residents resulting in further erosion of neighborhoods, further reduction in the tax base

> and so on – the downward spiral continues. Exacerbating the downward economic spiral have been federal and state policies that have encouraged development away from cities over the last half century. Comprehensive Plan at IV-3.

In response to rising tax rates, a proposition was recently adopted by the voters that amended the City Charter. Under the charter amendment, two limitations were imposed on the Common Council's ability to raise taxes and user fees. The total tax burden cannot exceed 1% of the average full valuation of taxable real property. Second, the real property tax rate and any user fee cannot be increased by more than 3% over the prior year (City Charter at §C-89 adopted as part of Local Law No. 3 of 2004).

Given the current tax rate structure, without further revenues, the City will be forced to cut services, staff or both. Such cuts would make the City less attractive and would likely only exacerbate the downward spiral referenced in the quote above.

The high tax rates have resulted in many properties becoming delinquent in tax payments.[5] This has further undermined the tax base and increasingly contributed to properties that are unsightly and not adequately maintained.

Without some source of additional revenues there is little to prevent this downward spiral cited in the Comprehensive Plan from continuing. The proposed project provides substantial revenues that can be used to reverse this trend.

The project sponsor has committed to pay to the AIDA and/or the City of Amsterdam $10 per ton accepted at the facility.[6] These moneys will be available for unrestricted use to benefit the City. At the expected capacity for the landfill, the expected cash flow would amount to approximately $1 - $2 million a year for six to ten years.[7]

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5 Unlike some cities, Amsterdam itself is responsible for the enforcement of delinquent taxes for both the City and School District. This means that the City receives no revenue from these delinquent properties unless and until it foreclosure upon and sells these properties. By contrast, in the City of Albany, for example, the County pays the City and School District taxes to the City when there are delinquent.

6 In addition to and separate from the $10 per ton, the sponsor has also agreed to pay to AIDA and/or the City the sum of $2 per ton to support new infrastructure for the industrial park and $2 per ton to guarantee proper facility closure and long term monitoring and maintenance.

7 Based on the estimated disposal capacity alone, the total revenues enjoyed by the City would reach $10 million. The amount of C&D debris that is recycled will add to this revenue.

The City would also have these monies to undertake public projects, either as the sole source of funding or as a matching fund that might be required as part of federal or state grant programs. Using public funds to stimulate private development is also a strategy endorsed by the Comprehensive Plan. It states in relevant part:

Utilize public funds to stimulate private investment

In order to stimulate private investment in downtown Amsterdam, the city should utilize tax incentives and/or sources of public funds to stimulate private investment. Any such public expenditures must be limited to projects that further the vision for downtown and which conform to the design standards created as part of zoning revisions. There are numerous ways that targeted tax incentives could be structured to stimulate new investment in Downtown Amsterdam. For example, increased taxes resulting from improvements to property could be phased in over a period of years. The City could also pursue funding from state and federal sources to assist business development in downtown. State programs include the Community Development Block Grant Program administered by the Governor's Office for Small Cities, and the Empire Opportunity Fund administered by Empire State Development. Federal programs include several from the Economic Development Administration and the U.S. Department of Housing and Urban Development. A partial list of state, federal, and private programs entitled, *External Sources For Financial, Technical and Marketing Assistance* is attached as Appendix D. Comprehensive Plan at IV-20-21.

The host benefit agreement that is proposed would provide the City with an unrestricted source of funding that could be used as discussed above to stimulate private investment. This funding could also provide the source of matching funds for federal and state grants that would magnify this impact even further. Without such a source of funding, it would be difficult for the City to provide the necessary public monies because of the aforementioned restrictions on the total tax burden and on increases to taxes and user fees.

Site and Industrial park Improvements

The project will provide a number of site improvements in the industrial park that will benefit the community. These include:

- Two new sites to support additional industrial/commercial development.

  It is the AIDA's intent to use the Edson Street Industrial Park to support industrial facilities to the extent possible. The Park currently has almost no vacant space to site any new facilities.[8] One part of AMR's proposal is to return the seven-acre recycling center area in a condition to support development of two additional building sites. Permitting additional build out of the Industrial Park is strategy endorsed by the City's Comprehensive Plan (see Comprehensive Plan at IV-5).

  Since the only remaining land at the park is in the deep ravine that includes the site of the proposed AMR facility, any new building sites would first have to be brought up to grade in order to be used. Generally, bringing in sufficient clean fill to bring any part of the ravine up to grade would be cost prohibitive. For example, if AIDA were to attempt to develop the seven-acre site that AMR intends to gift to the agency, it would have to provide 250,000 tons of fill. The purchase, delivering and placement of the fill would cost about $10 per ton or $2.5 million. This means that there would be $350,000 pre-development costs per acre. Given the prevailing real estate prices in Amsterdam and vicinity, such a cost is unsustainable even for industrial or commercial property.

- A new access road that will divert existing traffic off local streets.

  AMR's proposal includes a new access road directly off state route 5. In addition, AMR has agreed to escrow $2 per ton of materials received at the facility for the purpose of providing upgrades to the access road after the useful life of the landfill.

  The existing access road requires traffic to pass through local streets before arriving at the Edson Street Park. Once upgraded, the new access road will be capable of supporting all entry into the industrial park thus eliminating the need for trucks destined for the Park to use local streets.

  Alternative access is another goal set forth in the City's Comprehensive Plan. The Plan states:

  > Edison Street Industrial Park – complete the build-out of this location. Continue to explore alternate routes

[8] This information is based on conversations with AIDA officials.

> for access to this important industrial site from Route 5 and Route 67. Widow Susan Road in the Town of Amsterdam offers a potential connection to the industrial park from both Route 5 and Route 67, and a utility right-of-way that crosses school district property north of the industrial park offers another possible link to Route 67. Both alternatives would require dialogue with the town of Amsterdam and all affected property owners. It might also be possible to expand the industrial park northward on land currently owned by the school district. Comprehensive Plan at IV-5.

- A new parking area and/or community recreation area.

  At the end of the landfill's life, the City will be able to use the landfill site itself for parking to support industrial/commercial uses and/or as a park with a variety of compatible recreational facility for the community. There are numerous examples of closed landfills safely supporting recreational activities.[9]

- Improved site drainage and storm water controls.

  Currently, there are no controls on site drainage in the ravine other than natural ones provided by trees and vegetation. As a result, the homes on Chapman Drive have a recurring problem with drainage and flooding.

  The project will install state of the art stormwater control facilities that will detain storm water, allow time for treatment of the storm water and then discharge the water at a controlled rate. These controls will be in effect during construction, operation, and post closure phases of the facility.

Remediating Historic Wetland Impacts

The project will provide a vehicle for remediating historic damage done to the federal wetlands in the industrial park.

Historic operations by AIDA may have resulted in the filling of on-site wetlands without approvals. The U.S. Army Corps of Engineers (ACOE) has jurisdiction over the protection of these wetlands and has authority to

[9] For example, the closed municipal solid waste landfill located on Hoffman Street in the City of Albany is home to a wide variety of youth sports facilities including basketball courts and baseball fields.

take enforcement action against AIDA concerning these historic filling operations. By letter dated April 16, 2004, the ACOE has cited the historic filling and has indicated its intent to seek the wetland restoration/mitigation related to these impacts

As part of the project, AMR has agreed to provide mitigation for the lost benefits from these historic filling operations. The wetland mitigation projects will be performed and maintained by AMR with ACOE approval in full satisfaction of any obligation AIDA would have had for the historic operations.

Remediating Historic Contaminated Sediments

Sediments within two drainage ravines within the project site are contaminated with heavy metals (chromium, cadmium, and nickel) above NYSDEC standards. Previous investigation conducted and reported by Normandeau Associates, Inc for the Ward Products Corporation have traced the source of this contamination to previous waste disposal practices conducted by Ward products within the Industrial Park.[10] The project will remove and dispose of soils that were contaminated from material generated at the Ward Products site.

The proposed projects would delineate the extent of the contaminated sediments and would remove the sediments for proper off-site disposal as required by the NYSDEC.

Job Creation

The project will provide temporary jobs during the construction period and permanent jobs during the operating phase. It is estimated that the project will result in 100 or more temporary jobs and fifteen permanent positions. All of the permanent jobs are expected to come from the local workforce.

1.3 Project Location

The project site is an irregularly shaped 39.0 ± acre undeveloped property currently owned by the Amsterdam Industrial Agency (AIDA) and most of which is located within the Edson Street Industrial Park, located in the City of Amsterdam, Montgomery County New York. A general site location map is provided on the following page as Figure 1-2.

Generally, the project site is located south of Sam Stratton Drive (an internal road within the industrial park) and north of East Main Street. The project is bound by

[10] Remedial Investigation Report, Ward Products Corporation, July 2001

an unnamed stream to the west and contains approximately 275 feet of frontage along East Main Street. The central site area is traversed by a 70-foot wide Niagara Mohawk overhead power line and natural gas line transmission easement.

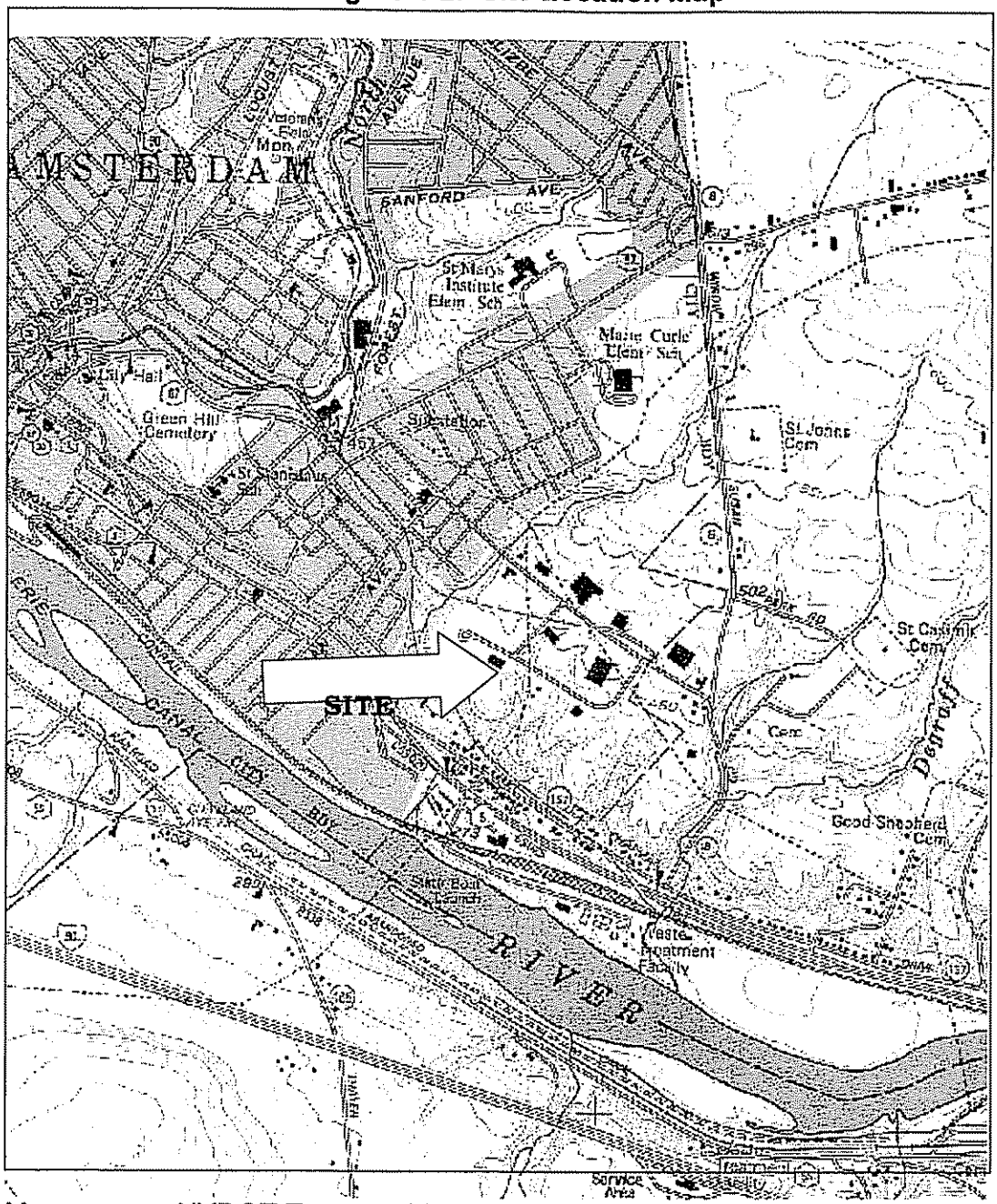
1.4 Project Sponsor

Amsterdam Materials Recycling, LLC (AMR) is the sponsor of the proposed project. AMR is organized under the limited liability law of the State of New York. Limited liability corporations (LLC) are identical to other business corporations with respect to the protection afforded to shareholders (members) and officers for the acts of the corporation. However, LLCs have the advantage of avoiding double taxation to shareholders when dividends / profits are distributed. Due to this attribute, they are most similar to small business corporations that have filed under Subchapter S of the Internal Revenue Code.

AMR was established by a group of investors with the intent of developing the proposed project, although it is authorized to conduct any lawful business activity. The members of the LLC are Environmental & Fueling Systems (E&FS), itself an LLC, and local businessmen, Robert Noel, John Millea, and Alexander Jackson. Mr. Jackson is the owner of Jackson Demolition Services, Inc. located in Schenectady New York and also owns/operates a C & D Landfill in the State of Alabama.

The principal spokesperson for AMR is Robert Noel who is the president of E&FS. E&FS is affiliated through common ownership with U.W. Marx Construction Company. Among the activities E&FS performs are the removal and remediation of contaminated soils, drilling and well installation, installation and removal of above ground and underground storage tanks, fueling system design and management and the design and installation of storm water treatment systems. AMR's principal office is located in the same building with U.W. Marx Construction at 20 Gurley Avenue in Troy, N.Y.

Figure 1-2: Site Location Map



Map source: NYDOT Topographic Map, Amsterdam Quadrangle, 1991

1.4.1 Role of the Amsterdam Industrial Development Agency

The Amsterdam Industrial Development Agency (AIDA) is organized under Article 18-A of the General Municipal Law. AIDA was created in 1973 for the purpose of assisting in the creation and retention of both employment opportunities and businesses in the City of Amsterdam. A seven member Board of Director's is appointed by the City Common Council to oversee the AIDA's operations.

AIDA serves as a liaison to the business community to both facilitate communication between government and the private sector as well as to assist in addressing the individual concerns of businesses with city policies or services. In addition, the Agency provides the following services:

Site or Building location assistance, database of available properties

Competitive rate loans for inventory, equipment and real estate

Property Tax Abatements

Job Training Programs/Employee Referral Assistance to a variety of resources throughout the area

AIDA manages the Edson Street Industrial Park and owns much of the land in the Park.

For purpose of the proposed action, AIDA has several functions. First, AIDA will lease or sell much of the land that will be used for the project. AIDA already owns several parcels that will be leased or sold and it has committed to acquiring other parcels within the park that it currently does not own.

At the end of the life of the project, the lands will be returned entirely to AIDA's control. As discussed in Section 3.21 of this DEIS, AMR will be financially responsible for the long-term monitoring and maintenance of the closed landfill site after the lease has expired.

Second, AIDA will seek to provide tax-exempt bonds to finance the project. For this purpose, AIDA will act merely as a pass through to ensure the tax-exempt status of the bonds that, in turn, will mean a lower interest rate. It will be the responsibility of the sponsor, AMR, to provide a financial institution or other investor to purchase the bonds. It is the credit of AMR, not that of AIDA that will be pledged to support the bonds. AIDA will have no liability to bondholders in the event of a default. This is the identical function that AIDA has performed with respect to other qualifying projects it sponsored.

Third, AIDA is acting as the lead agency for purposes of environmental impact review. In that capacity, AIDA has already determined the need for an environmental impact statement and has established the scope for that document. It will need to determine when the document provided by the sponsor is acceptable for public review, it will conduct the public review of the document and it will issue a final environmental impact statement after the public review period is completed.

1.5 Required Approvals

Various Federal, State and local agencies may have permit or approval jurisdiction over some or the proposed action. Table 1-2 summarizes the permits and required approvals which are applicable to the proposed action.

Table 1-2: Required Permits and Approvals

Issuing Agency	Permit or Approval
INVOLVED AGENCIES	
City of Amsterdam-City Council	Zoning Amendment; host-benefit agreement
City of Amsterdam Planning Commission	Subdivision Approval Site Plan Review Special Use Permit (possible)
City of Amsterdam Public Works Department	Curb Cut permit for East Main Street Industrial discharge pre-treatment agreement to deliver leachate to the City's wastewater treatment plant
Amsterdam Industrial Development Agency (AIDA)	Land Acquisition, and associated financing and host-benefit agreement
New York State Department of Environmental Conservation (NYSDEC)	Part 360 Permit General Stormwater Permit for Construction and Industrial Operations Mined Land Reclamation permit Water Quality Certification
INTERESTED AGENCIES	
Montgomery County Planning Department	General Municipal Law Section 239-M Advisory Review
OTHER AGENCIES	
United States Army Corps of Engineers (USACOE)	Discharge of fill in Federal Wetlands
CSX Transportation Inc.	Private Road Crossing Agreement
Niagara Mohawk	Utility Right-of-Way Crossing Permit

The need for the various permits and approvals may be summarized as follows.

- The project requires an amendment to the City of Amsterdam Zoning Ordinance to allow the construction and operation of construction and demolition debris recycling and disposal facilities in the LI District in which the project is located. This is proposed to be accomplished through an amendment to the text of the zoning ordinance to be enacted by the City Council.

- The project requires subdivision approval from the Amsterdam City Planning Board Commission in order to subdivide certain properties from the Edison Industrial Park so that they are a part of the project site. The City Planning Commission must also approve the site plan and potentially a special use permit for the project pursuant to the City's Zoning Ordinance.

- The project requires a curb cut permit from the City Public Works Department for the construction of the access road onto East Main Street and a pre-treatment agreement for the discharge of leachate to the City sewer system for treatment and discharge at the City POTW.

- The Amsterdam Industrial Development Agency will be responsible for the conveyance of property certain real property interests to AMR as well as approving some of the financing arrangements. It is anticipated that both AIDA and the City Council would also approve the final terms of the host benefit agreement as set forth in draft form in the term sheet.

- The Montgomery County Planning Board will review the zoning change, site plan and special use permit aspects of the project pursuant to section 239-m of the General Municipal Law.

- The U.S. Army Corps of Engineers will be responsible for issuing permits related to the discharge of fill within federally regulated wetlands.

- An agreement will be needed with CSX Transportation, Inc. so that the project access road may cross this company's rail line.

- An agreement will be needed with Niagara Mohawk so that the project access road may cross this company's power line.

- Various permits will be needed from the New York State Department of Environmental Conservation for operation of the facility, the primary permit being a Part 360 Permit for Construction and Operation of a solid waste management facility. Stormwater permits will be required for the construction and operation of the facility and a Mined Land Reclamation

permit will also be required for the bedrock excavation for the construction of the landfill cell. The NYSDEC will also need to issue a water quality certification in relation to the USACOE wetland permit.

Note that none of the State, county or local approvals may be issued until the SEQRA process is completed. The applicant intends to file applications for the Part 360 and associated permits with the NYSDEC during the SEQRA process. However, the NYSDEC will not begin its review of the permits until the revised DEIS has been accepted.

2.0 PROJECT DESCRIPTION

This section will describe the proposed action including pre-development, construction, operation and post-closure use and monitoring conditions.

2.1 Pre-Development Activities

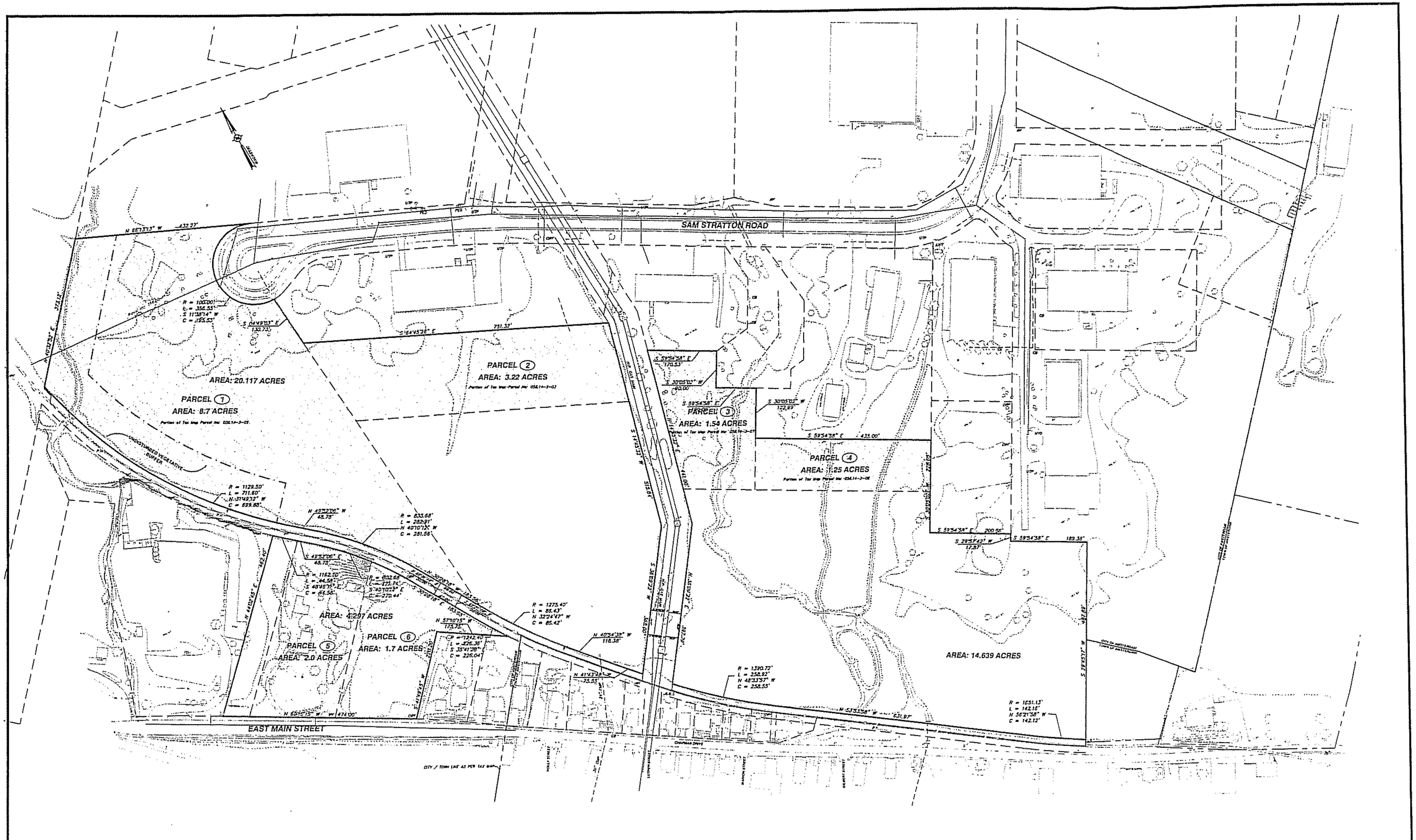
Currently, the majority of the project site is owned by AIDA. However, certain areas of the project were recently transferred by AIDA to two private entities. As part of the proposed action the AIDA will re-acquire these areas, either by purchase or by eminent domain. AIDA will sell the project properties to Amsterdam Materials Recycling or lease them to Amsterdam Materials Recycling through the duration of the project (6 to 10 years). In connection with these acquisitions, it is necessary to subdivide certain parcels of land. The proposed project involves the subdivision and acquisition of the following four land parcels located within the industrial park

- A portion of lands currently owned by T&M Development. LLC and containing 1.248 acres of land
- Portion of lands currently owned by the Janis Corporation of Schenectady containing 1.541 acres
- An 8.7-acre portion of lands currently owned by Losurdo Foods, Inc.
- A 3.22-acre portion of lands currently owned by Ward Products Corporation.

In addition to the subdivision and acquisition of the above mentioned properties, the proposed project may also include the acquisition of two land parcels located along the southern portion of the site and described as follows:

- A 1.729-acre parcel currently owned by Theodore Dick and Robert Riechel and located on East Main Street
- Lands located on East Main Street currently owned by Robert & Susan Butterfield and containing 2.0 acres

The land parcels to be acquired and subdivided as part of this project are identified on Figure 2-1.



THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

rev.	date	description

AMSTERDAM MATERIALS RECYCLING

FIGURE 2-1

PARCEL CONVEYANCE MAP

CITY OF AMSTERDAM, MONTGOMERY COUNTY, NEW YORK

drawn VPA	checked VPA
date 5-18-03	scale 1" = 100'
project no 90303.00	
sheet no 1 OF 1	

90303.00

The proposed project is to be subject to an agreement between AIDA, the City of Amsterdam and AMR. The agreement will encompass the leasing or sale of land from AIDA to AMR, the financing of the project through AIDA bonds, and agreements by AMR to construct additional infrastructure in the industrial park and provide compensation to AIDA and the City of Amsterdam. Following satisfactory closure of the landfill, AIDA will take back full control of the lands. Details pertaining to project funding are presented in Section 2.5 of this report.

The majority of the project site is located within the City of Amsterdam Light Industrial District (LI). A portion to the south for the new access road is in the Commercial Light Industrial (CLI) zones. Portions of the site are bordered to the southwest by single family (R1) and two-family (R2) residence zoning districts.

There is currently no area within the City of Amsterdam where landfilling is a permitted use under existing zoning. Therefore, as part of the project, it is proposed that City of Amsterdam's Zoning Law be amended. Section 3.10 of this report provides a description of the proposed zoning ordinance amendment.

2.2 Construction Activities

This section will describe the activities required to undertake the proposed project, including required grading and construction activities

Construction of the proposed project could be anticipated in late 2007 or early 2008 following review and finalization of the DEIS and receipt of all necessary permits and approvals. The construction period is estimated to be 6 months.

2.1.1 Site Preparation Activities

- Prior to initial excavations, contaminated sediments (from the former Ward Products operations) will be removed from the drainage ravines for proper off-site disposal.

- Site preparation activities will begin with the installation of soil temporary erosion and sediment controls at the periphery of the proposed work areas, adjacent to streams, wetland areas and ravines and where appropriate. Drainage swales may be constructed, as necessary to direct and control stormwater flow from the development area. Additional information pertaining to erosion and sediment control measures is provided in Section 3.2 and Appendix C of this report.

- Staging areas will be established within the project site to be used for equipment and materials storage during project construction. Signage, fencing or other measures will be taken to designate and restrict unauthorized access to the staging areas.

- Prior to the onset of construction activities in the cell area, the installation of the stormwater management controls (retention ponds, ditches and storm sewers) throughout the site will take place. The controls will re-route the existing storm water around the proposed cell area, thereby, minimizing the erosion potential. Erosion controls measure will be installed and maintained as specified in a NYSDEC Storm Water Pollution Prevention Plan for Construction Activities. Construction will then begin in the cell area.

- Site preparation activities will also include the installation of temporary access roadways to be used during construction activities and site grading. It is anticipated that the project site will be accessed along the southwestern area off East Main Street and a second temporary access road may be installed off Stratton Drive or D'Andreano Drive. Construction signage and perimeter fencing will be used to define the work perimeter and prevent unauthorized access.

2.2.2 Landfill and Recycling Center Earthwork Activities

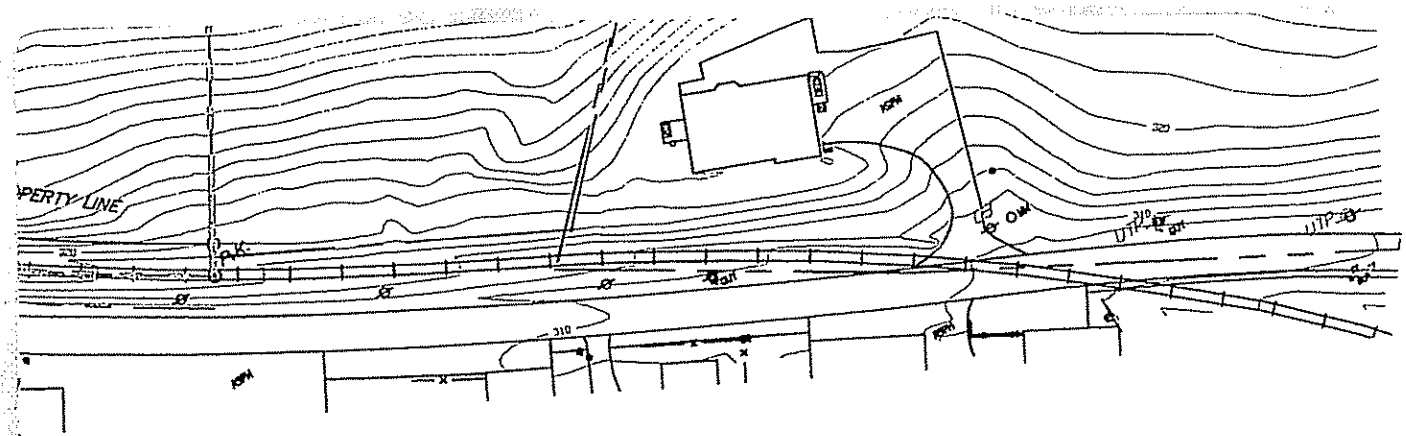
At this time it is anticipated that the clearing and excavation phase of the project will begin in the southern portion of the proposed cell area moving northwest, with three distinct phases, as shown on Operational Grading Plan, Figure 2.2. Working in this manner allows for additional maintenance of storm water controls and minimizes erosion.

Concurrently with excavation in Phase I, construction of the proposed access road off of East Main Street will begin utilizing fill soils removed from the cell area. To minimize construction noise impacts to residential properties, the traffic noise barrier along the southern access road will be installed as the road is constructed.

Initial construction activities, consisting of clearing and grubbing vegetation and striping topsoil, will begin within the Phase 1 Area. The general sequence of excavation and fill operations is as follows:

- Overburden clay and till will be excavated to design grades and/or to the top of bedrock. A layer of soil will likely be left in the areas of bedrock blasting to control the noise, dust, and fly rock associated with blasting operation.

- The removed soil will be used to construct the southern access road and to begin the filling operation within the recycling center area.



AMSTERDAM MATERIALS RECYCLING

CONSTRUCTION GRADING PLAN

City of Amsterdam, Montgomery County, New York

drawn AJM	checked
date 1/15/07	scale AS SHOWN
project no.	
sheet no.	FIG-2-2

- The bedrock will be removed to a depth of 10 feet below the elevation of the landfill liner. The bedrock removal operation, which is discussed in more detail in Section 3.3, consists of drilling core holes using pneumatic or hydraulic rock drills and detonated charges placed in the holes. To properly evaluate and control the blasting operations, bedrock removal will be initiated in the northern portion of Phase I, furthest from potential receptors and proceed towards the southern perimeter of the landfill.

- As space allows, a rock crushing and screening operation will be initiated within the excavated cell to process the removed bedrock for use as an on-site construction material. The processed rock will be used on-site as structural fill, road base, drainage stone, and rip-rap. As excess rock is generated, it will be shipped off-site as discussed in Section 3.3

- A retention pond/sump area will be constructed within the excavated cell for stormwater management. The stormwater/groundwater collected in the excavated cell will be pumped to the other site stormwater ponds installed during the site preparation phase.

- As the final excavation grades are reached in Phase I, clearing, grubbing and excavation within the Phase II area will begin. The clay and till removed from The Phase II area will be used to construct the 10-foot bedrock separation layer and the clay liner component within the Phase I Area and to continue the fill operations at the recycling center. Excess soil generated in Phase II Area will be stockpiled in the Phase II Area, outside the limits of area requiring bedrock removal, and will be used as the to construct the 10-foot bedrock separation layer in Phase II. As excess rock is generated, it will be shipped off-site as discussed in Section 3.3.

- Concurrent with the excavation operations in Phase II, the landfill liner components, consisting of the pore-pressure relief system, clay liner, synthetic liner, and leachate collection system will be constructed in the Phase 1 Area.

- As the final excavation grades are reached in Phase II, clearing, grubbing and excavation within the Phase III area will begin. The clay and till removed from the Phase III area will be used to construct the 10-foot bedrock separation layer and the clay liner component within the Phase II Area and to complete the fill operations at the recycling center. Excess soil generated in Phase III Area will be stockpiled in the Phase III Area, outside the limits of area requiring bedrock removal, and will be used as the to construct the 10-foot bedrock separation layer and clay liner in Phase III. As excess rock is generated, it will be shipped off-site as discussed in Section 3.3.

- Concurrent with the excavation operations in Phase III, the landfill liner components, consisting of the pore-pressure relief system, clay liner, synthetic liner, and leachate collection system will be constructed in the Phase II Area.

- As the final excavation grades are reached in Phase III. The clay and till removed from the Phase III area will be used to construct the 10-foot bedrock separation layer and the clay liner component within the Phase III Area. As excess rock is generated, it will be shipped off-site as discussed in Section 3.3.

- Upon completion of the fill operations in Phase III, the landfill liner components, consisting of the pore-pressure relief system, clay liner, synthetic liner, and leachate collection system will be constructed in the Phase III Area.

- It is anticipated that filling in the recycling area will begin in the southwest corner of the proposed site to establish the site access road in this area. Filling will continue in a northeast direction across the recycling area to obtain a level platform. Once the level platform is achieved, construction of the engineered berm structures around the recycling center will begin.

One of the goals of the project is to attempt to minimize excess earthwork cut and volumes by utilizing the as much of the excavated materials on-site for construction of the proposed landfill and recycling area as possible. The excess excavated bedrock materials will be shipped off-site for processing and resale.

The proposed grading plan for the landfill consists of 1,190,000 cubic yards of excavation and 1,000,000 cubic yards of fill with a net of 190,000 cubic yards of excess materials. The material breakdown for the excavated volumes is 290,000 cubic yards of rock, 640,000 cubic yards of clay, and 260,000 cubic yards of till. All of the clay and till soils will be used for fill during construction of the landfill and the recycling center pad and berm. The excess 190,000 cubic yards of materials are bedrock, which will be shipped off site for processing. Approximately 100,000 cubic yards of rock will be processed on-site and used as on-site construction materials. The proposed grading plan for the landfill will produce an excessive cut and a moderate fill that will generate 748,000 cubic yards of cut and 579,000 cubic yards of fill, with a net of 169,000 cubic yards of cut. The material breakdown for these volumes are 200,000 cubic yards of rock, 255,000 cubic yards of clay, and 293,000 cubic yards of till. All of these volumes are critical to the planning and strategy of how the site will be constructed and is described below.

The excavation of rock will be to a minimum depth of 10' below the bottom of liner. Once the final depth of excavation has been reached, the excess till material will be placed back into the ground in compacted lifts to the bottom of

the liner excavation to form the required bedrock separation layer. The majority of the clay material will be stockpiled and used to create the soil barrier layer of the composite liner and final cap system over the landfill. Soil materials (clay and topsoil) to be stockpiled for use in landfill closure activities will be used to construct the recycling center berms, and later excavated during facility closure activities.

The proposed liner and cover system for the AMR C&D debris materials landfill will be a single composite liner system designed in accordance with 6NYCRR Part 360 regulations or an alternate liner system designed in accordance with 6 NYCRR Part 360 requirements and approved by the NYSDEC. Figure 2-3 illustrates a typical liner and cover cross sections. Final selection of the liner system components is subject to NYSDEC review and approval under the Part 360 Permitting Process.

The proposed project will involve substantial grading across the site. Preliminary grading (i.e. cut-fill) of the site will be conducted concurrently with development of the landfill cell and recycling center areas. The amount of grading, excavation and fill will be the minimum necessary to accommodate the proposed action. Figure 2-2, Operational Grading Plan, illustrates the proposed grading across the project site.

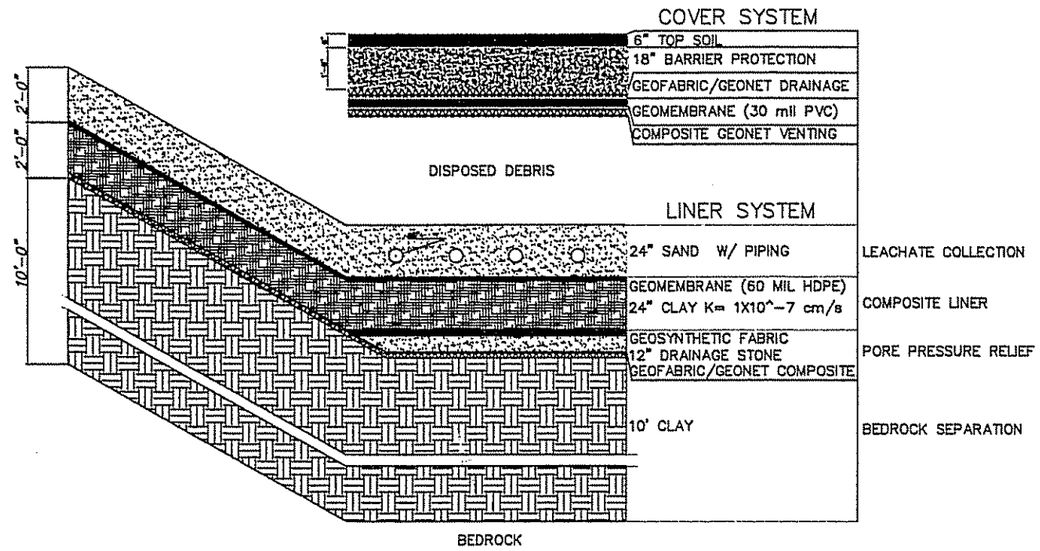
The landfill cell will be constructed in a single phase and will be filled and operated over the estimated 6 to 10-year operational period. As areas of the cell reach capacity, these areas will be covered with an engineered capping system in accordance with NYSDEC guidelines. At this time we anticipate that only 3-5 acres of the cell will be operational at one time. Use of an intermediate cover system over areas of the cell not in current use will be provided during the life of the facility and the final cover system will be installed in 2-acre increments as required by NYSDEC Part 360 regulations.

Construction of buildings, parking areas and roads will be completed. Site structures will be located on the eastern portion of the site, within the materials recycling/sorting area. Site structures will include a 150-foot by 100-foot concrete pad covered by a metal roof which will be used for initial materials dumping and sorting, an adjacent 150-foot by 100-foot concrete pad to be used for further sorting and stockpiling activities, and two leachate storage tanks within a concrete secondary containment structure. . Several 20-40 cubic yard metal materials storage containers (roll-off containers) will be located adjacent to the sorting pads and will be used for the temporary storage of recyclable materials. Facility operations will be coordinated within a portable office/trailer which will be located in the materials sorting and recycling portion of the site.

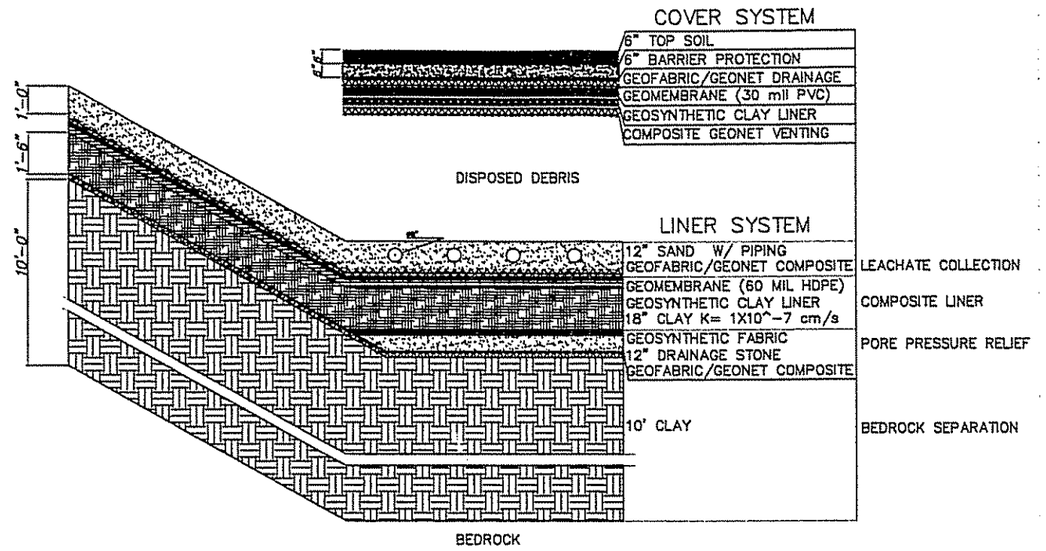
Vegetative buffers will be established and open areas will be seeded and stabilized. Once site soils are fully stabilized, temporary erosion control measure will be removed.

It is anticipated that construction activities will be limited to daytime operations (8 am to 5 pm) and all lighting will adhere to the provisions outlined in Section 3.14 of this report.

If solid wastes or suspect contamination (including asbestos) are encountered, local construction activities will be postponed, and the suspect material sampled and characterized. Any confirmed wastes or contamination will be managed in accordance with applicable state and federal regulations.



1/2-2 STANDARD LINER AND CAP DETAIL
SCALE: NTS
CROSS REFERENCE: NA



2/2-2 ALTERNATE LINER AND CAP DETAIL
SCALE: NTS
CROSS REFERENCE: NA

CRESCENT ENVIRONMENTAL

CRESCENT ENVIRONMENTAL ENGINEERING, P.C
301 NOTT STREET
SCHENECTADY, NY 12305

AMSTRDAM MATERIALS RECYCLING, LLC

FIGURE 2.3
PROPOSED C & D LANDFILL
LINER AND COVER CROSS SECTIONS

TOWN OF AMSTERDAM, MONTGOMERY COUNTY, NEW YORK

sheet no.
1 OF 1

date
3/1/06

project no.
05.063

2.3 Operations Activities

This section will describe the operational activities of the project and will provide information pertaining to site access and site operations. Operational activities will be performed in accordance with Part 360 Permit conditions pertaining to operation and maintenance of a C&D landfill, which will include submission of a detailed Operations & Maintenance Manual. Activities which will be performed during the operational phase of the project are briefly described below.

2.3.1 Operator Training Requirements

Facility operators and other facility staff will complete training on the operation and maintenance of a C&D debris landfill and materials recycling facility. In accordance with 6 NYCRR Part 360-1.14(u), facility staff will complete, prior to working at the facility, a course of instruction in solid waste management practices. The course will be approved by the NYSDEC and will include, but will not be limited to discussion of the following topics: basics of landfill design and operation, regulatory aspects of C&D debris management, leachate and stormwater, gas and odor, groundwater monitoring, waste control, non-routine operations, employee health and safety, contingency planning, and closure and post closure requirements.

In addition, the operators/inspectors will be properly trained to identify and respond to incidents involving suspect hazardous materials, including training under the Hazardous Waste Operations (HAZWOPER) Requirements of OSHA 29 CFR 1910.120. To respond to minor incidents, AMR will maintain a ready supply of spill response equipment such as real-time monitoring equipment, personal protective equipment, spill absorbents, hand tools, and waste containers/drums. Incidents beyond the capabilities of the AMR staff will be managed by an off-site contractor under a stand-by contract arrangement. AMR site management will be responsible for reporting such incidents to the NYSDEC and local authorities.

2.3.2 Site Access

As illustrated on Figure 2-4, Proposed Site Plan, the facility will be accessed on the southwestern side via a proposed access road, which extends northeast off East Main Street. Trucks entering the site will travel eastward along this roadway to the materials recycling center located on the southeastern portion of the site. To prevent the tracking of mud and dirt off-site, and to minimize traffic noise, the access road will be paved. The access road will be designed and maintained to provide for truck queuing during busy periods and will provide sufficient space for trucks to enter and exit the facility.

NOT FOR CONSTRUCTION

TERDAM MATERIALS RECYCLING

ROPOSED SITE PLAN

AM MATERIALS RECYCLING
DA - EDSON STREET

TERDAM, MONTGOMERY COUNTY, NEW YORK

drawn	checked
GMT	JEM
date	scale
12/5/03	AS SHOWN
project no.	
90303.00	
sheet no.	
FIG-2-4	

90303.00

2.3.3 Waste Processing Activities

The proposed project will include the acceptance, sorting, and disposal of C&D materials and the sorting, processing and storage of recyclable materials. These activities will be performed within the recycling center area located on the southeastern portion of the project site (Figure 2-4, *Proposed Site Plan*).

All waste entering the facility must be delivered to the Recycling Center pad. Wastes can not be delivered directly to the landfill. Only approved waste streams will be accepted at the recycling center. For approval, the waste generator will be required to submit a Waste Profile Form describing the source, nature, anticipated quantity of the waste, and analytical data if the materials are potentially contaminated.

Only waste haulers permitted by AMR for a specific profiled waste will be allowed to transport waste into the Recycling Center. The hauler permits will specify, at a minimum, the designated hauler truck route, the date and time of delivery, and the source of the waste loads.

As defined in 6 NYCRR Part 360, C&D materials include uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of utilities, structures and roads; and uncontaminated solid waste resulting from land clearing. The facility will maintain a strict policy of acceptable and non-acceptable wastes as discussed in Sections 2.3.3.1 and 2.3.3.2 below. Materials will be inspected by facility staff trained as described in Section 2.3.1 and only acceptable materials, as defined and approved in the Part 360 Permit will be accepted.

Waste handling and disposal activities will involve the use of the following equipment:

- Concrete crusher
- Tub Grinder
- Landfill Compactor
- Heavy Trucks

Off-site waste hauler will not be allowed to deliver wastes to the landfill. Wastes from the Recycling Center to be disposed in the landfill will only be transported by AMR personnel using AMR trucks/trailers.

2.3.3.1 Waste Types Accepted

Materials which will be accepted at the proposed facility consist of construction and demolition debris materials as defined by Part 360 regulations. Such waste includes bricks, concrete and other masonry materials, soil, rock, wood (including painted, treated and coated wood and wood products), land clearing debris, wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles and other roof coverings, asphalt pavement, glass, plastics that are not sealed in a manner that conceals other wastes, empty buckets ten gallons or less in size and having no more than one inch of residue remaining on the bottom, electrical wiring and components containing no hazardous liquids, and pipe and metals that are incidental to any of the above.

2.3.3.2 Non-acceptable Waste Types

As permitted, the proposed project will not accept solid waste which is not C&D debris (even if resulting from construction and demolition activities), including (but not limited to) radioactive waste; medical waste; liquid wastes; asbestos waste; Chromium Copper Arsenate (CCA) treated wood, municipal waste; electrical fixtures containing hazardous liquids such as fluorescent ballasts or transformers, fluorescent lights; furniture; appliances; tires; and drums.

As stated in Section 2.3.3, waste materials on the site will be controlled through a strict quality assurance program which includes hauler permitting, facility training and strict adherence to 6 NYCRR Part 360 requirements. Non-acceptable materials will be re-loaded onto the originating truck and immediately transported from the site as described in Section 2.3.3.4 of this report.

2.3.3.3 Waste Generation

As a merchant facility, the proposed facility will not restrict the geographic sources of permitted wastes, therefore it is difficult to quantify the amount of C&D debris and recyclable material that will be received at the facility. Preliminary calculations based on regional projections estimate that between 600-700 tons per day will be received at the facility. It is anticipated that the seasonal peak disposal period will run from May to November, with the quantity of materials received at the facility declining during the anticipated non-peak season. C&D wastes will be accepted from all sources, regardless of geographic location.

The total capacity of the landfill is approximately 1.1 million cubic yards. Assuming an in-place bulk density of the disposed debris of between 0.75 and 1.0 tons per cubic yard, the landfill capacity is approximately between 0.825 and 1.1 million tons. At the proposed permitted design capacity of the facility of 700 tons per day, the landfill volume will be reached in approximately between 5.9 and 7.9 years without any recycling of the incoming waste materials. If 20 percent by weight of the incoming wastes are recycled and not disposed in the

landfill, the landfill life would be extended to approximately between 7.2 and 9.4 years. Considering the above estimates, the landfill life is generally described as between 6 and 10 years, depending on the bulk density achieved in the landfill and the amount of waste recycled and diverted from the landfill.

2.3.3.4 Waste Processing

C&D debris and recycling materials will be trucked onto the site from the southwestern side of the facility via a newly constructed access road which will extend northeast off East Main Street. Trucks entering the site will travel eastward along this roadway to the materials recycling center located on the southeastern portion of the site (Figure 2-4). The trucks will be weighed and will proceed to the materials sorting pad where debris materials will be unloaded, inspected and sorted by trained facility staff.

Incoming waste will be initially tipped on an outside concrete pad for initial sorting and inspection using trained operators using small construction equipment (skid steers, bobcats, small loaders, etc.). During the initial inspection/sorting, any non-conforming wastes (i.e. materials not meeting the definition of C&D debris) will be segregated and returned to the generator and removed from the AMR Facility for proper off-site management. The NYSDEC will be contacted as required by regulations, permit conditions, or in the cases of apparent intentional mismanagement of hazardous wastes. Waste generators delivering wastes significantly different than the approved waste profile will not be approved for future waste deliveries at the AMR facility.

In addition to the anticipated 15 employee vehicles, the facility anticipates a flow of thirty-six (36) trucks per day. This flow consists of 35 trucks delivering wastes and 1 truck delivering fuel. The truck access roadway has been designed for two-way traffic, should more than one truck be located within the facility at one time.

2.3.4 Waste Handling and Disposal Activities

Acceptable wastes will be separated by trained facility staff (in the waste processing area) to segregate materials for disposal and materials for recycling.. Monitors from the City of Amsterdam, and possibly from other organizations, will be funded by AMR and will also oversee the site activities.

Recyclable materials such as concrete, brick, steel and wood will be separated depending on current market conditions and temporarily stored on-site in dedicated storage receptacles, such as tarped 20-40 cubic yard capacity roll-off containers or material stockpiles located in the materials recycling center area. Recyclable material will be stored in the recycling center area until a volume which is efficient for off-site shipment has accumulated. Some level of crushing, compaction and wood chipping/grinding may be integrated with the recycling

operation to render materials in a re-usable form. When sufficient material quantities are accumulated, materials will be transported off-site to a re-use location or facility. To minimize traffic impacts, the empty waste hauler trucks delivering debris will be used to back-haul the recycled materials to their ultimate destination. This operation will minimize the disposal of recyclable materials in the landfill and the traffic associated with shipping recycled materials.

Waste handling activities will be performed in accordance with Part 360 Permit conditions and a detailed description of waste handling activities will be provided in the Operations & Maintenance Manual to be prepared as part of the facility permit application.

Phased filling of the lined landfill cell is proposed. Initial operation of the landfill will involve the placement of acceptable materials in the eastern portion of the cell with subsequent placement in the western landfill cell area. The cell area will be filled by depositing and compacting materials in a series of daily lifts, which will vary in size depending on the daily quantity of waste received. Waste will generally be unloaded at the top of the daily lift and will then be pushed down the slope of the working face using a landfill compactor or other suitable type of heavy equipment.. The layers of material will be spread to a specified thickness within the working area of the cell and will be compacted daily. Daily cover soil or an approved alternative material will be used to cover the waste mass at the end of each workday to minimize the infiltration of precipitation into the waste and reduce dust generation, odors and blowing litter. As the wastes reach final grades in a portion of the landfill, temporary intermediate cover will be placed in these areas. In accordance with Part 360 requirements, a progressive final cover system will be designed and implemented. A final landfill cover and cap will be installed at the completion of the project.

2.3.5 Landfill Leachate Management

A leachate collection and management system will be implemented to collect, and store leachate generated on the project site. The landfill leachate system will be designed in accordance with 6 NYCRR Part 360 requirements and will be capable of managing an estimated 1.85 million gallons of leachate which could be generated at the facility during a 25-year 24-hour storm event.

A detailed description of the proposed landfill leachate management system is provided in Section 3.18 of this report. A detailed landfill leachate management plan will be prepared and submitted as part of the facility Part 360 permit application.

2.3.6 Landfill Cover Material Management

A daily cover will be placed on materials within the landfill cell at the end of each workday. The cover material will be applied in accordance with NYSDEC requirements. The primary source of daily cover is anticipated to be re-useable flexible geosynthetic materials that will be rolled over the active face at the end of the shift and removed on the next shift prior to the start of filling operations. This approach will minimize the use of imported soils for daily cover materials, which will preserve landfill airspace for disposal of waste materials. As an alternative daily cover material (ADC) subject to the approval of the NYSDEC, sorted and screened incoming waste materials may be used for daily cover.

In accordance with Part 360 requirements, a progressive final cover system will be designed and implemented. Typical cross-sections for the proposed cover systems are provided in Figure 2.3. Current regulations allow closure within two-acre increments, installed when the specified acreage of the landfill attains final elevation and installed within 90 days after such elevation is attained. A final landfill cover and cap will be installed at the completion of the project. A vegetative cover will be established on all exposed final cover material as soon as possible, but not later than four months after placement. Detailed information pertaining to the landfill cover material management will be specified in the facility permit application.

2.3.7 Landfill Drainage and Erosion Controls

Drainage and erosion controls will be designed to 1). reduce generation of liquid waste; 2). Minimize soil erosion and 3). Minimize site induced transport of sediments to downstream areas.

Surface water management for the proposed project will be maintained through the use of drainage ditches, swales, culverts and stormwater detention basins. Drainage control structures will be designed, graded and maintained to prevent ponding and erosion to the landfill cover and to protect the cover from, at a minimum, the peak discharged of a 24-hour, 25-year frequency storm.

The drainage and erosion control elements for the construction and operation of the facility will be regulated by a NYSDEC General Stormwater Permit. Additional information pertaining to landfill drainage and erosion control is presented in Section 3.5 of this report.

2.3.8 Landfill Gas Generation Control

Landfill gases will be managed in a manner which is protective of the health and safety of landfill operators/facility personnel, site occupants and the surrounding community. In accordance with Part 360 requirements, landfill gas will be evaluated during the post-closure period for a minimum of 30 years. A landfill gas management plan will be prepared as part of the post-closure Operation and Maintenance Plan to be submitted as part of the facility permitting process,

however a detailed description of landfill gas generation and control is provided in Section 3.8.3.3 of this report.

2.3.9 Fugitive Dust Control

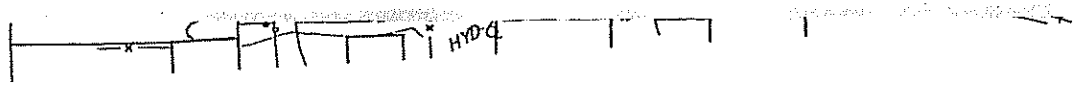
Site operations, including material sorting, moving and placement within the landfill cell, may generate fugitive dusts. Fugitive dust is a particulate matter which becomes airborne and contributes to air quality as a nuisance and potential threat to human health and the environment. The generation and migration of fugitive dusts will be controlled on the project site through aspects of facility design, the use of a daily cover within the landfill cell, vegetated covering around the project site, material handling procedures and dust suppression techniques. Dust mitigation and control measures are described in Section 3.2.3.3 of this report.

2.3.10 Noise Control

During the construction phase, noise will be generated by on-site construction equipment, and haul trucks. During site operations, the recycling operations will include the periodic use of a portable on-site crusher to crush concrete into re-usable fill material and the similar use of a tub mill grinder to recycle clean wood as wood chips for mulch. All of these operations will take place within a mounded earthen bermed area designed to substantially reduce noise from the recycling operations. Site construction and operations will only occur during normal daytime work hours with no weekend operations, thus controlling noise associated with site activities. Additional mitigative measures with respect to noise are described in Section 3.13.

2.4 Post-Closure Use and Monitoring

When the landfill cell has reached the final permitted elevations (estimated to be six to ten years of facility operation), the closure of the landfill will begin in accordance with 6 NYCRR Part 360 requirements and in accordance with an approved Closure Plan. A final cover system will be placed on the landfill and a vegetative cover will be established. After placement of the final cover system the landfill will be monitored and maintained in accordance with 6 NYCRR Part 360 post-closure requirements for at least a 30-year period. The cover integrity, gas management system, leachate management system, vegetative cover, drainage structures and slopes will be maintained during the post-closure period and environmental monitoring of surface water, groundwater, leachate, gas and vectors will be performed as required by the NYSDEC. A final closure grading plan is included on the following page as Figure 2-5.



NOT FOR CONSTRUCTION

TERDAM MATERIALS RECYCLING

NAL CLOSURE PLAN

AM MATERIALS RECYCLING
DA - EDSON STREET

STERDAM, MONTGOMERY COUNTY, NEW YORK

drawn GMT	checked JEM
date 12/5/03	scale AS SHOWN
project no. 90303.00	
sheet no. **FIG-2-5**	

90303.00

2.4.1 Closure and Post-Closure Maintenance and Monitoring

NYSDEC rules establish standards for closing landfills and for monitoring and maintaining landfills after closure. The proper closure of the landfill is intended to ensure the integrity of the facility and prevent, to the extent possible, the intrusion of water into the landfill cell and the release of leachate from the facility. In the post-closure period, maintenance of the integrity of the soil cover, cover vegetation and drainage structures is required. In addition, groundwater monitoring points must be maintained and sampled for at least 30-years after closure.

To ensure that there will be funding adequate to close the facility to NYSDEC standards and to perform all of the monitoring and maintenance activities required in the post-closure period, AMR will provide financial security according to the approach set forth in the NYSDEC rules (6 NYCRR Part 360-2.19). The approach calls for AMR to provide estimates of the cost of these activities. The NYSDEC must approve these estimates and the annual updates of the estimates. The estimates are based on the cost of hiring a third-party to perform all of the required actions. Based on the approved estimates, AMR will provide financial security according to one of the methods accepted by the NYSDEC.

The approved methods of demonstrating financial assurance include the establishment of a trust fund, providing a surety bond that guarantees payment or performance, a letter of credit or insurance. The NYSDEC rules set forth the terms upon which these instruments are provided in order to ensure they serve their intended purpose.

As a additional step towards establishing adequate funding for closure and post-closure monitoring and in addition to the financial assurance mechanisms of Part 360, AMR proposes to escrow $2.00 for each ton of C&D material delivered and accepted at the gate. This escrow account will generate at least $2 million over and above the funding for the Bond/Trust Fund required by the NYSDEC.

2.4.2 Post-Closure Use

Within an estimated period of six to ten years, the proposed action will result in ultimately filling the property and re-shaping/reclaiming currently un-buildable land in the recycling area for future expansion of the AIDA's industrial park.

The area east of the Niagara Mohawk Right-of-Way (ROW), where the recycling operation is proposed, will be improved with the creation of 7+acres of flat buildable land with a new access road from East Main Street. The recycling facility will be removed after closure allowing for future expansion sites in the industrial park.

The property west of the Niagara Mohawk ROW will support the closed landfill cell which will generally be an open mowed green hill. This open space may be considered for passive uses such as a scenic public park area with a view of the Mohawk River Valley with some potential for recreational use.

2.5 Funding

This section will describe the payments that AMR will make to AIDA and the City of Amsterdam out of project revenues.

AIDA has tentatively adopted a term sheet intended to outline the basis of a contract that would be entered into with AMR. Any such contract would not be executed unless and until the environmental review process is successfully completed and AIDA makes explicit findings that the requirements of ECL Article 8 and 6 NYCRR Part 617 have been met.

The term sheet states that AMR will make payments of $10 per ton of C&D materials delivered and accepted at the gate. That amount would increase to $10.10 in the event that AIDA issues tax-exempt bonds to finance the project. Based on a conservative estimated of 1,000,000 tons of received C&D debris during the life of the project of six to ten years, the total payment would be either $10,000,000 or $10,100,000. This is based on current best estimates but the final tonnage could vary. Payments would be made monthly over the life of the project.

It is contemplated that AIDA and the City of Amsterdam would agree upon the division of payments between them. An opinion letter of AIDA's bond counsel is included as Appendix A and discusses the manner in which such payments could be legally made.

Once received, the funds could be used for any purpose for which the City or AIDA respectively could use such funds. For example, the funds destined for the City could be used to reduce property taxes, improve infrastructure or construct other community projects. These funds could also be used as the local share for various state and federal grant programs thus leveraging the impact of the funds many fold. Based on the estimates above, scenario of the City's use of the funds is outlined on the following page in Table 2-1.

Table 2-1: Pro-Forma Form

Proposed Purposes on Use of Funds	Year #1	Year #2	Year #3	Year #4	Year #5
50% To Tax Abatement	$1,000,000.00	$1,000,000.00	$1,000,000.00	$1,000,000.00	$1,000,000.00
20% Demo Program	$400,000.00	$400,000.00	$400,000.00	$400,000.00	$400,000.00
5% Infrastructure	$100,000.00	$100,000.00	$100,000.00	$100,000.00	$100,000.00
5% Quality of Life (i.e. ballfields, library etc.)	$100,000.00	$100,000.00	$100,000.00	$100,000.00	$100,000.00
5% Streets Program	$100,000.00	$100,000.00	$100,000.00	$100,000.00	$100,000.00
Total Cash Revenue Per Year	$1,700,000.00	$1,700,000.00	$1,700,000.00	$1,700,000.00	$1,700,000.00

This scenario is based on payments of $10.00 per ton, 1 million total tons over a five-year period and 85% of the payments being made to the City. It does not include an estimated additional $300,000 per year that would be paid to AIDA.

*With current NYS levels of matching grants programs and percentage grant programs, the ability of the city to enhance these above revenue numbers greatly will exist

Other Direct and Indirect Financial Benefits to AIDA and the City include:

- AMR will escrow $2 per ton of C&D materials received and accepted at the gate. These funds will be paid to AIDA at the end of the useful life of the project to upgrade the industrial park's infrastructure. Based on current estimates, this benefit would be worth $2 million. The funds will first be used to upgrade the new

road AMR will build that will provide direct access to the Edson Industrial Park from State Route 5, obviating the need to have trucks and other commercial vehicles pass through local streets.

- An additional $2 per ton is also being provided for post-closure care. If a portion of this money is not needed for that purpose, it would also be available for site improvements to the Industrial Park or other public purposes.

- AMR will provide improved land which may be used to support two additional building sites in the industrial park on the lands used for project, outside of the lands on which the landfill itself would be located. This benefit is contingent on the two sites not interfering with the wetland protection requirements of the Army Corps of Engineers.

- The parcel at the entrance way to the new access road that is being acquired by AMR would be offered as a gift to AIDA.

- At AIDA's option, perimeter fencing for the project would be left intact and gifted to the agency.

- The City would enjoy the following additional revenues:

- Payment in lieu of taxes - $10,000 per year.

- Sewer and water fees - $14,000 per year.

- Creation of an estimated 15 full-time jobs.

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This section will describe the existing environmental setting, impacts and mitigation measures. Where appropriate, construction and operation impacts will be discussed in separate subsections.

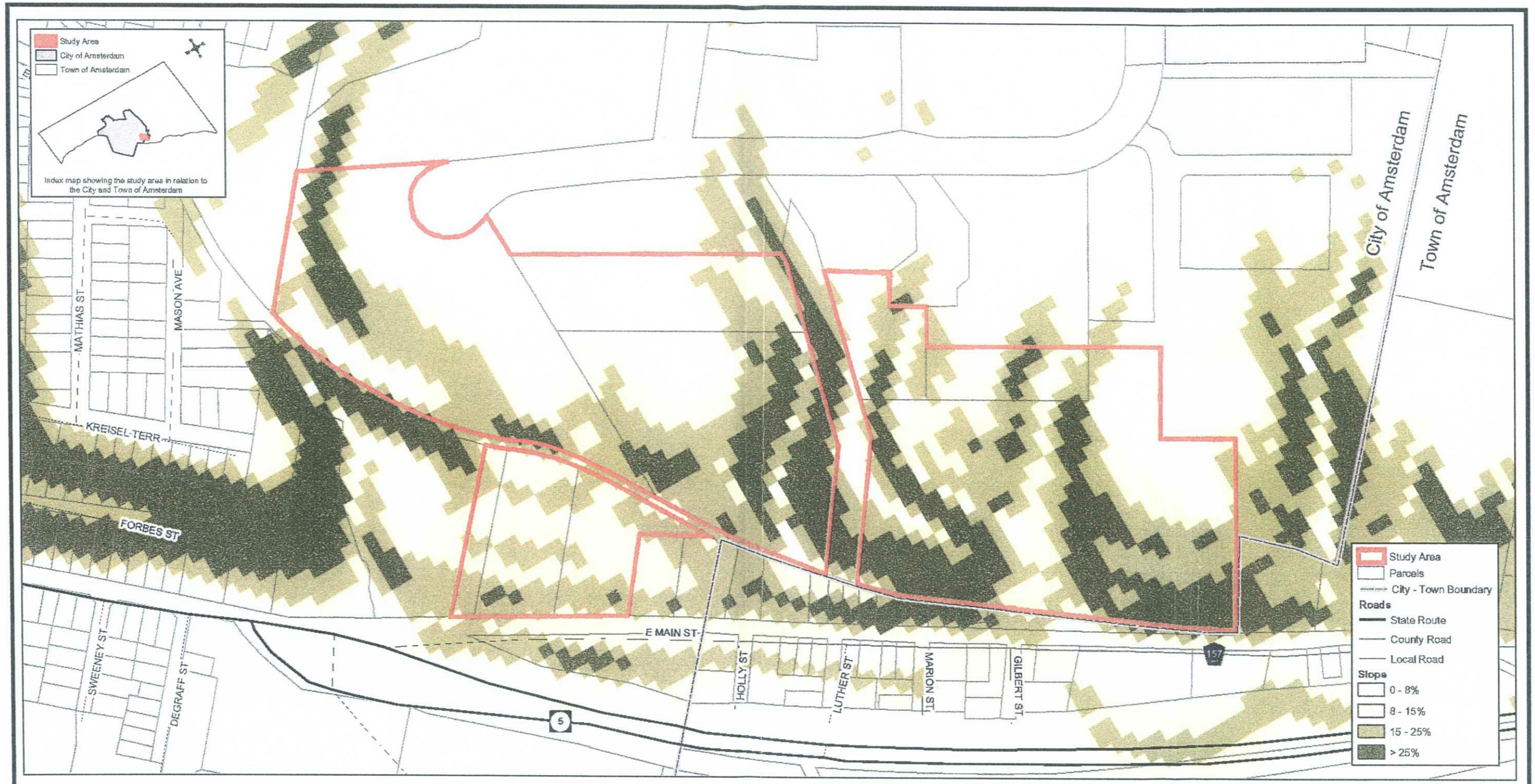
3.1 Topography and Slope

3.1.1 Existing Conditions

A review of the United States Geologic Survey (USGS) topographic map (Amsterdam Quadrangle) and survey data generated by TCC for on-site conditions indicates that elevations on the project site range from approximately 440 feet above mean sea level (msl) along the northwestern portion of the site to approximately 330 feet above msl along the southeastern portion. Long ravines are present on the central and eastern portions of the site. The ravines are areas of concavely-sloped vegetated terrain with grades typically greater than 15%. Figure 3-1, *Site Slopes Map,* illustrates the slopes on the project site. Site mapping indicates that approximately 45% of the project site contains slopes of 15% or greater. The project site is located approximately 0.23 miles north of the Mohawk River and surrounding properties generally slope south towards the Mohawk River. The general topographic patterns and landforms on and around the site are illustrated on a topographic map which was included as Figure 1-2.

Site elevations provided on the USGS map are consistent with elevations determined during a survey of the site performed in May 2003 by The Chazen Companies (TCC). The findings of the May 2003 survey are illustrated in a detailed site survey map included as Figure 3-2.

Placeholder for Fig 3-14, site slopes map
Figure 3-1: Site Slopes Map



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Planners
Environmental Scientists
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Glens Falls, New York 12801
Phone: (518) 812-0513

Map Scale
Feet
0 100 200 400 600 800

Amsterdam Materials Recycling

Figure 3-1: Site Slopes Map

Amsterdam Materials Reclycling
AIDA - Edson Street

City of Amsterdam, Montgomery County, New York

Created by:	Carol Conolly
Date:	December 3, 2003
Scale:	1:3,000
Project #:	90309.00

Map Document: (R:\90xxx\90309.00\GIS\gis_maps\Revised\Maps\90309_Figure3-1_SiteSlopesMap_11x17.mxd)
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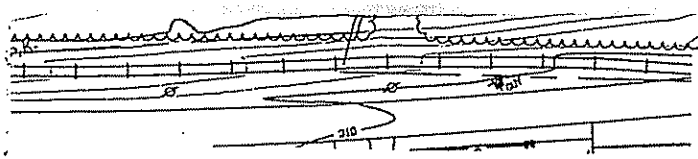

NOT FOR CONSTRUCTION

TERDAM MATERIALS RECYCLING

SITE SURVEY MAP

AM MATERIALS RECYCLING
DA - EDSON STREET

TERDAM, MONTGOMERY COUNTY, NEW YORK

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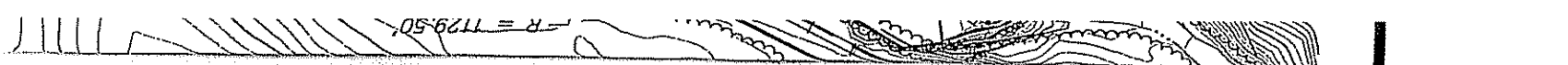
90303.00



3.1.2 Potential Impacts

Grading activities associated with the construction of the proposed landfill and recycling area will require extensive earthwork operations on-site. These operations include sorting, stockpiling, processing and hauling excavated soils. The volume of soils excavated from the proposed landfill will be used to fill areas within the project boundaries to balance the cut and fill required to achieve final grades. Balancing the cut and fill volumes is an iterative process of adjusting grades in the planning and design phase of the proposed project, until these soil volumes equal one another.

The proposed grading plan for the landfill will produce a cut (excavation) of 1,190,000 cubic yards of cut and a fill of 1,000,000 cubic yards with a net of 190,000 cubic yards of cut. The material breakdown for these cut volumes are 290,000 cubic yards of rock, 640,000 cubic yards of clay, and 260,000 cubic yards of till. All of the clay and till soils will be used for fill during construction of the landfill and recycling center berm. Approximately 100,000 cubic yards of bedrock will be crushed on-site and used for structural fill materials and erosion control. The remaining approximately 190,000 cubic yards of bedrock will be shipped off site for processing and resale. All of these volumes are critical to the planning and design of how the site will be constructed. The excavated soils and bedrock from the landfill cell area will be used to construct the access road, landfill liner, landfill cap, raised berms, and filling ravines within the recycling area.

Planning such a grading operation involves having enough space on-site to temporarily stockpile excavated soils and a plan to efficiently and effective distribute the excavated volume of soils to the appropriate areas as needed. The strategy is to separate the soils excavated from the landfill and to use the soils advantageously. The operations associated will the excavation and grading of the entire site will follow a construction sequence plan describing how the site will be constructed.

The sequence plan will start with the removal and clearing of all vegetation on-site. Once the site has been cleared and stripped of all vegetation, initial grading operations will proceed. Grading activities will commence within the landfill cell by removing soils to the appropriate depths of the proposed grading plan. These soils will be hauled and stockpiled according to the soil type. The excavated soils will be loaded into trucks that will haul the materials to specific locations on-site and the landfill cell itself will serve as staging area for stockpiling excess soils. At first, the soils will be used to raise grades along the access road leading up to the landfill off of East Main Street. As earthwork operations proceed, the remaining access road leading up to the recycling area will be completed. Excavation within the landfill will continue to generate fill for the recycling area.

During the entire grading operation, soils will be separated and stockpiled according to their engineering properties. The three general classifications are clay, till, and bedrock. The clay materials will be used to construct the liner and recycling center berm (later to be used for the cap of the landfill) and till materials will be used to construct the bedrock separation layer beneath the landfill and to raise all proposed grades. Bedrock materials will be processed on site and used for structural fill, road base, drainage materials, and rip-rap.

3.1.3 Mitigation Measures

To evaluate the stability of the constructed slopes of the landfill and recycling center berm, a slope stability analysis was conducted as part of a geotechnical investigation for the project site.

The analyses were performed using Galena Slope Stability Software. Soil input parameters were determined through field investigation and laboratory testing of the on-site soils. Undisturbed soil samples, collected by shelby tubes, were used to determine the strength parameters of in-place soils. Remolded samples were used to determine strength parameters for placed and compacted fills. Soil testing was performed by Atlantic Testing Laboratories of Clifton Park, New York.

The results of the slope stability analysis presented in Appendix K show that the designed slopes required for the liner system, as well as the construction of the recycling center itself are safe and have an approximate factor of safety against failure ranging from 1.7 to 2.5. When a seismic load of 0.15g is added to the model it reduces the factor of safety of the slopes to 1.25 to 1.5. Standard practice dictates that a factor of safety greater than 1.0 constitutes a safe slope. The factors of safety determined, for both cases described above, are acceptable and therefore, no mitigation measures are necessary with respect to slope stability.

Site grading and surface alterations present concerns for soil erosion. Erosion and sediment control measures will be implemented during construction to limit erosion and will be maintained during landfill operation and post-closure. Erosion and sediment control measures are described in Section 3.2.3.1 of this report.

3.2 Soils and Surficial Geology

3.2.1 Existing Conditions

According to the New York State Surficial Geology Map, the site area is mapped near the boundaries of several surficial geologic units. The subject site appears to predominantly consist of a variation of sand, gravel, and silt with areas of exposed bedrock. The geologic units described in the area are fluvial gravel deposits, alluvial deposits, till, and exposed bedrock.

Areas to the north of the subject site, and possibly the northern portion of the property, are mapped as exposed bedrock. Site reconnaissance confirmed the existence of bedrock exposures in the area. Generally, bedrock mapped on the surficial geology map is either exposed or within 1-meter of the surface.

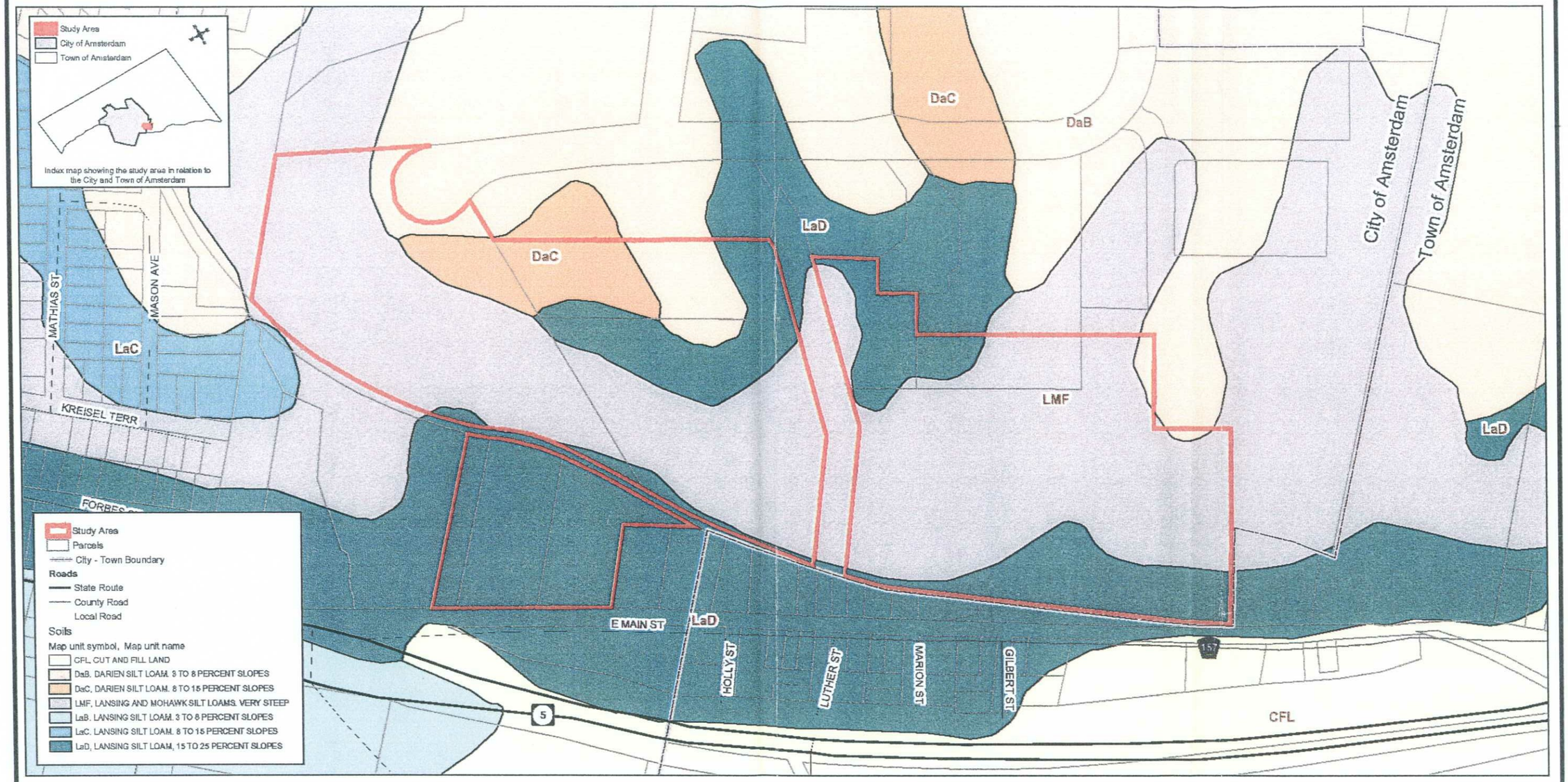
Glacial till is displayed throughout the subject property and is commonly found in the Mohawk Valley. Till is deposited under glacial ice as it advances and consists of non-sorted mixtures of rock debris and rock flour. Glacial till is typically a poorly sorted mixture of a fine-grained matrix, or diamict, supporting variable amounts of sand, gravel and cobbles. Glacial till is commonly a sub-glacial deposit and therefore highly compacted. The permeability of glacial till is typically low due to its composition and density.

Fluvial gravel deposits are identified on the NYS Surficial Geology Map as occurring on the subject property. Fluvial gravels are generally coarse to fine gravels with sand, deposited during proglacial fluvial activity. These deposits can range in thickness from 2 to 20-meters and are similar to outwash sand and gravel deposits, however, deposition occurs further from the glacier. The permeability of this deposit is typically high due to its composition and density.

Alluvial deposits are identified as the surficial geologic unit near the southern portion of the subject property. Alluvium is a stream deposit of recent time and can range from 1 to 10-meters in thickness. These deposits are generally confined to floodplains within a valley and consist of fine sand to gravel. Alluvial deposits can vary greatly in composition based on the flow rate of the river (i.e., its ability to carry or suspend various sized sediments). These deposits are subject to frequent flooding and may be overlain by silt in larger valleys.

The surficial geology was altered during periods of glacial activity as a result of both the scouring abrasion of the ice mass and the periglacial depositional processes. In general, the ice mass stripped the overlying soils from the bedrock surface as it moved across the Mohawk Valley leaving behind areas of exposed bedrock and depositing glacial till beneath the ice. Periglacial activity, including fluvial or river processes, carried sand and gravel away from the ice mass and deposited the material in pockets throughout the Valley. During more recent geologic activity, the Mohawk River continues to alter the soil material along its banks based on the flow rate and activity of the river.

The USDA Soil Conservation Survey for Montgomery County, New York (1970) identifies four general classifications of silt loam. Silt loam is typically described as a rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter. Locally, gravels consisting of the aforementioned rock types also make up the composition of these silt loams due to the derivation from glacial till. The permeability of these deposits ranges from poorly-drained to well-drained. Figure 3-3, Site Soil Classification Map illustrates the soil types across the site, as identified in the USDA Montgomery County Soil Conservation Survey.



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Phone: (518) 812-0513

Map Scale

Feet

0 100 200 400 600 800

Amsterdam Materials Recycling

Figure 3-3: Site Soil Classification Map

Amsterdam Materials Reclycling
AIDA - Edson Street

City of Amsterdam, Montgomery County, New York

Created by:	Carol Conolly
Date:	December 4, 2003
Scale:	1:3,000
Project #:	90309.00

Map Document: (R:\90300-90399\90309\GIS\arcmaps\Revised\Aprx\90309_Figure3-3_SiteSoilClassificationMap_11x17.mxd)
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As indicated on Figure 3-3, the majority of the soils across the site are members of Lansing series (LMF and LaD) which consist of gently sloping to very steep, well drained, medium-textured soils formed in glacial till derived from shale, limestone, sandstone and siltstone. In a representative profile of Lansing soils, the surface layer consists of an 8-inch thick layer of dark grayish-brown silt loam which overlies a 4-inch thick layer of pale-brown, friable silt loam. The next layer is a pale-brown, friable gravelly silt loam approximately 8-inches thick and the subsoil is 8 inches of brown, firm, gravelly heavy silt loam. The representative substratum in this series is a dark grayish-brown, firm gravelly silt loam, which extends to a depth of approximately 50 inches.

Descriptions of the site soil series mapped in the Lansing series and in other soil series classifications are provided below.

(LMF) Lansing and Mohawk silt loams, very steep:

Areas of this mapping unit are entirely Lansing soil or Mohawk soil or both. These soils have a similar, but shallower profile than the other Lansing silt loams. The surface layer generally ranges from very fine sandy loam to silt loam, but in places, Mohawk soil has a surface layer of light silty clay loam. Slopes are steep and very steep and are generally cut by streams entering the Mohawk River flood plain. Included in this mapping are small areas of less sloping soils and a few areas of bare, exposed till embankments. Soils in this classification are typically long and narrow and range in size from 20 to more than 50 acres.

Lansing Mohawk silt loams are classified in soil hydrologic group B, indicating a moderately low runoff potential. Generally, soils in this group have above-average infiltration after thorough wetting. Information provided in the Montgomery County soil survey indicates that depth to bedrock in this soil unit is greater than 5 feet below the surface.

This mapping unit is suited to woodland or wildlife habitat. The steepness of the soil has limited most uses.

(LaD) Lansing silt loam, 15-25%:

This moderately steep soil occupies the side slopes which lead from sloping areas to gently rolling foot slopes. Areas within this soil type are typically long and many areas are larger than 20 acres. This soil is suited to hay, pasture and woodland however the hazard of erosion limits its use for row crops.

The surface layer consists of an 8-inch thick layer of dark grayish-brown silt loam while the subsurface layer is a pale-brown friable silt loam (typically 4 inches thick). The next layer is a pale-brown, friable, gravelly silt loam which is approximately 8 inches thick. The subsoil in this series consists of an 8-inch thick layer of brown, firm, gravelly heavy silt loam which overlies a substratum

layer of dark grayish-brown, firm gravelly silt loam which typically extends to a depth of 50 inches. The water table is below a depth of 3.5 feet and permeability is moderate in the stratum and slow to very slow in the substratum. These soils are classified in soil hydrologic group B, indicating a moderately low runoff potential. Available water capacity is classified as high. Included with this soil in mapping are small areas of eroded soils that have a lighter colored surface layer.

Like the other soils in this series (LMF), the depth to bedrock in this soil unit is greater than 5 feet below the ground surface.

(DaB) Darien silt loam, 3-8% slopes:

This gently sloping soil has the profile representative of the Darien series. This soil occupies large areas (typically more than 40 acres in size) on glacial till plains on uplands. Typically, the surface layer consists of a dark, grayish-brown, fine and granular silt loam (approximately 7-inches thick) which overlies a 7 to 10 inch thick layer of grayish-brown fine and medium silt loam. The deeper soil layers (at depths of 30 to 60 inches) consists of dark gray and dark grayish-brown silty clay loam, with dark-gray and light olive brown shaly silt clay loam typically present at 31 to 56 inches below grade. Darien silt loam has a moderately high runoff potential (hydrologic soil group C) and slow infiltration rates when thoroughly wetted.

Included with this soil in mapping are small areas of nearly level Darien soils. The Darien soil is suited to hay, pasture and woodland. Given the seasonal wetness, slight erosion hazard and slow permeability, these soils have limitations for most uses. The water table is within 6 inches of the surface during wet periods and available water capacity is moderate to high. Depth to bedrock is greater than 5 feet below the ground surface.

(DaC) Darien silt loam, 8-15%:

This soil is similar in profile to the soil representative of the series (DaB), however the subsoil is generally brighter in color. Soils in this classification typically occupy long and narrow areas on side slopes and are generally 15-acres or less is size. Like the other soils in this classification (DaB), these soils are mapped in hydrologic soil group C, indicating a moderately high runoff potential.

Included with this soil in mapping are small areas of Lansing soils and a few small areas of Nunda soils in the southernmost areas. Like the representative soil in the series, this soil is suited to hay, pasture and woodland, has a water table is within 6 inches of the surface during wet periods and a moderate to high available water capacity. Given the seasonal wetness, slight erosion hazard and slow permeability, these soils have limitations for most uses.

Site-specific soil and geologic information was obtained during a subsurface investigation and hydrogeologic investigation performed by The Chazen Companies between May and August 2003. Subsurface test pits installed on the project site in May of 2003 confirm the USDA soil classifications. Test borings were installed across the site to average depths of approximately 20 feet. Borings were conducted using a B47 Track Mounted auger drilling rig employing continuous split-spoon soil sampling techniques. The initial boring program was implemented following a grid spacing across the site, modified only where site access limited entry. Temporary 2-inch piezometers were installed in select borings.

Test pits were excavated at this site in order to allow collection of Shelby tube permeability samples. Test pits were advanced on July 1, 2003, to collect 5-gallon buckets of unoxidized (gray) and oxidized (gray) silty clay from the site for re-compaction/permeability analysis. Onsite boring logs show that the surficial geology could be characterized as three parts:

Topsoil: with rich organic components, silt and clay are usually the main composition though fairly cobbles occur. Thickness varied from 7 inches to 2 feet. Color is different from brown to black.

Ablation Till: the occurrence and distribution of ablation till are identified basically on the composition of soil recovery though the easiness to drive was helpful too. Generally the occurrence of till follows the topography of the investigation site, i.e. from the west to east. Thickness changes from about ~25' in west to ~60' in east. Usually it is easy to drive with 20-30 blow counts, though in some section it could become harder due to cobble encountering or local denser part. The main composition in this part includes gray silt and clay, brown fine to medium sand, and fine red gravel, mostly moisture and moderate to high plasticity.

Basal Till: The occurrence of basal till follows the topography as ablation till with a bit extension from northwest to southeast. Thickness goes from ~10 feet in northwest to 50 feet in southeast. It is usually dense with 50-40 blow counts though some soft intermittent section could occur. Mainly the composition is silt and clay, gray sand, fine to medium red gravel. No basal till is encountered in northeast and southwest based on the general characterization but the divide is not completely obvious.

Detailed information pertaining to the investigative techniques, copies of test pit logs, etc. is include in the Geologic and Hydrogeology Investigation Report attached as Appendix B.

3.2.2 Potential Impacts

Potential impacts to soils relate to soil suitability for grading and construction activities and for the preparation of the landfill, staging areas, recycling facility,

new roads and utilities. Additionally, construction activities are anticipated to generate excess cut material requiring on site processing and off-site trucking.

3.2.2.1 Soil Suitability

Potential impact to soils relate to soil suitability for grading and construction activities and for the preparation of the landfill, staging areas, recycling facility, new roads and utilities.

As discussed in Section 3.1.3, soil testing indicates that the soil in the landfill area and in the recycling center is suitability for the proposed uses and has an acceptable safety factor with respect to slope stability. Additionally, cut and fill calculations indicate that the project site has a sufficient amount of soil materials which can be compacted and is suitable for the proposed site uses.

The suitability of the site soil for the proposed uses is affected by soil saturation and groundwater drainage. These factors have the potential to affect soil stability on the project site.

As previously mentioned, the existing overburden soils are a silty clay material. Fine-grained soils of this nature have a high potential for erosion and loss of strength with the addition of water during excavation and construction activities. The loss of strength can affect slope stability and foundations of the proposed landfill and recycling facility. In addition, due to the low hydraulic conductivity of these type soils, water flow through these soils is extremely difficult.

3.2.2.2 Soil Erosion

Surficial soils will be affected by extensive excavation and grading activities performed as part of the proposed project. Native soils will be excavated and stockpiled on the project site and may be used as fill in certain areas of the site. Anticipated impacts to soils and surficial geology from the proposed project include the potential for erosion. The disturbance and excavation of soil presents concerns for erosion during construction, during the operational project period and after project completion during the post-closure and monitoring period.

3.2.2.3 Fugitive Dust

Construction activities associated with the proposed project will result the generation of fugitive dust both during the activities (i.e., excavation, demolition, vehicle traffic, human activity) and as a result of wind erosion over the exposed earth surfaces. Site operations, including material sorting, moving and placement of materials within the landfill cell may also generate fugitive dusts. Mitigative measures will be implemented to control the generation and migration of fugitive dust on the project site. Mitigative dust control measures are described in Section 3.8.3.2 of this report.

3.2.2.4 Excess Cut Material

The proposed grading plan for the landfill will produce a cut of 900,000 cubic yards of soil. The material breakdown for these cut volumes are 640,000 cubic yards of clay, and 260,000 cubic yards of till. All of the clay and till soils will be used for fill during construction of the landfill and the recycling center berm. Excess soils materials requiring off-site trucking are not anticipated.

3.2.3 Mitigation Measures

3.2.3.1 Soil Suitability Analysis

As described in Section 3.1.3, a slope stability analysis was conducted as part of a geotechnical investigation of the project site. The analysis indicates that the factors of safety for slope stability are within acceptable limits and therefore no mitigation measures are necessary with respect to slope stability.

In addition to obtaining data to evaluate slope stability under current and proposed conditions, the geotechnical investigation was performed to characterize soils for use on-site in the proposed development areas.

The onsite soils as described in Section 3.2 consist of a silty clay deposit overlying a dense gray till layer above bedrock. As required by 6NYCRR Part 360 regulations, the barrier layer of the landfill liner system must contain a fine grain soil with a maximum hydraulic conductivity of 1E-7 cm/sec. The on site silty clay soil appears to be suitable for use as the barrier layer in the liner system. The hydraulic conductivity is approximately 3E-8 cm/sec. In addition, the existing till layer will be suitable for use in construction of the landfill subbase, as grading fill and engineered slopes throughout the remainder of the site.

The implementation of the erosion and stormwater control measures discussed in Section 3.2.3.2 and 3.5.3.1 will minimize the potential for erosion in the clay soils along the slopes of the landfill cell and within the recycling facility. Additionally, the rerouting of the stormwater around the landfill and recycling facility will prevent the infiltration of additional waters to the soils thereby, preventing the loss of strength in the soils to occur due to water surcharge into the soil media. Additionally, the existing groundwater in the unconsolidated strata and shallow bedrock will be routed through an engineered pore pressure relief system to the leachate storage tanks. Behavior of the soils within the landfill cell is controlled by the design of the landfill in accordance with NYSDEC Part 360 regulations. Therefore, no mitigation measures are necessary with respect to soil saturation and groundwater drainage.

3.2.3.2 Erosion and Sediment Control

Erosion and sediment control measures will be implemented to provide site stabilization, slope and drainage way protection. Erosion and sediment control will include best management practices and measures as follows:

Best management vegetative practices, which will include, but are not limited to:

- Creation and maintenance of a buffer zone along the western and southern limits of the landfill cell. Factors such as slope, hydrology and structure will be considered in the design and maintenance of the buffer zone. Vegetation within the buffer zone will be maintained and enhanced, as necessary.

- Disturbed areas will be stabilized using permanent plantings, sod or other vegetative practices and mulched with hay or straw mulch at a rate of 8 tons per acre within 14 days.

Best management structural practices may include but are not limited to:

- Use of silt fences around the perimeter of the construction area. Contour, hydrology and other conditions will be considered during the selection and placement of silt fences. Silt fencing will be monitored and inspected regularly and modified or reinforced as necessary.

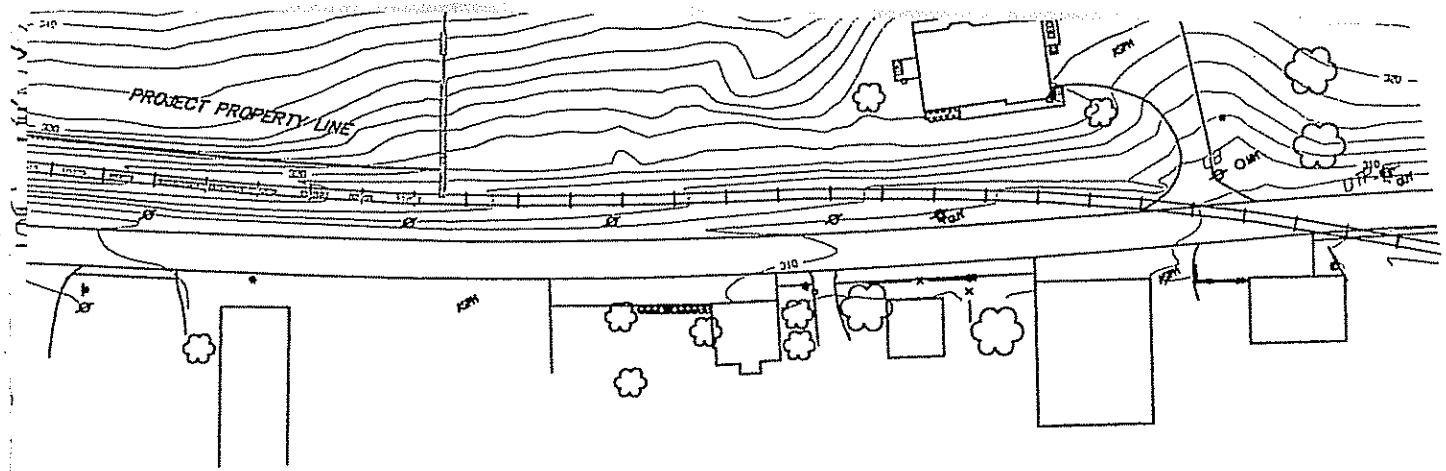
- Use of stabilized construction entrances consisting of coarse gravel at all entrances/exits from the construction areas to prevent the tracking of soils out of the construction zone and onto nearby streets.

- Use of rip-rap in areas around the perimeter of the construction site (i.e. on slopes and areas where conditions are not conducive to vegetative growth, within drainage channels etc.)

- Sediment traps will be constructed where necessary to detain sediment-laden runoff and impound stormwater. Sediment will be periodically removed from the trap to maintain the required volume.

- Temporary erosion and sediment control measures will be monitored regularly and modified as necessary.

A copy of the Erosion Control Plan is included as Figure 3-3.1



AMSTERDAM MATERIALS RECYCLING

EROSION CONTROL PLAN

City of Amsterdam, Montgomery County, New York

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FIG. 3-3.1

Following construction, permanent erosion and sediment control measures will be implemented, managed and maintained consistent with the recommendations in the New York Guidelines for Urban Erosion and Sediment Control, (Empire State Chapter, 1997) including, but not limited to:

- On-going operation, monitoring, and maintenance of the stormwater retention basins;
- Installation, monitoring and maintenance of slope benches and diversion berms as necessary on long slopes, including the landfill liner and cover system.
- Regular cleaning of catch basin sumps;
- Riprap at outfalls will be either cleaned or replaced when overburdened with silt or sediment.
- Drainage areas damaged by erosion will be repaired.
- All silt or sediment accumulations will be cleaned from stormwater quality and management basins.
- All drainage swales will be kept free of debris and the vegetation will be maintained to allow unobstructed flow of stormwater
- Any slopes or embanks which have damaged vegetation will be re-seeded and mulched as necessary.
- All grass swale areas will be mowed regularly to facilitate unobstructed flow of stormwater.

The Storm Water Pollution Prevention Plan (SWPPP) presented in Appendix C has been prepared in response to the US Environmental Protection Agencies (USEPA) and New York State Department of Environmental Conservation (NYSDEC) Phase II Stormwater Regulation, effective March 10, 2003. The general contractor, and all subcontractors involved with construction activity that disturb site soil or who implement pollutant control measures identified in this Storm Water Pollution Prevention Plan (SWPPP) are responsible for complying with the requirements set forth in the National Discharge Elimination System (NPDES) General Permit, NYSDEC, SPDES Permit GP-02-01 and any local governing agencies having jurisdiction with regards to erosion and sediment control.

The SWPP is subject to review and approval during the NYSDEC permitting process and the City of Amsterdam Site Plan review process. Key design

elements to be reviewed with the City and revised as required include the suitability, longevity and any potential maintenance issues for stormwater elements to remain after the closure of the facility.

The requirements of the NPDES and SPDES Permit GP-02-01 are as follows:

1. The Owner must sign the Notice of Intent (NOI) presented in Appendix D, and forward to the following agencies at least 5 (five) days prior to starting any construction activities.

   NYS Department of Environmental Conservation
   Division of Water
   625 Broadway
   Albany, New York 12233
   (800) 952-2490

   City of Amsterdam Engineer
   City Hall
   61 Church Street
   Amsterdam, NY 12010
   (518) 841-4331

2. The contractor shall send all notifications via certified mail with return receipt. Copies of mailing receipts shall be kept on record at the project site with the SWPPP and shall be considered part of the contract documents.

3. The Contractor shall hold a pre-construction conference at the site with the, Owner and its qualified inspector, NYSDEC, and the City of Amsterdam representatives at least one week prior to commencement of construction. The contractor shall provide copies of the SWPPP to the Owner, the Engineer, and the City of Amsterdam once all signatures and attachments are complete.

4. A copy of the Notice of Intent (NOI) and a description of the project must be posted in a prominent place for public viewing at the project site.

5. A complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., must be retained at the project site at all times during working hours and kept as part of the permanent project records for a duration no less than three years following submission of the Notice of Termination (NOT).

6. The general contractor must provide names and addresses of all subcontractors working on the project who will be involved with the major

construction activities that will result in soil disturbance. This information must be retained as part of the SWPPP.

7. The general contractor and all subcontractors involved with construction activities that disturb site soil must sign a copy of the certification statement.

8. Regular inspections must be made by a qualified professional to determine the effectiveness of the SWPPP. It should be modified as needed to prevent pollutants from discharging from the site. The inspector must be a person familiar with the site, the nature of the major construction activities, and qualified to evaluate both overall system performance and individual component performance. Additionally, the inspector must either be someone empowered to implement modifications to the SWPPP and the pollutant control devices, if needed, in order to increase effectiveness to an acceptable level, or someone with the authority to cause such events to happen.

9. The SWPPP must be updated each time there is a significant modification to the pollutant prevention system or a change of contractors working on the project who may disturb site soil. The general contractor must notify the governing agency(s) as soon as these modifications are implemented.

10. Discharge of oil or other hazardous substances into the storm water is subject to reporting and cleanup requirements. Refer to Part III.B of the NPDES General Permit for additional information.

11. Once the site reaches final stabilization, the site inspector must complete and submit a Notice of Termination (NOT). A blank form is included as Appendix I.

12. The SWPPP intends to control water-borne and liquid pollutant discharges by some combination of interception, filtration, and containment. The general contractor and subcontractors implementing the SWPPP must remain alert to the need to periodically refine and amend the SWPPP in order to accomplish the intended goals.

13. The SWPPP must be amended as necessary during the course of construction in order to keep it current with the pollutant control measures utilized at the site. Amending the SWPPP does not mean that it has to be reprinted. It is acceptable to add addenda, sketches, new sections, and/or revised drawings.

14. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the

site, and when stabilization measures are initiated must be maintained until the NOT is filed.

15. Regular inspections by the owner should continue post-construction to ensure the pollutant control devices are adequate and the storm water management system is maintained and operating properly.

The SWPP includes a discussion of the initial construction sediment and erosion control measures to be implemented at the site, as well as a description of the storm water management plan to be implemented during the operation of the landfill and following the closure of the landfill. Phase 1 involves the construction of the storm water management facilities that are to be utilized during the construction/operation of the landfill. Phase 2 involves the construction of the storm water management facilities that are to remain in place following the closure of the landfill.

The SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities administered by the U.S. Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES) program and local governing agency requirements. The SWPPP must be implemented at the start of construction.

Construction phase pollutant sources anticipated at the site are disturbed (bare) soil, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. Without adequate control there is the potential for each type of pollutant to be transported by storm water.

Project construction will primarily consist of site grading, paving, storm drainage, water supply and sewage collection to facilitate the development of the materials recycling center and landfill.

The SWPP considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed run-off;

2. Controlling increases in storm water run-off resulting from the proposed development without adversely altering downstream conditions; and

3. Mitigating potential storm water quality impacts and preventing soil erosion and sedimentation resulting from storm water run-off both during and after construction and upon completion.

To demonstrate this, existing and proposed storm water run-off conditions were estimated and proposed storm water management facilities have been described and evaluated.

The hydrologic and hydraulic analyses were completed in accordance with the following standards and guides: the "New York State Stormwater Management Design Manual" (Dated October, 2001); the "New York State Department of Environmental Conservation - Reducing the Impacts of Stormwater Runoff From New Development" and the "New York State Guidelines for Urban Erosion and Sediment Control" (1997).

Described below are the major construction activities that are the subject of the SWPPP. The major construction activities are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sedimentation control:

1. Selective and limited clearing to facilitate the installation of erosion and sediment control measures.

2. Construct stabilized construction entrance rock pads at all construction entrances/exits. This shall be the first construction work on the project.

3. Install sediment barriers down slope from construction activities that disturb site soil;

4. Install temporary sediment basin adjacent to the access to intercept sediment laden storm water generated during initial construction activities;

5. Construct rock surface for temporary parking;

6. Clear and grub the improvement areas. Sediment barriers shall be in place down slope;

7. Rough grading necessary to form ponds and drainage channels;

8. Rough grading necessary to form the building pad and pavement areas;

9. Install underground utilities – Sediment barriers shall be utilized as required to bound the down slope side of utility construction and soil stockpiles;

10. Final Grading – Sediment barriers will be maintained down slope from disturbed soil during this operation; and

11. Completion of on-site stabilization.

The actual schedule for implementing pollutant control measures will be determined by project construction progress. Down slope protective measures must always be in place before soil is disturbed.

Through the implementation of best management practices and other measures pertaining to erosion and sediment control, the proposed project will not have a significant adverse impact to soils on the site and surrounding project area.

3.2.3.3 Dust Control

As it is not feasible to predict quantities of dust which would be generated during the varying site operations and the natural forces which control the migration of dusts are not controllable, measures will be taken to control the generation and migration of fugitive dusts. These measures will pertain to dusts generated during construction activities and during operation of the project. Dust control measures have been designed based on site characteristics and applicable guidance documentation, including "*The Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures (EPA-450/2-92-004)*" and documentation provided by the NYSDOH and NYSDEC. Fugitive dust control measures are described in Section 3.8.3.2 of this report.

3.2.3.4 Excess Cut Material

Excess soil materials requiring of-site trucking is not anticipated during the construction phase. Off-site shipment of excess bedrock materials is discussed in Section 3.3.

3.3 Bedrock Geology

This section describes bedrock geologic conditions on the project site, identifies potential impacts from the proposed action and outlines Mitigation measures to address anticipated impacts.

3.3.1 Existing Conditions

According to the New York State Bedrock Geology Map, the subject property lies near the boundaries of two bedrock units. The bedrock unit beneath the northern part of the property is part of the Trenton and Black River Groups and consists of Middle Ordovician-aged limestone. The Formations described as part of this Group include the Dolgeville, Denley, Sugar River, Kings Falls, Glens Falls, Rockland, Amsterdam, and Lowville Limestones. The unit beneath the southern portion of the property is part of the Lower Ordovician-aged Beekmantown Group including the Chuctanunda Creek Dolostone, Tribes Hill Formation consisting of limestone and dolostone, and the Gailor Dolostone. In this location, it is likely

that it would be the Amsterdam limestone which is present. Dolostones of the Beekmantown Group lie directly under the Amsterdam limestone. Geologic mapping completed by Fisher (1980) identifies the caprock underlying the City of Amsterdam as the Glens Falls Limestone, not exceeding approximately 40 feet in total thickness, overlying the Chuctanunda Creek Dolostone. The dolostone is identified as a bluish-gray (fresh rock), medium-to-thick, bedded, fine to medium grained dolostone with some quartz vugs. Although the geologic names differ, the rock descriptions agree with observed core collected by Chazen, consisting of limestone in upper formations grading to dolomitic carbonates in deeper sections.

Based on regional mapping, these carbonate bedrock formations are expected to exhibit sub-horizontal bedding plains free of metamorphic modification. Formations may be separated by depositional unconformities. There are no known structural deformations near the City of Amsterdam or on the project site. The nearest-recognized faults shown on the Geologic Map of New York and on the Preliminary Brittle Structures Map of New York lie three or more miles east of the site, consisting of normal faults of limited lateral extent. Based on site reconnaissance, specimens collected from a nearby streambed, as well as outcrops observed to the north of the property agree with this classification.

The Hudson-Mohawk Sheet of the NYS Museum Surficial Geologic Map of New York identifies glacial till and rock outcrop in the vicinity of the site. Areas north and upslope of the site include thin glacial till with potential for exposed bedrock. Limited glacial-era fluvial gravel and more recent alluvial deposits are mapped south of the site along the banks of the Mohawk River.

Although not differentiated on regional mapping, glacial till deposits often include basal till, consisting of mixed sediments deposited and compressed under the Pleistocene-era glacial ice mass, and ablation till, consisting of mixed sediments dropped by the ice or transported nominal distances after the last glacial period. Basal and ablation till each usually consist of a wide and poorly-sorted mixture of rock types and particle sizes transported by the glacial ice from more northerly areas.

According to the USDA Soil Conservation Survey for Montgomery County, New York (1970), bedrock in the area of the site is generally located greater than 5 feet below the surface. Site reconnaissance and subsurface investigations indicate that in certain areas of the site, bedrock is exposed or generally located within one meter of the ground surface. In general, bedrock was not encountered less than 25-40 feet below the ground surface in most areas of the site.

3.3.2 Potential Impacts

The proposed project involves the removal of bedrock materials in the landfill area. Potential impacts to the subsurface geology result from blasting and rock removal in areas of shallow bedrock, on site crushing/processing of some of the removed rock, and off-site trucking of the excess excavated rock.

3.3.2.1 Blasting

Shallow bedrock is located on portions of the site and blasting may be necessary in these areas. It is anticipated that blasting of bedrock will occur to the extent necessary to fulfill NYCRR Part 360 requirement to maintain a 10-foot separation between the bottom of liner and top of bedrock. Subsurface investigations have been conducted and indicate that bedrock will be encountered during the excavation process.

The estimated limits of bedrock removal and the grades for the final excavation are shown in Figure 3-3.2, Bedrock Excavation Plan and representative cross-sections are shown in Figure 3-3.3, Bedrock Excavation Cross-Sections.

The US Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE) identify the following main adverse effects of blasting:

- Airblast;
- Flyrock; and
- Ground motion.

Excerpts from OSMRE's Blasting Guidance Manual are provided below.

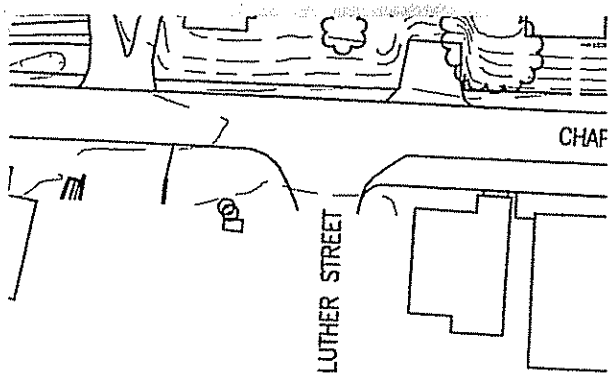
Airblast

Airblast, also referred to as "air overpressure", is an airborne shock wave resulting from the detonation of explosives, and may or may not be audible. The loudness of an event is no indication of the potential impacts of the airblast. Likewise, inaudible events may still produce a significant air blast as the airblast energy is often transmitted at low frequencies that can not be heard by the human ear. According the OSMRE, real structural damage caused by aiorblast is very rare. Nonetheless, airblast is commonly perceived by humans, and although not structurally damaging, effects such as rattling windows can be unsettling. For these reasons, strict monitoring and controls over the airblast are discussed below in Section 3.3.3.1.

Flyrock

Flyrock

Flyrock refers to rock that is propelled through the air from a blast. Excessive flyrock can be caused by poor blast design or unexpected zones of weakness in the rock. As discussed below in Section 3.3.3.1, flyrock will be controlled to prevent rock fragments from travelling off-site.



AMSTERDAM MATERIALS RECYCLING

BEDROCK EXCAVATION PLAN

City of Amsterdam, Montgomery County, New York

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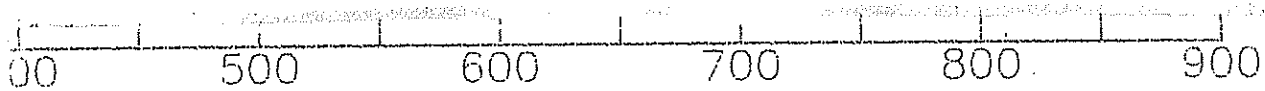
sheet no. **fig. 3-3.1**	



AMSTERDAM MATERIALS RECYCLING

BEDROCK EXCAVATION CROSS-SECTIONS

City of Amsterdam, Montgomery County, New York

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Ground Motion

Ground motion is a shaking of the ground caused by the elastic wave emanating from a blast. Excessive ground motion (vibration) can cause damage to structures. Ground motion can cause damage to neighboring structures, most commonly the aggravation of pre-existing minor cracks.

The subjective perception of ground motion is probably as serious a problem as the possibility of actual physical damage. When subjected to any significant ground motion, the perceptible shaking of a residence will cause some degree of subjective reaction by the occupants of the building.

At a particular site, the three primary variables effecting ground motion are as follows:

- Distance from blasting to receptor;
- Explosive charge weight per delay;
- Frequency of vibration.

The controls and monitoring of these three variables to prevent damage by ground motion are discussed in Section 3.3.3.1 below.

3.3.2.2 Excess Cut Material

Initial grading studies have been performed and conclude that approximately 290,000 cubic yards of bedrock will be removed from the landfill cell. Of this material, approximately 100,000 cubic yards will be crushed and used as on-site fill material during construction. The remaining approximately 190,000 cubic yards will be trucked off-site for processing and resale.

The impacts associated with off-site trucking are estimated as follows:

- 190,000 cubic yards of limestone bedrock weighs approximately 400,000 tons at a density of 2.16 tons per cubic yard;
- A truck with a heavy permit can haul approximately 35 tons per load;
- Truck shipments will occur for 8 hours per day, 5 days per week for 6 months;
- Using approximately 70 truck per day (8.75 per hour for 8 hours of truck traffic), approximately 75 percent (300,000 tons) will be shipped off site during the construction phase;

- To minimize trucking impacts, the remaining 100,000 tons of excavated rock will be stockpiled immediately north of the recycling center and shipped off-site during facility operations by using the incoming waste haulers for back-hauling the excavated stone.

3.3.3 Mitigation Measures

3.3.3.1 Blasting

All blasting operations will adhere to New York State ordinances governing the use of explosives by an experience, insured contractor. The State regulations are contained in 12 NYCRR 39 and Industrial Code Rule 53, and include such requirements as: licensing of operators; magazine (explosive storage) certification; and rules for conducting operations in a safe manner. Proper program guidelines will be established as necessary between the State, the Project Engineer, City of Amsterdam, General Contractor, and the blasting contractor prior to undertaking these activities.

All pertinent safety regulations and standards shall be applied as required for safety, security and other related details for any blasting deemed necessary. Such regulations include:

- US Army Corps of Engineers Safety Manual EM 385-1-1
- Code of Federal Regulations A.T.F. Title 27
- Institute of Makers of Explosives Safety Library Publications No. 22
- New York State Industrial Code Rule 53
- 29 CFR 1926.900-.914 OSHA Construction Standard
- Blasting Guidance Manual of the US Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE).All blasting shall be conducted, monitored and recorded by a New York State Department of Labor licensed blaster.

In addition to obtaining applicable blasting certifications and complying with all blast safety requirements, a Blasting Plan shall be pre-pared by the blasting contractor.

The elements of such a Blasting Plan are to include, but are not limited to:

Blast Design

The blast design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used, which protect the pubic and meet the applicable airblast, flyrock, and ground-vibration standards.

The blast design shall be prepared and signed by a certified blaster.

The regulatory authorities may require changes to the design submitted.

The blast design and any special mitigation measure must be coordinated with National Grid regarding the protection of the gas main and electrical distribution lines adjacent to the project site.

Preblasting Survey

At least 30 days before initiation of blasting, the operator shall notify, in writing, all residents or owners of dwellings or other structures located within 1/2 mile of the project area how to request a preblasting survey.

A resident or owner of a dwelling or structure within 1/2 mile of any part of the project area may request a preblasting survey. This request shall be made, in writing, as specified in the notifications made by the blasting contractor.

The blasting contractor shall promptly conduct a preblasting survey of the dwelling structure and promptly prepare a written report of the survey.

The blasting contractor shall determine the condition of the dwelling or structure and shall document any preblasting damage and other physical factors that could reasonably be affected by the blasting. Structures such as pipelines, cables, transmission lines, and cisterns, wells, and other water systems warrant special attention; however, the assessment of these structures may be limited to surface conditions and other readily available data.

The written report of the survey shall be signed by the person who conducted the survey. Copies of the report shall be promptly provided to the regulatory authorities and to the person requesting the survey.

If the person requesting the survey disagrees with the contents and/or recommendations contained therein, he or she may submit to both the blasting contractor and the regulatory authorities a detailed description of the specific areas of disagreement.

Any surveys requested more than 10 days before the planned initiation of blasting shall be completed by the blasting contractor, including reporting, before initiation of blasting.

Blasting Schedule

Surrounding landowners located within a 1000 feet radius of the blast site will be notified either by letter at a minimum of two days prior to the blast or by a published newspaper notice in the local newspaper in the week preceding each blast. The notifications shall include the expected date and time of the blast and also the alternate date and time should weather or other conditions warrant postponement of the blast. If the exact blast time is not known the expected blast period will be indicated.

The Blasting Contractor shall add additional names of residents or businesses to the notice list upon request of any part or parties.

The NYS Department of Labor shall be notified of all updates to the list within 1 week of said additions.

The blasting schedule shall contain, at a minimum:

- Name, address, and telephone number of operator;
- Identification of the specific areas in which blasting will take place;
- Dates and time periods when explosives are to be detonated;
- Methods to be used to control access to the blasting area; and,
- Type and patterns of audible warning and all-clear signals to be used before and after blasting.

A storm alert monitoring device will be used by the blasting contractor to detect any electrical build-up in the atmosphere at the blast area while using electrical caps.

Blasting will not occur during adverse weather conditions.

Blasting Signs, Warnings, and Access Control.

The Blasting Contractor shall conspicuously place signs reading "Blasting Area" along the edge of any blasting area that comes within 100 feet of any public road right-of-way, and at the point where any other road provides access to the

blasting area and at all entrances to the project area from public roads or highways, place conspicuous signs which state:

> Warning! Explosives in Use," which clearly list and describe the meaning of the audible blast warning and all-clear signals that are in use, and which explain the marking of blasting areas and charged holes awaiting firing within the project area.
> "

Warning and all-clear signals of different character or pattern that are audible within a range of ½ mile from the point of the blast shall be given. Each person within the permit area and each person who resides or regularly works within 1/2 mile of the permit area shall be notified of the meaning of the signals in the blasting schedule.

Control of Adverse Effects

Blasting shall be conducted to prevent injury to persons, damage to public or private property, adverse impacts on any underground mine, and change in the course, channel, or availability of surface or ground water outside the project area.

Air Blast Limits

Airblast shall not exceed the maximum limits listed below at the location of any dwelling, public building, school, church, or community or institutional building outside the project area:

0.1 Hz high-pass system	134 dB
2 Hz high-pass system	133 dB
5-6 Hz high-pass system	129 dB
c=slow (events not exceeding 2-sec duration)	105 dB

The Blasting Contractor shall conduct periodic monitoring to ensure compliance with the airblast standards. The regulatory authorities may require airblast measurement of any or all blasts and may specify the locations at which such measurements are taken.

The measuring systems shall have an upper-end flat-frequency response of at least 200 Hz.

Flyrock

Flyrock travelling in the air or along the ground shall not be cast from the blasting site:

- More than one-half the distance to the nearest dwelling or other occupied structure; or,
- Beyond the property line.

Soils will be saturated prior to blasting and appropriate stemming and blast matting will be used to minimize lifting of rock and debris and to control dust during blasting.

Ground Motion

In all blasting operations, the maximum ground vibration shall not exceed the values approved in the blasting plan.

Each blast shall be monitored using a calibrated seismograph. The seismograph must be able to record the entire blast event documented on paper, measuring radial, transverse and vertical components, and/or provide vector sum measurements for ground vibration, and must also be capable of measuring air blast. A blasting record/log shall be prepared for each blast. The seismograph will be placed on the ground surface of the property boundary to monitor each blast attempt.

The maximum ground vibration for protected structures shall be established in accordance with either the:

- Maximum peak-particle-velocity limits;
- Scaled-distance equation of paragraph; or,
- Blasting-level chart.

All other structures in the vicinity of the blasting such as water towers, pipelines and other utilities, tunnels, dams, impoundments, and underground mines, shall be protected from damage by establishment of a maximum allowable limit on the ground vibration, submitted by the blasting contractor in the blasting plan and approved by the regulatory authorities.

Distance (D) from the Blasting Site (ft)	Maximum Allowable Peak Particle Velocity (Vmax) for Ground Vibration, (in/s)*	Scaled Distance (Ds)to be Applied without Seismic Monitoring**
0-300	1.25	50
301-5,000	1.00	55
5001 and beyond	0.75	65

* Ground vibration shall be measured as the particle velocity. Particle velocity shall be recorded in three mutually perpendicular directions. The maximum allowable peak particle velocity shall apply to each of the three measurements.

** Scale-distance equation. The Blasting Contractor may use the scaled-distance equation, W=(D/Ds) 2 , to determine the allowable charge weight of explosives to be detonated in any 8-millisecond period, without seismic monitoring where W=the maximum weight of explosives, in pounds; D=the distance, in feet, from the blasting site to the nearest protected structure; and Ds=the scaled-distance factor, which may initially be approved by the regulatory authority using the values for scaled-distance factor listed above.

The Blasting Contractor may use the ground-vibration limits in Figure 1 to determine the maximum allowable ground vibration.

If the limits in the Figure below are used, a seismographic record including both particle velocity and vibration frequency levels shall be provided for each blast. The method for the analysis of the predominant frequency contained in the blasting records shall be approved by the regulatory authorities before application of this alternative blasting criterion.

The maximum allowable ground vibration shall be reduced by the regulatory authorities beyond the limits otherwise provided by this section, if determined

§816.67 30 CFR Ch. VII (7–1–97 Edition)

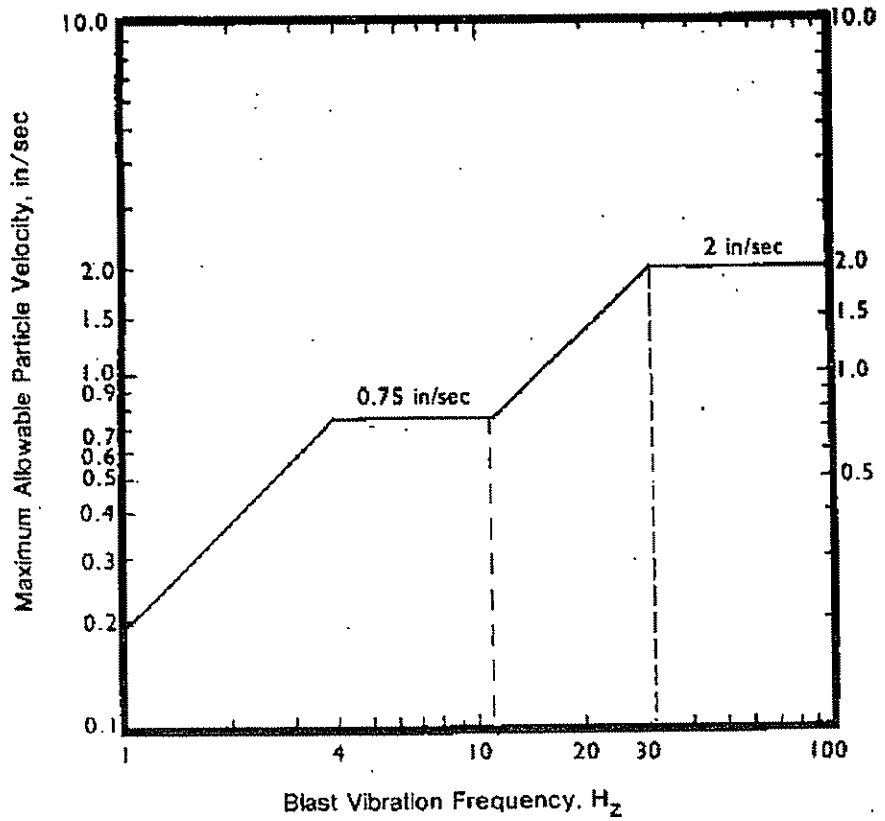

Figure 1. Alternative blasting level criteria.
(Source: Modified from figure B-1, Bureau of Mines RI8507)

necessary to provide damage protection.

Records of Blasting Operations.

The operator shall retain a record of all blasts for at least three years. Upon request, copies of these records shall be made available to the regulatory authorities and to the public for inspection.

All blast records are to be completed by the end of the work day following the day in which the blast occurred, and will be maintained by the blasting operator. Records will include the following information:

- Name of the operator conducting the blast;
- The location, date and time of the blast;
- Name, signature and license number of the licensed blaster;
- Type of material blasted;
- Number of holes, burden and spacing;
- Diameter and depths of the holes;
- Number of rows;
- Initiation system;
- Type and length of stemming;
- Type of explosive used;
- Total weight of explosive used;
- Weight of explosives used per hole;
- Maximum weight of explosives detonated within any eight milli-second period.
- Maximum number of holes or decks detonated within any eight milli-second period.
- Initiation system, including number of circuits and the timer interval, if a sequential timer is used;
- Sketch of the blast pattern showing all holes, delay pattern, location of free faces and previously blasted material, and a north arrow;
- Type of detonator and delay periods used, in milli-seconds; and,
- Distance and scaled distance to the slowest protected structure.

Seismographic and airblast records, if required, which shall include:

- Type of instrument, sensitivity, and calibration signal or certification of annual calibration;
- Exact location of instrument and the date, time, and distance from the blast;
- Name of the person and firm taking the reading;
- Name of the person and firm analyzing the seismographic record;
- The vibration and/or airblast level recorded.; and
- Reasons and conditions for each unscheduled blast.

Storage and Handling of Explosives

Storage of all explosive materials shall be located on the site at a location approved by the blasting engineer. Explosives shall be stored on the site in accordance with all applicable rules and regulations. Procedures for the storage of explosives shall include, but not be limited to:

- Caps or other detonating devices will not be stored with Class A explosives. Blasting caps, electric blasting caps, detonating primers, and primed cartridges shall not be stored in the same magazine with other explosives or blasting agents. Design of the powder magazine shall be in accordance with the references above.
- The security for explosives and blasting materials stored on-site will be in accordance with safety requirements and the blasting engineer.
- Smoking and open flames shall not be permitted within 50 feet of explosives and detonator storage magazine.
- No explosives or blasting agents shall be left unattended at the blast site.
- Machines and all tools not used for loading explosives into bore holes shall be removed from the immediate location of holes before explosives are delivered. Equipment shall not be operated within 50 feet of loaded holes.
- No activity of any nature other than that which is required for loading holes with explosives shall be permitted in a blast area.
- All explosives shall be accounted for at all times.

- Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them.
- The blasting operator shall maintain an inventory and use record of all explosives. A daily tally of all explosives delivered, used and stored will be maintained.
- The designated storage site, explosive transporting vehicles, and areas where explosives are being used shall be clearly marked and will display the required warning signs.
- Appropriate signs will be erected in the area of blasting activities. The prominent display of adequate signs, warning against the use of mobile radio transmitters, on all roads within 1000 feet of blasting operations.
- Delivery and transportation of explosives from the powder magazines to the blast area will be by vehicles specifically designed for this use by the criteria outlined in the safety requirements. Procedures relating to the transport of explosives which will be implemented shall include, but not be limited to:
- Only authorized persons will transport and handle the explosives as designated by the authority of those licensed for this purpose. At all times federal, state, and local ordinances will be followed concerning the transportation and storage of explosives.
- No person shall smoke, or carry matches or any other flame-producing device, nor shall firearms or loaded cartridges be carried while in or near a motor vehicle or conveyance transporting explosives.
- Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargoes. Blasting caps (including electric) shall not be transported in the same vehicle with other explosives.
- Vehicles used for transporting explosives shall be strong enough to carry the load without difficulty, and shall be in good mechanical condition.
- Every motor vehicle or conveyance used for transporting explosives shall be marked with the appropriate placards.
- Each vehicle used for transportation of explosives shall be equipped with a fully charged approved fire extinguisher of not less than 10-ABC rating. The driver shall be trained in the use of the extinguisher on his/her vehicle.
- No motor vehicle transporting explosives shall be left unattended.
- Vehicles equipped with radio transmitters and portable 2-way radios will not be permitted within 250 feet of blasting operations.

Mitigation Measures

Where necessary adjustments will be made to the following blasting design parameters to further mitigate the potential impacts from blasting:

- Amount of explosive per delay;
- Delay interval of the detonators;
- Distance between drilled blast holes;
- Hole pattern;
- Number of rows;
- Type and length of stemming.
- Direction of initiation of blast.

Through the use of these mitigation measures, significant adverse impacts from blasting are not anticipated.

3.3.3.2 Excess Cut Material

The truck traffic during the construction phase associated with the off-site transportation of excess rock is approximately 8-9 trucks per hour. The volume of truck traffic is consistent with the operation traffic volume analyzed in Section 3.16. Mitigation measures related to truck traffic are discussed in Section 3.16.3. Mitigation measures related to the noise impacts of truck traffic are discussed in Section 3.13.

3.4 Hydrogeology

This section will describe the hygrogeological characteristics of the site based on existing mapping, reports and investigations both for the site and the surrounding area.

3.4.1 Existing Conditions

The project site is not located over or adjacent to a primary water supply aquifer, as designated by the New York State Department of Environmental Conservation (NYSDEC). The NYSDEC has designated four aquifers in the Mohawk River basin as primary water supply aquifers, including the Fishkill/ Sprout Creek aquifer, Clifton Park/Halfmoon aquifer, Croton-on-Hudson aquifer, and the Schenectady aquifer. The Schenectady aquifer is also designated as a sole-source aquifer by the U.S. Environmental Protection Agency (EPA).

The evaluation of hydrogeologic conditions on and around the project site included a literature review of area geologic and hydrogeologic records, a surrounding property water well survey and a site subsurface geologic and

hydrogeologic investigation. The methodology and findings of the hydrogeologic report are summarized in the following sections. The complete site Hydrogeologic Report is attached as Appendix B. Reference to the report is suggested for a complete understanding of the investigation methods

3.4.1.1 Literature Review

USGS topographic mapping shows that the site lies on a hillside area within the Mohawk Valley, immediately east of the center of the City of Amsterdam and near the Mohawk River (Figure 1). The site lies in none of the primary aquifer areas identified in the prior section and does not meet qualifications for designation as a primary or principal aquifer.

Areas north of the site contribute groundwater recharge and overland flow to the site and to the Mohawk River. These upland areas include primarily gently-dipping landscape with few, to no, incised streams. The only dominant drainage stream is the North Creek which flows southward through the City of Amsterdam. A second, smaller, unnamed stream flows southward through the west perimeter of the project site.

Geologic mapping by Fisher (1980) identifies the Glens Falls Limestone underlying the City of Amsterdam, not exceeding approximately 40 feet in total thickness, overlying the Chuctanunda Creek Dolostone. The site lies near the margins of the mapped limestone cap formation, and only intermixed dolomite and limestone, or massive dolomite, was found on the site.

3.4.1.2 Water Well Survey

All parcels within 1/4 mile upgradient of the site to the north, and sites cross gradient to the site to the west lie within the City of Amsterdam and most receive water from the City of Amsterdam Municipal Water System. Cross-gradient properties along the east side of Widow Susan Road, are in the Town of Amsterdam and are not provided with public water. Properties downgradient of the site, to the south, lie between the site and the Mohawk River, within the Town of Amsterdam, and also receive water from the City of Amsterdam Municipal Water System.

Various parcels continue use of private wells, so a well survey form was mailed to all applicable sites near the project site. A summary of returned survey data indicate that most surrounding properties to the north, west and south of the site are within public water supply water districts and are assumed to receive potable water from central water supplies.

The 214 residential properties up gradient of the site were eliminated from the water well inventory mail out survey because these properties are supplied with water from the City of Amsterdam Water Filtration Plant, as reported by the City of Amsterdam Engineering Office in August 2003.

Approximately 36 properties are located down gradient of the site. To determine if any of these use private wells for a potable source, water survey questionnaires were mailed to these residents/owners.

Of the 36 questionnaires, 16 responses were received regarding 17 properties. The returned surveys indicated that ten of the seventeen properties use city water and seven of the properties use well water. Locations of the identified wells are shown on maps in Appendix B. The water well survey forms are included in the Geologic and Hydrogeology Report attached as Appendix B. Bedrock water supply wells installed between the AMR site and the Mohawk River are installed in an impermeable, low-yield, dolomite formation existing also under the AMR site.

3.4.1.3 Hydrogeologic Investigation

The hydrogeologic investigation included the installation of ten monitoring wells and multiple exploratory borings on and around the site during the summer and fall of 2003 in accordance with well design protocols previously submitted and generally in conformance with 6 NYCRR Part 360a-2.11(a)(8) requirements. Geologic logs and well completion diagrams are included in Appendix B. *In situ* hydraulic conductivity testing was completed in all monitoring wells. Hydraulic conductivity was evaluated using slug tests, which are recognized as fully appropriate for evaluations of sedimentary formations and which can provide general indications of formation permeability in bedrock wells.

Hydrogeology of the site consists of slow groundwater migration through low-permeability glacial till as well as groundwater flow through the deeper carbonate formation. The southward dipping landscape and the presence of the Mohawk River south of the site identify a southward direction of groundwater migration. Groundwater in the till formation on the site has been observed within 10 feet of grade. Permeability of the till formation is extremely low, both based on slow recovery noted during well development and on the basis of triaxial permeability testing conducted on undisturbed Shelby tube samples.

The Chuctanunda Dolostone is described by Fisher (1980) as having no primary permeability. Where fractures are encountered, groundwater will migrate southward toward the Mohawk River. Rates of groundwater migration will be slow because dissolution activity is generally negligible in dolomitic formations which are less susceptible to solution widening. Permeability testing conducted as part of hydrogeologic assessment of the site (Appendix B) indicates that the bedrock formation has a low permeability comparable to that of the overlying

glacial till soil formations. At the nearby Ward Products facility, listed New York State Department of Environmental Conservation Inactive Hazardous Waste Site, a contaminant plume in the bedrock aquifer has not moved in more than a year, indicative of plume attenuation but also of slow groundwater flow through local bedrock aquifer formations. Permeability testing of bedrock and soil formations on the site identified very low geologic permeability, and no notable fractured zones in the bedrock formations. Dolomite is also not a cave-forming geologic formation, so no karst formations would be suspected on this site and no chemically widened joints or fractures were found during site studies.

The Ward Products Facility (NYSDEC Site Code 429904) is located at 61 Edson Street, approximately 0.4-miles north of and apparently topographically upgradient of the proposed landfill site. Figure 1 of Appendix B illustrates the location of Ward Products in relation to the project site and provides topographic elevations in the general site area.

A review of publicly available file information provided by the NYSDEC, indicates that since 1957 the Ward Products site was used for the manufacture and assembly of automobile antennas. Past manufacturing processes at the Ward Products facility consisted of nickel/chromium and cyanide-based zinc/cadmium electroplating operations and vapor degreasing with trichloroethylene (TCE), a volatile organic compound used as an industrial degreasing solvent. Until 1973, electroplating sludges and process wastewater that were generated during manufacturing were reportedly discharged to an open ditch located on the Ward Products property and allowed to infiltrate into the ground or evaporate. The ditch extends from the Ward Products site approximately 2, 800 feet to the Mohawk River. Between 1973 and 1985, successive process improvements were made to reduce and eventually eliminate contaminant discharges. Metal plating operations reportedly ceased in 1985.

Environmental investigations have confirmed that soil, surface water, sediment and groundwater contamination exists at the Ward Products Facility. Initial sampling revealed that the soil in areas adjacent to the building was contaminated by heavy metals. This contaminated soil was excavated and removed in 1999. Facility data collected to date indicate that contaminated soils are still present on the facility at depths of approximately 6 to 18-inches below grade and are located primarily around the northeast corner of the Ward Products building. Groundwater sampling performed at the Ward Products facility confirmed that groundwater is contaminated with solvents and chromium.

Precise directions of groundwater flow from the Ward site are not known beyond that project site; however, Ward site studies show groundwater flowing in a southerly-southwesterly direction. Initial studies suggest that a trichloroethene (TCE) plume originating at the Ward site has migrated up to 350 feet southwestward from the Ward property line, in the general direction of the AMR site. The southerly extent of the plume is to just south of the intersection of Sam

Stratton Road and Edson Street, some 750 feet upgradient of the proposed landfill. Recent sampling data from the Ward site (Normandeau 2001, 2003) shows that the TCE plume has stabilized and has not migrated further southward in over a year.

Currently, the Ward Products Site is under an Order on Consent to develop and implement a remedial investigation and feasibly study. The current property owner, New Water Realty, has and will continue to perform Interim Remedial Measures (IRMs), consisting of source removal and control (excavation and off-site disposal of contaminated soils and sludge) to address contamination on the Ward Products facility. Accordingly, there is no reason to believe that that the Ward site TCE plume will reach the AMR site.

The justification for determining the plume is not migrating towards the proposed facility is supported by the NYSDEC as summarized in a letter dated January 5, 2005 from Normandeau Associates, Inc., consultants for the Ward Products Facility. In this letter, the NYSDEC has agreed that the extent of the contaminant plume has been delineated, with the contaminants of concern (chromium and volatile organic compounds) attenuating to concentrations below the NYSDEC standards upgradient of the AMR wells and is not advancing to the AMR wells.

3.4.2 Potential Impacts

Potential impacts to groundwater from the proposed project include:

- the potential for adverse impacts to groundwater quality from waste disposal and/or leachate contamination and the potential for impacted groundwater to migrate off-site;
- Potential impacts to groundwater flows resulting from bedrock blasting/dewatering/excavation activities; and
- Potential impacts to groundwater flows resulting from the collection and removal of groundwater within the pore-pressure relief system of the landfill;

3.4.2.1 Leachate Contamination of Groundwater

Characteristic leachate from C&D landfills consists of iron, nitrogen compounds often including ammonia, and manganese. Appendix J contains reference literature describing the general quality of leachate from C&D landfills. The primary difficulty with iron and manganese is aesthetic, resulting in discoloration in streambeds if leachate reaches open water bodies, or discoloration of fixtures if elevated iron enters home plumbing systems via wells. Elevated nitrogen compounds stimulate vegetation growth in environmental settings and nitrate has been linked with oxygen deficiency effects in infants.

Releases of any of these compounds or other landfill leachate contaminants could require remediation of groundwater quality and/or points of environmental discharge.

3.4.2.2 Bedrock Blasting and Excavation

The bedrock in the vicinity of the project site (Chuctanunda Dolostone) is described by Fisher (1980) as having no primary permeability. Where fractures are encountered, groundwater will migrate southward toward the Mohawk River. Rates of groundwater migration will be slow because dissolution activity is generally negligible in dolomitic formations which are less susceptible to solution widening. Permeability testing of bedrock and soil formations on the site identified very low geologic permeability, and no notable fractured zones in the bedrock formations. Dolomite is also not a cave-forming geologic formation, so no karst formations would be suspected on this site and no chemically widened joints or fractures were found during site studies

Bedrock blasting, dewatering and excavation activities could impact the bedrock permeability and potentially impact groundwater uses in the vicinity of the project. In addition, the groundwater contamination plume of chlorinated solvents identified approximately 750 feet northeast of the project site could be impacted if the groundwater flow regime is altered by the site activities.

Blasting of bedrock formations can produce localized increases in permeability related to the back-blast energy increasing the size, amount, and interconnectivity of the bedrock fractures within the remaining bedrock formation adjacent to the blasted/excavated areas. In addition, existing fractures can be widened if the back-blast energy dislodges mineral precipitates within the existing fractures.

However, increased permeability effects are anticipated to occur only within a very small (likely less than 10 feet) region of bedrock immediately adjacent to the blasted face of the bedrock. The increased permeability of this small region will not have any impact on the overall bedrock groundwater flow regime as the very low permeability of the bedrock will remain unchanged in all other areas surrounding the landfill. For this reason, bedrock blasting and excavation is not anticipated to have any impact on groundwater.

3.4.2.3 Pore-Pressure Relief System Dewatering

Approximately 3.5 gpm of groundwater which would otherwise migrate through site soils and bedrock, toward the Mohawk River, will be intercepted beneath the landfill liner in the pore pressure relief system, monitored as part of the site-wide environmental monitoring program under the Part 360 Permit, and discharged as leachate to the City POTW. Calculations supporting the estimated volume of

groundwater intercepted in the pore-pressure relief system are presented in Appendix B, in the Geologic and Hydrogeology Report.

To protect the landfill liner from hydrostatic uplift forces, the pore-pressure relief system will drain groundwater from beneath the liner resulting in a lowering of the water table in the immediate vicinity of the landfill. This localized lowering of the water table in the bedrock is expected to have no impact on surrounding upgradient, cross gradient and downgradient water levels since low bedrock and overburden soil permeability and low rate of groundwater removal (3.5 gpm) limits the radial impacts of drawdown. In addition, the minimum elevation of the pore pressure relief system is at 340 feet above mean sea level which is above the ground surface of the residential properties to the south and well above the elevation of the pumps in any groundwater wells reported in the area.

3.4.3 Mitigation Measures

A leachate collection and management system will be implemented to collect, store and treat leachate generated within the landfill as well as surface water which has come into contact with the landfill debris mass. As described in more detail in Section 3.18, all leachate generated at the site will be conveyed to storage tanks at the recycling center. The collected leachate will be directed to the Amsterdam Municipal Sanitary Sewer System for treatment in the City of Amsterdam Publicly Owned Treatment Works (POTW). Federal and State regulations do not require any pretreatment of the leachate from C&D debris landfill sites. Studies have concluded that such leachate does not contain any contaminants that could not be adequately handled by municipal sewage treatment plants.

The landfill leachate system will be designed in accordance with 6 NYCRR Part 360 requirements and will be capable of managing the leachate which would be generated at the facility during a 25-year 24-hour storm event. In accordance with Part 360, the system will be designed to maintain less than a one-foot depth of leachate on the landfill cell liner. Additional information pertaining to leachate management is provided in Section 3.18.

3.5 Surface Water Resources

This section will describe surface water resources on the site and will include a description and classification of surface waters on and adjacent to the site. This section will also discuss existing drainage characteristics of the site. Potential

impacts to surface water resources from the proposed project, as well as mitigation measures to address these impacts will be discussed.

3.5.1 Existing Conditions

The site is located within the Mohawk River drainage basin, which along with the Upper Hudson basin and the Lower Hudson basin, comprise the three sub-basins of the Hudson River drainage basin.

The Mohawk sub-basin consists of the drainage of the entire Mohawk River above its confluence with the Hudson River and has an area of about 3,500 square miles (Phillips, 1996). Major rivers in this sub-basin include the Mohawk River, Schoharie Creek, and West Canada Creek. The Mohawk flows east-southeast.

The section of the Mohawk River in this vicinity of the project site is identified in 6 NYCRR Section 876.4, Item 9 as Waters Index Number H-240, and is a Class C waterbody in this reach. Class C waterbodies are unregulated with best uses considered to be fishing. The NYSDEC indicates that surface waters in this classification are also suitable for fish propagation and survival. The water quality shall be suitable for fish propagation and survival, primary and secondary contact recreation, although other factors may limit the use for these purposes.

An unnamed stream adjoins the project site along the western border. This stream is identified as Waters Index Number H-240-66 in the New York State Codes, Rules, and Regulations (NYCRR), Chapter X, Part 876.4, Item Number 124 and is a class C (unregulated) stream.

Several unmapped intermittent tributaries enter or adjoin the site on the southern side, adjacent to the railroad tracks. These intermittent streams are tributaries of the Mohawk River. In accordance with 6 NYCRR Section 876.2 (k) intermittent tributaries are considered to be Class D surface water bodies and are not regulated. Surface water bodies on and adjacent to the site are illustrated on Figure 3-4, "*Surface Water Resources Map*".

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North Country Office:
110 Glen Street
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Phone: (518) 812-0513

Map Scale
Feet
0 100 200 400 600 800

Amsterdam Materials Recycling

Figure 3-4: Surface Water Resources Map

Amsterdam Materials Reclycling
AIDA - Edson Street

City of Amsterdam, Montgomery County, New York

Created by:	Carol Conolly
Date:	December 4, 2003
Scale:	1:3,600
Project #:	90309.00

Map Document: (R:\90309\00-90309\00.05\GIS\gis_maps\Report\Maps\Figure-3.4_SurfaceWaterResources_11x17.mxd)
12/5/2008 6:19:45 AM

Surface water is present in wetland areas located on the site. Additional information pertaining to wetland areas is provided in Section 3.6 of this report. The site property is not located within a FEMA Flood Zone.

3.5.2 Potential Impacts

Potential impacts to surface water resources associated with the proposed action could occur as a result of placement of fill or other disturbance of a waterway and deposition of sediment and fugitive dust associated with construction activities. Additionally, the proposed action has the potential to adversely impact surface water resources from the alteration of drainage patterns and the migration of landfill leachate and/or contaminated stormwater runoff to surface water bodies.

3.5.3 Mitigation Measures

The project would minimize potential impacts on surface waters by limiting the degree of work performed within or adjacent to surface water resources and by implementing best management practices for construction activities. Specific controls plans for the management of leachate and stormwater have been developed and are described below.

3.5.3.1 Stormwater Management

Generally, stormwater will be managed on the project site through the use of culverts, drains and detention basins. Stormwater runoff from the property and areas upgradient of the property will be collected and discharged in a controlled manner to existing drainage culverts at the base of the hillside, and ultimately to the Mohawk River.

Stormwater which comes into contact with the landfill cell or waste materials will be treated as leachate. A leachate collection and management system will be implemented to collect, store and treat leachate generated within the landfill as well as surface water which has come into contact with the landfill debris mass. All leachate generated at the site will be conveyed to storage tanks at the recycling center prior top discharge to the City of Amsterdam sanitary sewer system for treatment at the POTW or a storage tank. Average daily leachate quantity is expected to be approximately 30,000 to 40,000 gallons based on the average annual rainfall at the site.

Details pertaining to stormwater management on the project site are provided in a Stormwater Management Plan included as Appendix C. The basic methodology and findings of the Stormwater Management Plan are summarized in this section.

A Storm Water Pollution Prevention Plan has been prepared for the major activities associated with the development of a construction material recycling

and disposal facility in the City of Amsterdam, Montgomery County, New York. Generally, the project site is located south of Sam Stratton Drive (an internal road within the industrial park) and north of East Main Street. The project is bound by an unnamed stream to the west and contains approximately 275-feet of frontage along East Main Street.

The storm water analysis included the review of watershed conditions, a hydrologic and hydraulic analysis using computer modeling and an evaluation of the proposed improvements across the subject site. A detailed Storm Water Management Plan has been included as Appendix C.

The watershed was divided into subcatchments to allow for analysis of run-off conditions to six (6) locations around the project site. Each of these locations were defined as a Design Point in order to compare the effects resulting from storm water management facilities proposed as part of the project. Design Point 1 is located at the southeastern corner of the property. The design point is the swale line located adjacent to the CSX railroad. Design Point 2 is a 30-inch corrugated metal pipe (CMP) and is located in the southern portion of the property. This pipe is located immediately north of the property line and traverses beneath the CSX railroad tracks. Design Point 3 is a 30-inch CMP and is located in the central southern portion of the property. The culvert is located immediately north of the property and also traverses beneath the CSX railroad tracks. Design Point 4 is located in the southwestern portion of the property. This design point is the southwestern property line. Storm water flows to East Main Street and ultimately to the stream located west of the property. Design Point 5 is located along the western property line. An un-named stream is located along this property line. Design Point 6 is located along the eastern property line. A drainage swale is located in this area.

This storm water analysis includes a discussion of the initial construction sediment and erosion and sediment control measures to be implemented at the site, as well as a description of the storm water management plan to be implemented during the operation of the landfill and following the closure of the landfill. For the purpose of this study, development was broken into two phases. Phase 1 involves the construction of the storm water management facilities that are to be utilized during the construction/operation of the landfill. Phase 2 involves the construction of the storm water management facilities that are to remain in place following the closure of the landfill. Project construction will primarily consist of site grading, paving, storm drainage, water supply and sewage collection to facilitate the development of the materials recycling center and landfill.

This storm water analysis considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed run-off;

2. Controlling increases in storm water run-off resulting from the proposed development without adversely altering downstream conditions; and

3. Mitigating potential storm water quality impacts and preventing soil erosion and sedimentation resulting from storm water run-off both during and after construction as well as closure of the landfill.

To demonstrate this, existing and proposed storm water run-off conditions were estimated and proposed storm water management facilities have been described and evaluated.

The hydrologic and hydraulic analyses were completed in accordance with the following standards and guides: the "New York State Stormwater Management Design Manual" (Dated October, 2001); the "New York State Department of Environmental Conservation - Reducing the Impacts of Stormwater Runoff From New Development" and the "New York State Guidelines for Urban Erosion and Sediment Control".

The storm water management facilities will provide extended detention of the required water quality volume and safely convey larger storm events across the property. The intent of the storm water management plan was to provide water quality treatment, and to ensure post-development peak storm water discharge rates from the developed site do not exceed pre-development peak rates. This is demonstrated by comparing flows for various storm events.

Table 3-1 presents a comparison of pre-development and post-development peak storm water discharges for each design point during Phase 1 of landfill construction/operation.

Table 3-1: Comparison of Pre-Development & Post-Development Stormwater Discharges During Phase 1, Landfill Construction/Operation

Storm Event	Design Point											
	1		2		3		4		5		6	
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)
1-yr	0.07	0.06	7.95	7.53	9.66	8.48	7.70	0.88	1.03	0.94	0.01	0.002
2-yr	0.20	0.16	11.76	9.68	13.80	12.22	11.41	1.40	1.47	1.30	0.02	0.01
10-yr	1.31	1.08	36.48	31.70	30.18	28.07	29.60	4.08	3.61	3.01	0.30	0.17
25-yr	2.39	1.96	48.18	39.85	36.98	34.95	43.64	6.27	5.26	4.29	0.60	0.32
50-yr	2.84	2.33	51.60	42.33	45.44	36.83	49.17	7.14	5.91	4.78	0.73	0.39
100-yr	3.98	3.26	62.04	47.37	61.93	40.34	62.53	9.24	7.45	5.94	1.06	0.54

Phase 1: During landfill construction/operation

Table 3-2 presents a comparison of pre-development and post-development peak storm water discharges for each design point during Phase 2 landfill closure/post-closure.

Table 3-2: Comparison of Pre-Development & Post-Development Stormwater Discharges During Phase 2 , Landfill Post Closure

Storm Event	Design Point											
	1		2		3		4		5		6	
	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)
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2-yr	0.20	0.16	11.76	9.68	13.80	12.22	11.41	2.48	1.47	1.35	0.02	0.01
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100-yr	3.98	3.26	62.04	47.37	61.93	40.34	62.53	37.07	7.45	6.01	1.06	0.54

Phase 2: Upon landfill closure

The above comparison demonstrates that post-development off-site peak discharges decreased or remained constant for all storm events at each design point. The proposed storm water management systems have been designed to accommodate both phases of the landfill development.

The proposed storm water collection system consisting of pipes, open drainage ways and on-site detention and treatment facilities will adequately collect, treat and convey the storm water run-off.

Storm water quality will be enhanced through the implementation of proposed management facilities, erosion and sediment control measures and suggested maintenance practices.

3.6 Wetlands

This section will describe wetlands and other waters that have been characterized on or adjacent to the site based on a review of National Wetland Inventory (NWI) mapping, NYSDEC Freshwater Wetlands Maps and a site-specific wetlands delineation survey. This section will also describe potential impacts to wetland areas from the proposed action and Mitigation measures to address these impacts.

3.6.1 Existing Conditions

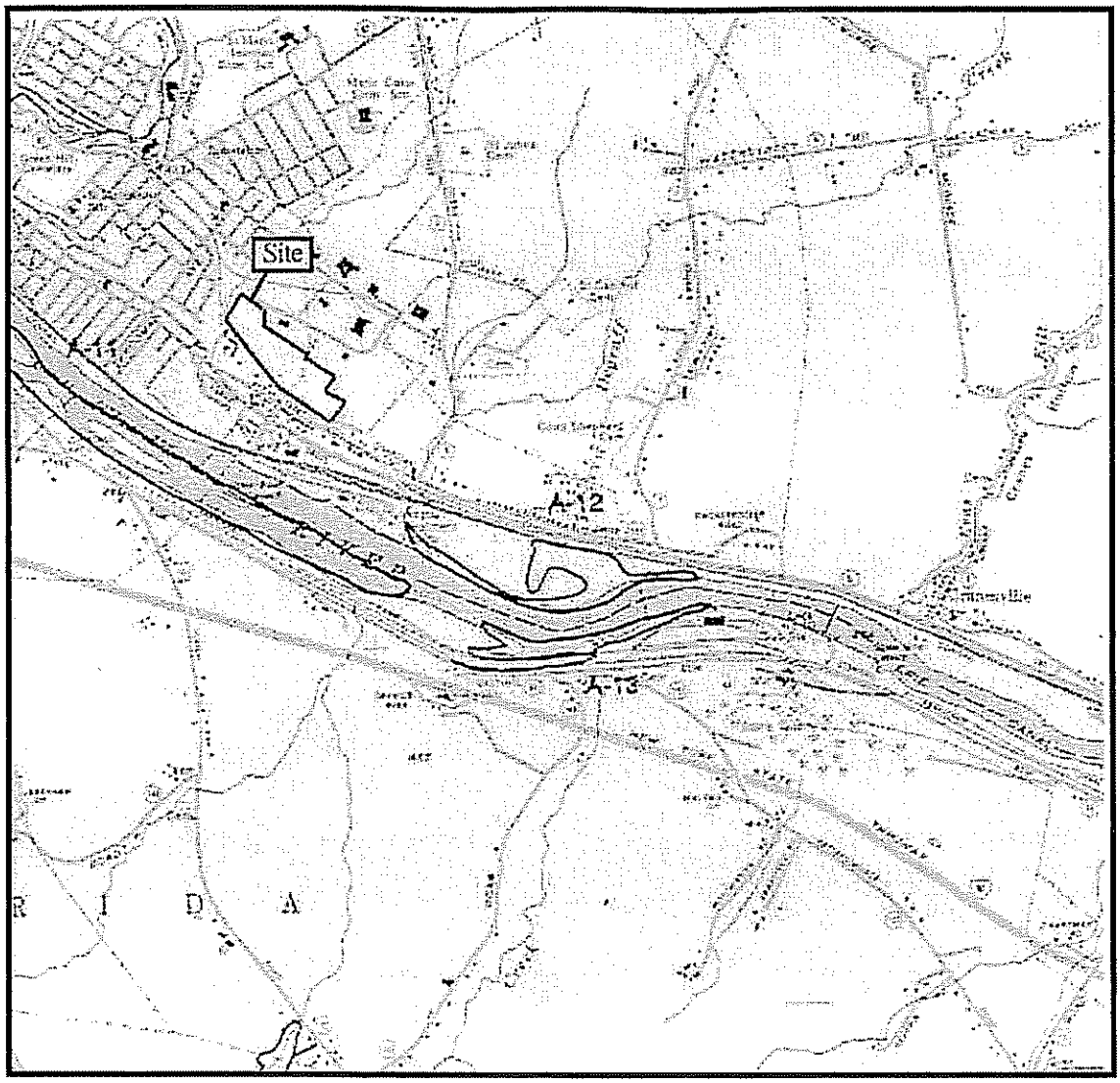
3.6.1.1 NWI Wetlands

No NWI wetland mapping is available for the City of Amsterdam. The US Fish and Wildlife Service has not completed mapping for Montgomery County, NY.

3.6.1.2 NYSDEC Freshwater Wetlands

As indicated on Figure 3-5, "NYSDEC Wetland Mapping," no State regulated wetlands are present on site.

Figure 3-5: NYSDEC Wetlands Map



Map Source: NYSDEC, Freshwater Wetlands Map, Montgomery County, Amsterdam Quadrangle

3.6.1.3 Wetland Delineation Survey

A Wetland Delineation was performed by The Chazen Companies in May 2003 to identify the extent of wetland areas on the project site. A copy of the Wetland Delineation Report is attached as Appendix D. The methodology and findings of the wetland delineation are summarized in this section.

The delineation was established in the field using the three-parameter approach described in the 1987, US Army Corps of Engineers' Wetland Delineation Manual. The boundary was established using flagging marked with consecutively numbered wetland flags along a wetland boundary. At representative points along the wetland boundary, data were collected in the wetlands and uplands to document the existing vegetation, soils and hydrology.

Using a Dutch auger, soil samples were taken to approximately 16 to 18 inches deep at representative points along the boundary to characterize soils. Soil colors were documented using a Munsell Soil Color Chart. To assess hydrology, each area was evaluated for inundation, saturation, drainage channels, watermarks, and or other field indicators (or lack thereof).

Vegetation found at each of the sampling locations was described in terms of the dominant species in the overstory, under story/shrub, vine, and herbaceous layers. Overstory vegetation represents the canopy tree species greater than 6 inches in diameter. Under story/shrub vegetation is comprised of woody tree species between 2 and 6 inches in diameter, and saplings and shrubs less than 2 inches in diameter and 3 to 12 feet in height. Ground layer vegetation consists of both woody and herbaceous vegetation less than 3 feet in height. The indicator status of each dominant plant species was determined using the "National List of Plant Species that Occur in Wetlands – Northeast (Region 1)" (Reed, 1988).

The wetlands on the site are generally confined to three narrow, intermittent stream corridors. The wetlands are identified on Figure 3-6 and are described as follows:

Surface water is present in wetland areas located on the site. Additional information pertaining to wetland areas is provided in Section 3.6 of this report. The site property is not located within a FEMA Flood Zone.

3.5.2 Potential Impacts

Potential impacts to surface water resources associated with the proposed action could occur as a result of placement of fill or other disturbance of a waterway and deposition of sediment and fugitive dust associated with construction activities. Additionally, the proposed action has the potential to adversely impact surface water resources from the alteration of drainage patterns and the migration of landfill leachate and/or contaminated stormwater runoff to surface water bodies.

3.5.3 Mitigation Measures

The project would minimize potential impacts on surface waters by limiting the degree of work performed within or adjacent to surface water resources and by implementing best management practices for construction activities. Specific controls plans for the management of leachate and stormwater have been developed and are described below.

3.5.3.1 Stormwater Management

Generally, stormwater will be managed on the project site through the use of culverts, drains and detention basins. Stormwater runoff from the property and areas upgradient of the property will be collected and discharged in a controlled manner to existing drainage culverts at the base of the hillside, and ultimately to the Mohawk River.

Stormwater which comes into contact with the landfill cell or waste materials will be treated as leachate. A leachate collection and management system will be implemented to collect, store and treat leachate generated within the landfill as well as surface water which has come into contact with the landfill debris mass. All leachate generated at the site will be conveyed to storage tanks at the recycling center prior top discharge to the City of Amsterdam sanitary sewer system for treatment at the POTW or a storage tank. Average daily leachate quantity is expected to be approximately 30,000 to 40,000 gallons based on the average annual rainfall at the site.

Details pertaining to stormwater management on the project site are provided in a Stormwater Management Plan included as Appendix C. The basic methodology and findings of the Stormwater Management Plan are summarized in this section.

A Storm Water Pollution Prevention Plan has been prepared for the major activities associated with the development of a construction material recycling

and disposal facility in the City of Amsterdam, Montgomery County, New York. Generally, the project site is located south of Sam Stratton Drive (an internal road within the industrial park) and north of East Main Street. The project is bound by an unnamed stream to the west and contains approximately 275-feet of frontage along East Main Street.

The storm water analysis included the review of watershed conditions, a hydrologic and hydraulic analysis using computer modeling and an evaluation of the proposed improvements across the subject site. A detailed Storm Water Management Plan has been included as Appendix C.

The watershed was divided into subcatchments to allow for analysis of run-off conditions to six (6) locations around the project site. Each of these locations were defined as a Design Point in order to compare the effects resulting from storm water management facilities proposed as part of the project. Design Point 1 is located at the southeastern corner of the property. The design point is the swale line located adjacent to the CSX railroad. Design Point 2 is a 30-inch corrugated metal pipe (CMP) and is located in the southern portion of the property. This pipe is located immediately north of the property line and traverses beneath the CSX railroad tracks. Design Point 3 is a 30-inch CMP and is located in the central southern portion of the property. The culvert is located immediately north of the property and also traverses beneath the CSX railroad tracks. Design Point 4 is located in the southwestern portion of the property. This design point is the southwestern property line. Storm water flows to East Main Street and ultimately to the stream located west of the property. Design Point 5 is located along the western property line. An un-named stream is located along this property line. Design Point 6 is located along the eastern property line. A drainage swale is located in this area.

This storm water analysis includes a discussion of the initial construction sediment and erosion and sediment control measures to be implemented at the site, as well as a description of the storm water management plan to be implemented during the operation of the landfill and following the closure of the landfill. For the purpose of this study, development was broken into two phases. Phase 1 involves the construction of the storm water management facilities that are to be utilized during the construction/operation of the landfill. Phase 2 involves the construction of the storm water management facilities that are to remain in place following the closure of the landfill. Project construction will primarily consist of site grading, paving, storm drainage, water supply and sewage collection to facilitate the development of the materials recycling center and landfill.

This storm water analysis considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed run-off;

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To demonstrate this, existing and proposed storm water run-off conditions were estimated and proposed storm water management facilities have been described and evaluated.

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100-yr	3.98	3.26	62.04	47.37	61.93	40.34	62.53	9.24	7.45	5.94	1.06	0.54

Phase 1: During landfill construction/operation

Table 3-2 presents a comparison of pre-development and post-development peak storm water discharges for each design point during Phase 2 landfill closure/post-closure.

Table 3-2: Comparison of Pre-Development & Post-Development Stormwater Discharges During Phase 2 , Landfill Post Closure

Storm Event	Design Point											
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	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)	Pre-Dev. (cfs)	Post-Dev. (cfs)
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Phase 2: Upon landfill closure

The above comparison demonstrates that post-development off-site peak discharges decreased or remained constant for all storm events at each design point. The proposed storm water management systems have been designed to accommodate both phases of the landfill development.

The proposed storm water collection system consisting of pipes, open drainage ways and on-site detention and treatment facilities will adequately collect, treat and convey the storm water run-off.

Storm water quality will be enhanced through the implementation of proposed management facilities, erosion and sediment control measures and suggested maintenance practices.

3.6 Wetlands

This section will describe wetlands and other waters that have been characterized on or adjacent to the site based on a review of National Wetland Inventory (NWI) mapping, NYSDEC Freshwater Wetlands Maps and a site-specific wetlands delineation survey. This section will also describe potential impacts to wetland areas from the proposed action and Mitigation measures to address these impacts.

3.6.1 Existing Conditions

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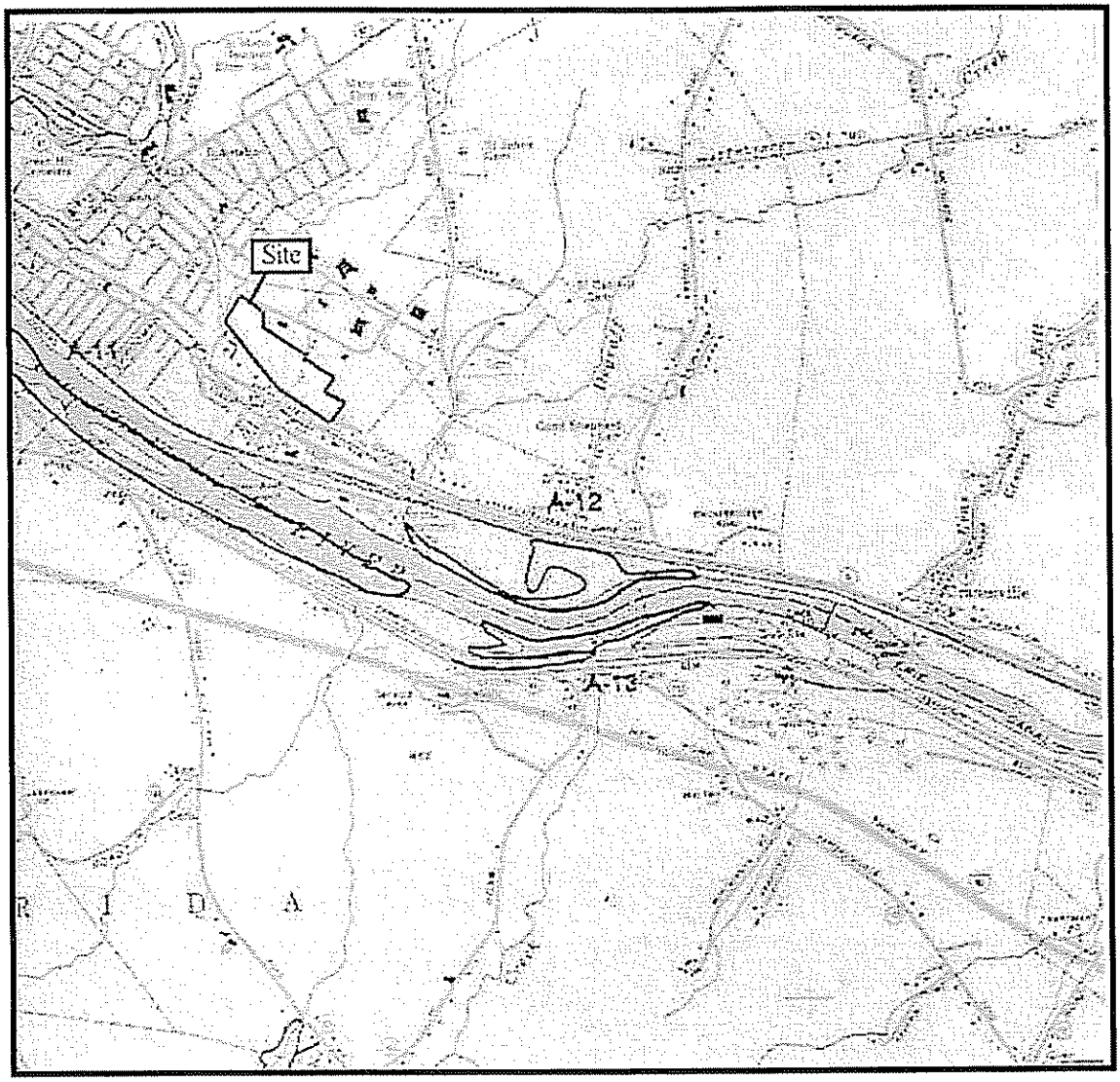
Figure 3-5: NYSDEC Wetlands Map



Map Source: NYSDEC, Freshwater Wetlands Map, Montgomery County, Amsterdam Quadrangle

3.6.1.3 Wetland Delineation Survey

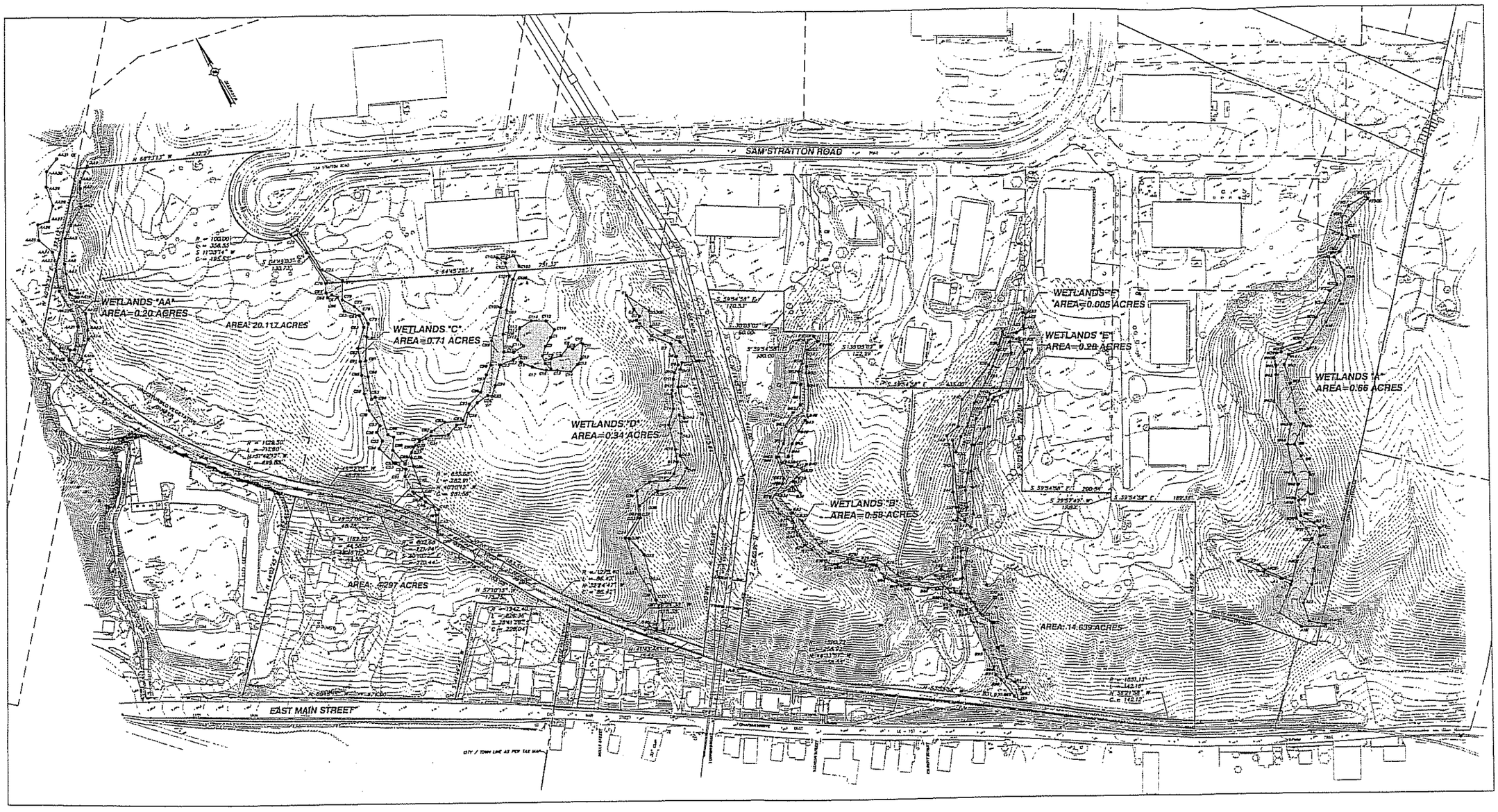
A Wetland Delineation was performed by The Chazen Companies in May 2003 to identify the extent of wetland areas on the project site. A copy of the Wetland Delineation Report is attached as Appendix D. The methodology and findings of the wetland delineation are summarized in this section.

The delineation was established in the field using the three-parameter approach described in the 1987, US Army Corps of Engineers' Wetland Delineation Manual. The boundary was established using flagging marked with consecutively numbered wetland flags along a wetland boundary. At representative points along the wetland boundary, data were collected in the wetlands and uplands to document the existing vegetation, soils and hydrology.

Using a Dutch auger, soil samples were taken to approximately 16 to 18 inches deep at representative points along the boundary to characterize soils. Soil colors were documented using a Munsell Soil Color Chart. To assess hydrology, each area was evaluated for inundation, saturation, drainage channels, watermarks, and or other field indicators (or lack thereof).

Vegetation found at each of the sampling locations was described in terms of the dominant species in the overstory, under story/shrub, vine, and herbaceous layers. Overstory vegetation represents the canopy tree species greater than 6 inches in diameter. Under story/shrub vegetation is comprised of woody tree species between 2 and 6 inches in diameter, and saplings and shrubs less than 2 inches in diameter and 3 to 12 feet in height. Ground layer vegetation consists of both woody and herbaceous vegetation less than 3 feet in height. The indicator status of each dominant plant species was determined using the "National List of Plant Species that Occur in Wetlands – Northeast (Region 1)" (Reed, 1988).

The wetlands on the site are generally confined to three narrow, intermittent stream corridors. The wetlands are identified on Figure 3-6 and are described as follows:



THE Chazen COMPANIES
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Upstate Operating Office
110 Dorn Street
Glens Falls, New York 12801
Phone: (518) 812-0513

rev.	date	description
	8-18-03	WETLAND AREA AA ADDED

AMSTERDAM MATERIALS RECYCLING

FIGURE 3-6
WETLANDS SURVEY

CITY OF AMSTERDAM, MONTGOMERY COUNTY, NEW YORK

drawn VPA	checked VPA
date 5-20-03	scale 1" = 100'
project no 90303.00	
sheet no 1 OF 1	

90303.00

Drawing name: S:\81\90300-92399\90303_00\Dwg\Dwg\90303wet.dwg
Info Attached: 90303wet, Model, Default

Wetland A: Wetland A is one of the three main ravine/stream corridors located to the east of the project site. While this wetland is not included in the project area, it is part of the AIDA property, and was delineated to provide information regarding the potential to avoid or minimize activities on the project site. Wetland A is vegetated with red maple, green ash and American elm in the overstory, several dogwood species and tartarian honeysuckle in the shrub layer. The under-story was relatively sparse containing a few sensitive ferns and touch me nots (*Impatiens capensis*). Soils within the ravine are loose loams, which are highly eroded in many areas. Erosion is caused by seasonal high waters from snow melt off and rain storm events. Wetland A is 0.66 acre in size.

Wetlands B/F/E: Wetland B/F/E is the second of the three main ravine/stream corridors on site; it is located on the central portion of the site. It is similarly vegetated as Wetland A with red maple, green ash and American elm in the overstory, several dogwood species and tartarian honeysuckle in the shrub layer. The under-story is relatively sparse containing a few sensitive ferns and touch me nots. Soils within the ravine are loose loams, which were highly eroded in many areas. Erosion is caused by seasonal high waters from snow melt off and intense rain storm events. This wetland totals 0.865 acre. Portions of this wetland are located off-site. In addition, the AIDA placed a road across this ravine in a location north of flags B-14 and B-15. The road impacted approximately 75 linear feet of stream, and has a total area of approximately 0.026 acre. The filling has been stopped and the area stabilized.

Wetland C: Wetland C, located in the western portion of the site, contains both a ravine wetland similar to those described above, along with a more circular shrub wetland pocket located within the east side of this Wetland. The pocket of shrub wetland is actually man-made as a result of excavation in the area. A small drainage connects the shrub area to the ravine. The shrub portion of Wetland C is dominated by several dogwood species, saplings of red maple, green ash and American elm. The herbaceous layer within Wetland C is far denser than those of the ravines. Sensitive fern, skunk cabbage, several sedges (*Carex* spp.) and touch me nots are present within the herbaceous layer. This shrub wetland has soils that are clay loams to loams that are saturated to the surface. Wetland C is 0.71 acre in area.

Wetland D: Wetland D is the third of the main ravine/stream corridors on site; it is located in the middle of the site. Similar to Wetlands A and B, it is vegetated with red maple, green ash and American elm in the overstory, several dogwood species and tartarian honeysuckle in the shrub layer. The understory is relatively sparse containing a few sensitive ferns and touch me nots. Soils within the ravine are loose loams, which were highly eroded in many areas. Erosion is caused by seasonal high waters from snow melt off and intense rain storm events. Wetland D is 0.34 acre in area.

The total area of these wetlands is 2.575 acre. As noted previously, Wetland A (at 0.66 acre) is not within the project acre site, and portions of Wetlands F and E are located off-site. Therefore, the project site contains approximately 1.9 acres of wetlands.

Generally, the wetlands on the site are of low quality. An assessment of typical wetland functions and values of these areas identifies the following:

Groundwater Recharge/Discharge: It is likely that surface water runoff plays a greater part of the hydrology of these wetlands than any groundwater flows or discharges. For example, during the drier weather in the end of June, there was no water in these wetlands. In addition, studies have been conducted regarding the groundwater on the site, and it does not appear that these wetlands have a significant groundwater discharge component. Given the slope associated with these wetlands, it is unlikely that they serve as recharge areas either.

Floodflow Alteration: The wetlands would provide some minor functions for floodflow alteration. Because the ravines are steep and narrow, and since there is little adjacent flat wetland area, thus function is limited.

Sediment Stabilization: The wetlands serve to stabilize sediments. It is likely that there would be greater erosion in these ravines if the wetland vegetation within the ravines did not exist.

Sediment/Toxicant Retention and Nutrient Removal/Transformation: It is unlikely that the wetlands serve this function. The water moves through the ravine areas too fast to allow for the settling of sediments or toxicants. There is not enough water or vegetation to provide for nutrient removal or transformation.

Production Export: The wetlands do not serve for production export. The limited vegetation within the wetland, and the lack of regular flows do not support habitat for aquatic organisms that would break down plant materials for use by other organisms downstream

Wildlife Diversity/Abundance (Breeding, Migration, Wintering): The ravines on the site have no different habitat values than the surrounding upland areas.

Aquatic Diversity and Abundance: The ravines on the site do not support significant aquatic animal diversity or abundance due to the lack of significant water.

Wetland mitigation cannot be constructed on-site. The NYSDEC regulations do not allow for the retention of water on landfill sites due to the potential for water to percolate through the surface of the landfill into the cells below, resulting in the potential for leachate formation. In addition, the US Army Corps of Engineers typically requires that wetland mitigation be constructed concurrently with a

project. Creating wetlands on the top of a landfill would result in a delay between wetland impacts and wetland mitigation.

The greater AIDA property within the Edson Industrial Park has a number of drainage corridors that have been relocated during past construction activities, or otherwise degraded. The permit application to the US Army Corps of Engineers presumes that all of these drainage corridors have been impacted and has evaluated the project in this manner to assess the cumulative impacts of the project, given past, present and proposed future impacts. However, during the on-site inspection by the US Army Corps of Engineers, it became apparent that some of the drainage corridors within the industrial park but outside of the landfill footprint are still functioning. AMR will work with the AIDA to determine whether any of these drainage corridors can be retained or even enhanced through buffer preservation and restoration, as part of the overall mitigation program for the landfill.

It is likely that such on-site actions will not be completely adequate to compensate for unavoidable impacts to on-site wetlands and waters. To that end, impacts to wetlands and waters will also be compensated through off-site wetland creation, restoration and/or preservation. The applicant is working with AIDA and the US Army Corps of Engineers to identify assess and evaluate sites that have the greatest potential to replace wetland functions and values lost on the site. Off-site wetland mitigation will provide additional flexibility in design, and may potentially allow wetlands to be created or restored in areas closer to the Mohawk River, where greater public and environmental benefits could be produced.

Uniqueness/Heritage/Recreation: These ravines are not unique, and do not have a heritage component associated with them. The ravines are located on private property and do not provide recreational opportunities.

3.6.2 Potential Impacts

The proposed action will result in disturbing and filling portions of the site wetland areas. The proposed project has minimized adverse impacts to the maximum extent practicable, however it does result in wetland impacts to approximately 1.8 acres of low quality ravine habitat. In addition, the ACOE has identified other area within the industrial park with potential historic wetland impacts.

3.6.3 Mitigation Measures

The project sponsor will work with the U.S. ACOE to design a mitigation plan for the loss of wetlands on the project site and the areas of potential historic impacts elsewhere in the industrial park. The mitigation plan will likely involve the creation, enhancement and/or protection of wetlands in suitable off-site areas in excess of those impacted as a result of the project.

The limited functions and values of the wetland areas associated with stormwater flows and soil/erosion controls for sediment stabilization will be replaced through the implementation of a comprehensive stormwater management system for the site. The stormwater management system on this site will continue to convey flows at all three stream outlets along the southern portion of the site in a flow rate and volume similar to the pre-existing conditions. Therefore, the downstream ravines, which are already significantly degraded and channelized, will not be adversely impacted by this project.

3.7 Flora and Fauna

This section will describe the ecological communities on the project site and is based on existing information and data and/or correspondence from regulatory agencies, including New York State Significant Habitat Unit, New York State Heritage Program (NYSHP), United States Fish and Wildlife (USFWS) and on site reconnaissance. Potentially significant impacts to terrestrial and aquatic ecology and measures to mitigate these impacts will also be discussed.

3.7.1 Existing Conditions

3.7.1.1 Vegetation

Regionally, the project site is located in the Mohawk Valley Ecozone which consists of rolling hills near river and stream bottomlands (Reschke, 1990). A majority of the site is undeveloped forest consisting of mixed deciduous forest and pine plantation. Dominant vegetative species were determined through field reconnaissance and are classified and defined in this proposed action according to the 1990 Reschke scale (N.Y. Natural Heritage Program and N.Y.S. Department of Environmental Conservation, Ecological Communities of New York State, 1990).

Based on field observations performed in June 2003, the majority of the site can be described as a forested upland community according to the Reschke classification system. This subsystem includes upland communities with more than 60% canopy cover of trees which typically occur on substrates with less than 50% rock outcrop or shallow soil over bedrock. According to Reschke's definitions there are three major vegetative cover types present on site. These three communities include northern successional hardwood forest, northern hardwood red maple swamp (stream corridor) and shrub swamp. A description of each of these plant communities identified on the project site is presented below.

Northern Successional Hardwood Forest: The upland successional hardwoods habitat occupies the upland throughout the site. This is a hardwood or mixed forest that occurs on sites that have been cleared for farming, logging or otherwise disturbed. According to Reschke, the dominant trees are usually any two or more of the following: quaking aspen (*Populus tremuloides*), black cherry

(*Prunus serotina*), red maple (*Acer rubrum*), white pine (*Pinus strobus*), paper birch (*Betula papyrifera*), gray birch (*B. populifolia*), green ash (*Fraxinus pennsylvanica*) and American elm (*Ulmus americana*). Most of these species are found to some degree at this site. There was a significant amount of tartarian honeysuckle (*Lonicera tatarica*) and multiflora rose (*Rosa multiflora*) in the shrub layer. The herbaceous layer contained a few Christmas ferns (*Polystichum achrostichoides*) and seedlings of white pine and various oaks (*Quercus* spp.).

Red Maple Hardwood Swamp: Reschke defines this community as a hardwood swamp that occurs in poorly drained depressions, usually on inorganic soils. This is a broadly defined community with many regional and edapich variants. In any one stand, red maple (*Acer rubrum*) is dominant or it is codominat with one or more hardwoods including American elm (*Ulmus americana*), swamp white oak (*Quercus bicolor*) and green ash (*Fraxinus pennsylvanica*). Characteristic shrubs may include spicebush (*Lindera benzoin*) and various dogwoods (*Cornus* spp.). On the project site the red maple swamps were confined to the deep ravines on site. They were not as densely vegetated as is typical of this community.

Shrub Swamp: Reschke defines this community as an inland wetland dominated by shrubs that occurs along the shore of a lake or river, in a wet depression or valley not associated with lakes, or as a transition zone between a marsh, fen, or bog and a swamp or upland community. Some common vegetation includes, various dogwoods, arrow wood (*Viburnum recognitum*), alders (*Ulnus* spp.) and saplings of red maple, green ash and other hardwoods. This shrub community may contain some trees however these trees represent less than 50 percent of the vegetative cover of the community. On the project site this community is restricted to a small area near the northern property boundary and ties through a small stream channel to the larger streams in the southwestern portion of the site.

Ecological/plant communities in New York State are classified/ranked based on their diversity (i.e. rarity) both in New York and globally. The ranks are based upon the estimated number of occurrences of each community type as well as the vulnerability of the community to human disturbance or destruction. The designation is based on a classification system outlined by Reschke (Ecological Communities of New York State, 1990) and assigns to vegetative species both a State rank for rarity (designated as S with a numerical rank) and a global rarity rank (designated as G with a corresponding numerical rank). In this classification system, species/communities are ranked on a scale of 1 to 5, with 5 indicating communities which are relatively secure (not rare or threatened). The Heritage Program documents as "significant" all occurrences of rare communities with state ranks of S1 and S2. The state and global ranks of vegetative communities identified on the project site are summarized in Table 3-3.

Table 3-3: Site Vegetation

Description	State Rank	Global Rank
Successional Northern Hardwood	S5	G5
Red Maple Hardwood Swamp	S4S5	G5
Shrub Swamp	S5	G5

A summary of vegetative species identified during the June 2003 field reconnaissance is provided in Table 3-4.

Table 3-4: Site Flora and Indicator Status

Common Name	Scientific Name	Indicator Status
Trees		
red maple	*Acer rubrum*	FAC
sugar maple	*Acer saccharum*	FACU-
tree-of-heaven	*Ailanthus altissima*	NL
American hornbeam	*Carpinus caroliniana*	FAC
shag-bark hickory	*Carya ovata*	FACU
American beech	*Fagus grandifolia*	FACU
green ash	*Fraxinus pennsylvanica*	FACW
red cedar	*Juniperus virginiana*	FACU
white pine	*Pinus strobus*	FACU
black cherry	*Prunus serotina*	FACU
white oak	*Quercus alba*	FACU
northern red oak	*Quercus rubra*	FACU-
black locust	*Robinia pseudoacacia*	FACU-

Table 3-4, cont.

Common Name	**Scientific Name**	**Indicator Status**
weeping willow	*Salix babylonica*	FACW-
black willow	*Salix nigra*	FACW+
American basswood	*Tilia americana*	FACU
hemlock	*Tsuga canadensis*	FACU
American elm	*Ulmus americana*	FACW-
Shrubs		
speckled alder	*Alnus rugosa*	FACW
European barberry	*Berberis vulgaris*	FACU
trumpet-creeper	*Campsis radicans*	FAC
oriental bittersweet	*Celastrus orbiculata*	FACU
gray dogwood	*Cornus foemina* spp. *racemosa*	FAC-
red osier	*Cornus stolonifera*	FACW+
winged burning bush	*Euonymus alata*	NL
American witch-hazel	*Hamamelis virginiana*	FACU+
tartarian honeysuckle	*Lonicera tatarica*	FACU
Virginia creeper	*Parthenocissus quinquefolia*	FACU
common buckthorn	*Rhamnus cathartica*	FACU+
smooth sumac	*Rhus glabra*	NL
staghorn sumac	*Rhus typhina*	NL
multiflora rose	*Rosa multiflora*	FACU
old-field blackberry	*Rubus allegheniensis*	FACU-
common red raspberry	*Rubus idaeus*	FAC-
American yew	*Taxus canadensis*	FAC
poison ivy	*Toxicodendron radicans*	FAC
northern arrow-wood	*Viburnum recognitum*	FACW-
wild grape	*Vitis* sp.	---
riverbank grape	*Vitis riparia*	FACW

Table 3-4, cont.

Common Name	Scientific Name	Indicator Status
Forbs and Ferns		
common yarrow	*Achillea millefolium*	FACU
garlic mustard	*Alliaria petiolata*	FACU-
meadow onion	*Allium canadense*	FACU
field garlic	*Allium vineale*	FACU-
annual ragweed	*Ambrosia artemisiifolia*	---
dogbane	*Apocynum* spp.	FACU-
common burdock	*Arctium minus*	---
common milkweed	*Asclepias syriaca*	FACU-
nodding beggar-ticks	*Bidens cernua*	OBL
chicory	*Cichorium intybus*	NL
thistle	*Cirsium* sp.	---
bedstraw	*Galium* sp.	---
spotted touch-me-not	*Impatiens capensis*	FACW
touch-me-not	*Impatiens* sp.	FACW
creeping jennie	*Lysimachia nummularia*	FACW-
purple loosestrife	*Lythrum salicaria*	FACW+
alfalfa	*Medicago sativa*	NL
white sweet-clover	*Melilotus alba*	FACU-
yellow sweet-clover	*Melilotus officinalis*	FACU-
sweet-clover	*Melilotus* sp.	FACU-
common pokeweed	*Phytolacca americana*	FACU+
common plantain	*Plantago major*	FACU
may-apple	*Podophyllum peltatum*	FACU
arrow-leaf tear-thumb	*Polygonum sagittatum*	OBL
bouncing-bet	*Saponaria officinalis*	FACU-
Canada goldenrod	*Solidago canadensis*	FACU
rough-leaf goldenrod	*Solidago patula*	OBL
wrinkled goldenrod	*Solidago rugosa*	FAC
goldenrod	*Solidago* sp.	---
skunk-cabbage	*Symplocarpus foetidus*	OBL
common dandelion	*Taraxacum officinale*	FACU-

Table 3-4, cont.

Common Name	Scientific Name	Indicator Status
Forbs and Ferns		
red clover	*Trifolium pratense*	FACU-
white clover	*Trifolium repens*	FACU-
field horsetail	*Equisetum arvense*	FAC
meadow horsetail	*Equisetum pratense* (rare)	FACW
scouring rush	*Equisetum hyemale* spp. *affine*	FACW
stinging nettle	*Urtica dioica*	FACU
sensitive fern	*Onoclea sensibilis*	FACW
cinnamon fern	*Osmunda cinnamomea*	FACW
royal fern	*Osmunda regalis*	OBL
Christmas fern	*Polystichum achrostichoides*	FACU-
bracken fern	*Pteridium aquilinum*	FACU
Grasses and Sedges		
meadow foxtail	*Alopecurus pratensis*	FACW
sedge	*Carex* sp.	---
yellow sedge	*Carex flava*	OBL
tussock-sedge	*Carex stricta*	OBL
orchard grass	*Dactylis glomerata*	FACU
fall panic grass	*Panicum dichotomiflorum*	FACW-
timothy	*Phleum pratense*	FACU
common reed	*Phragmites australis*	FACW

[1] Scientific and common names and wetland indicator categories are from Reed (1988) and Tiner et al. (1995). Taxonomy for plants not listed in Reed (1988) is from Mitchell and Tucker (1997).

[1] indicator category codes:

OBL = Obligate Wetland
FACW = Facultative Wetland
FAC = Facultative
FACU = Facultative Upland
NL = not listed

A + or a - appended to an indicator category code indicates a somewhat greater (+) or lesser (-) tendency to be found in wetlands.

Critical habitat is designated for threatened and endangered species by the U.S. Fish and Wildlife Service and is defined as "a specific designated area declared essential for the survival of a protected species under authority of the

Endangered Species Act." No state or federally listed threatened or vegetation is located on the site.

3.7.1.2 Wildlife

The majority of the site consists of undeveloped forest. In addition to the undeveloped lands a small portion of the site is developed as an electric utility power line right-of-way and streams and other surface water bodies enter and adjoin the site. These ecological communities support various fish and wildlife species as described below.

As indicated in Section 3.7.1.1, the majority of the site consists of terrestrial upland forest communities. This community typically supports passerines, including wood warblers and black capped chickadees (*Parus atricapillus)* and other birds including wild turkey (*Meleagris gallopavo*) and pileated woodpeckers (*Dryocopus pileatus*). Mamalian species typical of upland forest communities include raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), skunks (*Mephitis mephitis*) and smaller animals such as chipmunks (*Tamias striatus*) and moles. Vegetation in wetland, streams and ravines on the site is described as palustrine wetlands. These ecological communities typically support birds such as the American bittern (*Botarurus lentinginosus*), alder flycatcher (*Empidonax alnorum*) and Lincoln's sparrow (*Melospiza lincolnii*) and amphibians such as the marbled salamander (*Ambystoma opacum*) and the Jefferson salamander (*Ambystoma jeffersonium*).

3.7.1.3 Threatened and Endangered Species

Information provided by Ms. Betty A Ketcham of the NYSDEC Natural Heritage Program, Division of Fish, Wildlife and Marine Resources indicates that no record of known occurrences of rare or state-listed animals, plants, significant natural communities or other significant habitats are known to exist on or in the vicinity of the project site. A copy of the correspondence provided from Ms. Ketcham is attached as Appendix E.

Correspondence provided by Mr. David Stilwell of the United States Department of the Interior Fish and Wildlife (USFWS) indicates that, except for the occasional transient individual, no Federally listed or proposed endangered or threatened species under USFWS jurisdiction are known to exist in the project area. Additionally, no habitat in the project area is currently designated or proposed as critical habitat, in accordance with the provisions of the Endangered Species Act. A copy of the USFWS correspondence is attached as Appendix E.

No NYSDEC-designated critical environmental areas are located on or adjacent to the site. No NYSDEC critical environmental areas are known to exist in Montgomery County.

3.7.2 Potential Impacts

The vegetative community types to be impacted under the proposed action include successional northern hardwoods, red maple hardwood swamp and shrub swamp. These species have global and statewide rankings of G5/S5 and G5/S4 which indicate that they are demonstrably (rank 5) and apparently (rank 4) secure in New York State and throughout its range. Given that the communities on the project site are considered to be common types which are not classified as rare or threatened, the impacts to habitat communities are expected to be minor. As no significant or threatened wildlife species or rare vegetative species are present on the site, no significant adverse impacts to these ecosystems are anticipated from the proposed project. No critical environmental areas are located on the project site or within the project area. Therefore, the proposed action will not impact critical environmental areas.

Wildlife will be displaced during site construction and may be gradually displaced from undeveloped portions of the property. Some habitat will be permanently lost due to the site construction and site development. Sufficient and comparable wildlife habitats exist on the project site for habitat re-establishment once construction is complete. The habitat within the project area is not unique and fauna which utilized the site habitat will have comparable habitat in the general site area. Given these conditions, the proposed project is not anticipated to have any significant impacts to flora and fauna.

3.7.3 Mitigation Measures

No significant adverse impacts to flora and fauna are anticipated and therefore, no mitigation measures are provided.

3.8 Air Resources

This section will describe existing air quality data for the project area and will identify uses affecting air quality on and around the project site and mitigation measures associated with air quality impacts.

3.8.1 Existing Conditions

3.8.1.1 Ambient Air Quality

Ambient air quality on the project site and in the project area must be evaluated within the context of the state and federal regulatory ambient air quality framework.

As required by the Clean Air Act, the U. S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean

Air Act established both a primary and secondary set of standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA uses "criteria pollutants" as indicators of ambient air quality. For each criteria air pollutant, the EPA has established maximum concentrations for specific exposure periods above which adverse effects on human health may occur. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants (carbon monoxide, nitrogen dioxide, ozone, lead, particulates less than 10 µm (PM-10) and sulfur dioxide) which are called "criteria pollutants." In New York State, these standards have been adopted as the ambient air quality standards. The USEPA has recently revised its standard for particulate matter to include threshold concentrations for "fine particles" with an aerodynamic diameter less than or equal to 2.5 µm (PM2.5).

The criteria air pollutant standards have been established to be protective of human health, given the chemical and toxicological properties of each pollutant, which are summarized below.

Carbon Monoxide:

Carbon Monoxide (CO) is a colorless, odorless, gas, which is produced by the incomplete combustion of gasoline and other fossil fuels. The most serious health effect of carbon monoxide is its ability to enter the blood stream by displacing the oxygen that is carried to the cells. Carbon monoxide has an affinity for hemoglobin, which is 200 times that of the oxygen that normally combines with it. This CO/hemoglobin combination, known as carboxy hemoglobin impedes the proper distribution of oxygen to all parts of the body. CO laden blood can weaken heart contractions thereby decreasing the volume of blood being pumped and can significantly reduce an otherwise health person's ability to perform manual tasks such as walking, etc.

Especially susceptible to carbon monoxide are individuals who suffer from angina, lung disease, anemia, or cerebral-vascular problems. The human fetus can also be adversely affected by carbon monoxide as can cigarette smokers and those exposed to long-term CO concentrations such as daily commuters sitting in idling cars.

The ultimate health effects of carbon monoxide vary with the individual and depend upon both the concentration of CO in the ambient air being inhaled and the length of time the person is exposed.

Sulfur Dioxide:

Like carbon monoxide, sulfur dioxide (SO_2) is also a colorless gas, but unlike CO has a clearly detectable pungent odor and taste. It is highly soluble in water, forming sulfurous acid. The major sources of SO_2 emissions are fossil fuel (coal, oil) fired power plants and boilers, ore smelters and oil refineries. Smaller stationary combustion sources such as space heating also contribute to the problem, especially in urban areas during the winter.

Human exposure to sulfur dioxide can result in irritation of the respiratory system which can cause both temporary and permanent damage. The degree of harm is significantly higher in the presence of airborne particulates (synergistic effect). Particulates tend to catalyze the atmospheric conversion of SO_2 to sulfur trioxide (SO_3) which combines with water vapor to form sulfuric acid mist.

Sulfur dioxide can cause both acute and chronic leaf injury to plants and suppress both their growth and yield. Other adverse effects of SO_2 are corrosion and damage of electrical equipment, building materials and textile fibers.

Nitrogen Dioxide:

Nitrogen Dioxide (NO_2), a reddish brown gas with a highly detectable pungent odor, is highly corrosive and a strong oxidizing agent. It is produced from the reaction of atmospheric nitrogen and oxygen during high temperature combustion processes such as the burning of fuel (coal, oil, gas) and internal combustion (motor vehicles). Nitric oxide (NO), a colorless, odorless gas, is also a product of combustion and the combination of NO and NO_2 is commonly referred to as NOx. Nitrogen oxides are of principal concern because of their interaction with volatile organic compounds as precursors in the formation of ground-level ozone.

While NO by itself is not usually considered a health hazard, NO_2 can cause inflammation of the lungs and bronchial tubes at high concentrations and less severe respiratory problems at lower concentrations. NOx contributes to haze, reduces visibility, causes serious injury or death to plant tissue, deteriorates fabrics, and forms nitrate salts that can corrode metals.

Particulates:

Particulate matter (PM) is a group of air pollutants that exist as discrete particles, either as aerosols (liquid droplets) or as solids which may be attached to or suspected in liquid droplets. Particulates vary is size and chemical composition. Total suspended particulates (TSP) refer to those airborne particulates that are less than 100 micrometers (µm) in diameter (the thickness of a typical human hair) while particulates less than 10 µm in diameter are designated as PM_{10}. Fine particulates have an aerodynamic diameter of less than 2.5 µm and are known as $PM_{2.5}$. Since PM_{10} consists of all particles less than 10 µm, it includes $PM_{2.5}$ although these particulates are typically regulated separately.

Particulates originate from many sources, among which are: combustion (coal dust, fly ash, carbon black), automobile exhaust (especially diesel), and windblown dust (fugitive dust) from roadways, fields, and construction sites, and soil erosion. The photochemical reactions of certain gaseous pollutants in the presence of ultraviolet light also produce airborne particulates (aerosols) which tend to be smaller in size (less than one micron diameter) than either fugitive dust or particulates from industrial sources (greater than one micron in diameter).

Depending on their size, particulates can influence visibility as well as human respiratory functions. Particulates which are small enough to be respirable (PM_{10} and $PM_{2.5}$) are of primary concern for human health. Larger particles, in the range of 0.5 to 5.0 µm, can be inhaled but are normally deposited in the bronchi before reaching the alveoli (air sacks). With the exception of fibrous materials such as asbestos, particles must be smaller than 5 µm in order to enter the alveoli of the inner recesses of the lungs.

In addition to reducing visibility and causing respiratory problems, cancer, and heart attacks, airborne particulates can cause corrosion of metals and electrical equipment and soiling of textiles and building materials.

Sulfates and Nitrates:

Sulfates and nitrates are secondary pollutants formed in the atmosphere primarily by the reaction between sulfur or nitrogen dioxide (primary pollutants) with other airborne substances and to a lesser extent can be traced to natural sources. Sulfates and nitrates are essentially fine particulate compounds often transported in the air over long distances and are capable of deep penetration into the human respiratory tract. In fact atmospheric sulfates can, according to epidemiological studies, contribute more to the aggravation of asthma, heart and lung disease, and general lung functions than either sulfur dioxide or total suspended particulates.

Both sulfates and nitrates contribute to the acid deposition problem via their atmospheric conversion into acids that are deposited as rain or snow on ground receptors that may be miles downwind of the original source. They also contribute to atmospheric haze, i.e., visibility impairment.

Ozone:

In its purest state ozone is a naturally occurring form of oxygen normally found in high concentrations at very high altitudes as a blue, unstable gas with a characteristically pungent odor. It can also be readily detected at ground level near arcing electrical motors and during lightning storms. Ozone in high altitudes or stratosphere serves as a shield against harmful, cancer-causing ultra-violet light. At the ground-level, ozone is colorless and odorless and is the major constituent of photochemical smog.

Ground-level ozone is considered a secondary pollutant, formed in the atmosphere by the photochemical reaction of nitrogen oxides and reactive hydrocarbons (volatile organic compounds) in the presence of high temperatures and ultraviolet light. These primary pollutants (precursors) are emitted from motor vehicle exhaust, gasoline and oil storage/transfer and operations involving solvents, degreasing agents, and cleaning fluids. Natural sources of hydrocarbons include terpenes, emitted by pine trees, which promote the formation of ozone in remote, forested areas such as the Adirondacks.

Ozone concentrations at ground level are usually higher during hot summer afternoons when the photochemical activity is most pronounced. Ambient ozone concentrations are a product of local precursors and long-range transport of ozone and its precursors from upwind sources.

At low concentration levels, ozone can cause eye irritations; at higher concentration levels, ozone can create severe respiratory problems in susceptible people, especially the elderly and small children. Otherwise healthy individuals can be impacted by ozone if they increase their air intake via heavy breathing during strenuous exercise. At these levels, ozone acts to reduce lung function by making that tissue less elastic.

Lead:

Airborne lead generally takes the form of particulates that are in the inhalable size range. The largest source of lead in the atmosphere has been from leaded gasoline combustion, but with the phase down of lead in gasoline, air lead levels have decreased considerably. Other airborne sources include combustion of solid waste, coal, and oils, emissions from iron and steel production and lead smelters, battery manufacturing plants, gasoline stations, and tobacco smoke.

Upon inhalation, lead is absorbed into the blood stream and distributed throughout the human body. It can accumulate along with lead from contaminated food and drinking water and eventually retard the production of hemoglobin. Excess lead accumulation can cause classic lead poisoning with symptoms ranging from fatigue, cramps and loss of appetite to anemia, kidney disease, mental retardation, blindness and death. Infants and young children are especially at risk from ingesting lead that has fallen into streets and other earth surfaces from motor vehicle exhaust. Exposure to lead can also occur from food and soil. Children are at particular risk to lead exposure since they commonly put hands, toys, and other items in their mouths, which may come in contact with lead-containing dust and dirt.

Table 3-5 identifies the six criteria air pollutants and their corresponding ambient air quality standard value.

Table 3-5: Criteria Air Pollutant Standards

Pollutant	NYS Standards		Federal Standards			
			Primary Standard		Secondary Standard	
Carbon Monoxide (C0)	ppm	μm^3	ppm	μm^3	ppm	μm^3
Maximum 8-hr concentration[1]	9		9		9	
Maximum 1-hr concentration	35		35		35	
Lead						
Maximum avg. arithmetic mean[2]				1.5		
Ozone (0_3)						
1-hr maximum	0.12		0.12	235	0.12	235
Particulate Matter (PM_{10})						
Annual geometric mean				50		50
Maximum 24-hr concentration[3]				150		150

Table 3-5, cont.

Fine Particulate Matter ($PM_{2.5}$)						
Annual geometric mean				15		15
Maximum 24-hr concentration[4]				65		65
Sulfur Dioxide						
Annual arithmetic mean	0.03		0.03	80		
Maximum 24-hr concentration[1]	0.14		0.14	365		
Maximum 3-hr concentration[1]	0.50				0.50	1,300

[1] Not to be exceeded more than once per year
[2] Averaged over 3 consecutive months
[3] Not to be exceeded by 99th percentile of 24-hr PM_{10} concentrations in a year-averaged over 3 years
[4] Not to be exceeded by 98th percentile of 24-hr $PM_{2.5}$ concentrations in a year-averaged over 3 years
Former NYS Standard for ozone of 0.08 PPM was not officially revised via regulatory process to coincide with the Federal standard of 0.12 PPM which is currently being applied by NYS to determine compliance status
The Federal lead standard has not been officially adopted by NYS but is currently being applied to determine compliance status
The Federal PM_{10} standard has not been officially adopted by NYS but is currently being applied to determine compliance status

Sources:

40 CFR Part 50 "National Primary and Secondary Ambient Air Quality Standards"
40 CFR Part 50.7 "National Primary and Secondary Ambient Air Quality Standards for Fine Particulates"
40 CFR 50.12 "National Primary and Secondary Standard for Lead"
NYSDEC, NYS Ambient Air Quality Standards

Ambient air pollutant concentrations are monitored and compared to state and federal threshold concentrations and areas are classified into three categories based on their compliance with these standards. An area of attainment is classified as any area that meets the national primary or secondary ambient air quality standard for the pollutant. Areas of non-attainment do not meet the national primary or secondary ambient air quality standard for the pollutant. An unclassifiable area is any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

New York State is divided into nine Air Quality Control Regions (AQCR) based on geographic location. The NYSDEC has established a network of ambient air monitoring stations location throughout the state in each of the nine AQCRs. The NYSDEC monitors and tracks ambient concentrations of criteria air pollutants as specified in the NAAQS as well as secondary parameters which are considered indicative of ambient air quality. Currently, the NYSDEC does not have an ambient air monitoring station in the City of Amsterdam or in Montgomery County. The closest air quality monitoring station is located in Schenectady County at the NYSDEC Regional Headquarters, in the City of Schenectady and is identified as monitoring point 460105. Within Region 4, the NYSDEC also has monitoring stations in the Town of Loudonville, Albany County and near Dyken Pond in Rensselaer County. A summary of air quality trends for the years 1991 to 2001, as obtained from the NYSDEC 1999 NYS Ambient Air Quality: Ambient Air Monitoring System Report is provided on Tables 3-6 through 3-10.

Table 3-6: Annual Average Sulfur Dioxide Concentrations 1991 – 2001
NYSDEC Region 4 Hudson Valley Air Quality Control Region

Station	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Albany	.007	.006	--	--	--	--	--	--	--	--	--
Loudonville	--	.008	.006	.007	.003	.004	.003	.004	.004	.004	.005
Schenectady	.006	.006	.006	.006	.005	.005	.003	.003	.003	.003	.004

Annual arithmetic mean (ppm). Primary standard- 12 month average not to exceed 0.03 ppm

Table 3-7: Annual Average Inhalable Particulate Concentrations 1991 - 2001
NYSDEC Region 4 Hudson Valley Air Quality Control Region

Station	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Albany (0101-10)	23	24	23	23	17	--	--	--	--	--	--
Albany (0101-13N)	23	24	23	25	21	21	23	21	--	--	--
Loudonville	21	19	18	19	16	17	19	19	--	--	--
Cohoes	20	20	18	21	16	--	--	--	--	--	--

Hudson	--	--	--	--	--	--	--	--	--	13	14

Annual arithmetic mean (ug/m^3). Sampling commenced at Hudson Station on 3/1/00 and ended on 10/3/01

Table 3-8: Annual Average Carbon Monoxide Concentrations 1991 - 2001 NYSDEC Region 4 Hudson Valley Air Quality Control Region

Station	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Loudonville	--	--	--	--	--	--	.8	.4	.3	.4	.4
Schenectady	.6	.6	.6	.6	.4	.5	.5	.5	.6	.6	.5

Annual arithmetic mean (ppm).

Table 3-9: Annual Average Ozone Concentrations 1991 – 2001 NYSDEC Region 4 Hudson Valley Air Quality Control Region

Station	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Loudonville	.025	.024	.024	.026	.025	.024	.026	.026	.026	.022	.026
Schenectady	.022	.021	.021	.021	.022	.020	.022	.022	.023	.021	.024

Annual arithmetic mean (ppm).

Table 3-10: Annual Average Inhalable Particulates-Sulfate, Nitrate Fraction Concentrations 1991 - 2001 NYSDEC Region 4 Hudson Valley Air Quality Control Region

Station	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Loudonville	6.2	5.8	4.6	5.7	4.1	4.0	4.8	5.0	--	--	--
Schenectady	6.4	5.2	4.4	5.2	3.4	3.7	4.9	4.9	---	--	--
Hudson	--	--	--	--	--	--	--	--	--	3.9	4.1

Annual arithmetic mean (ug/m3).
Sampling commended at Hudson Station on 3/1/00 and ended on 10/3/01

As indicated in Tables 3-6 through 3-10, with the exception of ozone, the project area is considered to be in attainment for the criteria pollutants regulated under the Clean Air Act and New York State ambient air quality standards. Montgomery County is located within the marginal ozone non-attainment area because New York State and is one of thirteen northeastern states located designated under the 1990 Clean Air Act Amendments as part of the Northeast Ozone Transport Region (OTR) and are considered to be in non-attainment for ozone. Data provided by the NYSDEC indicate that ozone concentrations within the non-attainment zones have varied but overall have demonstrated a decreasing trend.

3.8.1.2 Wind Data

Wind data in the area of the project site was obtained from True Wind Solutions, a leading wind energy service company, focused on research in the fields of wind energy. TrueWind Solutions, LLC is a wholly owned partnership of three firms: AWS Scientific, Inc., Brower & Company, Inc., and MESO, Inc. Established in 1998, the firm specializes in the development and application of advanced mesoscale atmospheric models used for wind resource assessment and wind forecasting. Since its introduction three years ago, the MesoMap wind mapping system has been applied in 15 countries on four continents. In New York State, TrueWind Solutions, LLC is working directly with the New York State Energy Research and Development Authority (NYSERDA) to produce a detailed wind resource atlas, characterizing the resources available for power production in New York.

The wind resource estimates presented in this DEIS were developed using MesoMap™, a mesoscale atmospheric simulation and modeling system developed by TrueWind Solutions. MesoMap™ was developed to simulate complex meteorological phenomena not adequately represented in standard wind flow models. It is therefore capable of modeling sea breezes, offshore winds, mountain/valley winds, low-level nighttime jets, temperature inversions, surface roughness effects, flow separations in steep terrain, and channeling through mountain passes, which are of importance in examining wind data.

The MesoMap™ model utilizes historical upper air and surface meteorological data, thereby providing a consistent long-term, 3-dimensional wind resource record. The results of this model provide more precision to the GIS site identification task by supplying a highly-resolved spatial definition of the wind resource at potential development sites. This in turn provides much greater

certainty about site specific wind conditions without the need for a widespread wind measurement program.

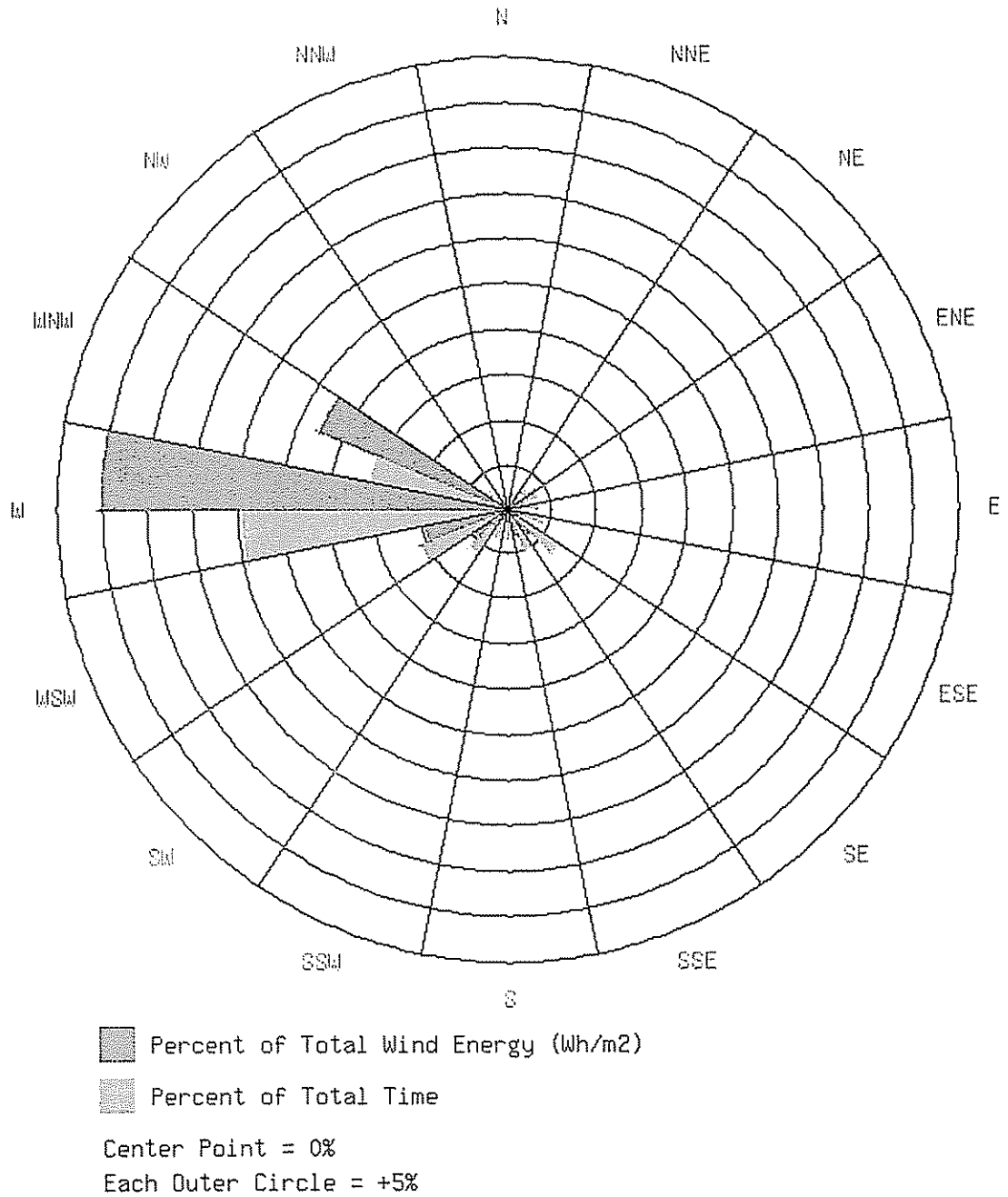
The MesoMap™ software was used to query New York State wind data collected by the National Weather Service (NWS) over the past 30 years. Using the central site latitude and longitude, the dataset was queried to provide a random sampling of the data set, which consists of upper air data collected from NWS weather balloons. The use of upper air wind data from NWS weather balloons, as opposed to the historic use of wind data from airport weather stations, provides more representative data, as it accounts for intervening terrain, mountains, valleys, plains and shorelines. The MesoMap™ software extrapolates surface air data from the upper air wind data set, examining influencing variables such as terrain, elevation, weather patterns etc. to create an estimated annual atmospheric model (wind rose) showing wind direction, frequency and wind energy at a spatial grid resolution of 400 meters (1312 feet or 0.25 miles). The wind rose created using the MesoMap/TrueWind Solutions software is included as Figure 3-7.

To validate the wind resource maps, TrueWind generated long-term mean wind speed estimates for locations where there are reliable and representative measurements on high-elevation terrain. The National Renewable Energy Laboratory and additional independent meteorologists compared the predicted speeds with measured speeds (adjusted to the long-term norm) extrapolated to a standard hub height (50 m). Based on prior model validations, the expected range of discrepancy between measured and predicted winds in the northeastern U.S. in complex terrain is 3 to 7%. In moderate terrain, the accuracy of the model is very high, with a mean error of virtually zero and standard deviation of 4%.

As illustrated on Figure 3-7, the data indicate that the annual prevailing wind direction is westerly (winds from the west) with an average wind speed of approximately 16 miles per hour (mph). A review of meteorological data provided by True Wind Solutions indicates that the prevailing wind direction in the area of the site is from the west with winds predominately from the west-northwest and from the west between 16 and 28% of the year, respectively. The data indicate that the wind energy (which indicates the force or strength of the wind) is predominately from the west.

The wind climate in the immediate area of the project site is affected by the local topography and wind speed and direction may be influenced by general topographic patterns and landforms on and around the site.

Figure 3-7: Wind Rose



Wind rose created using TrueWind Solutions MesoMap software

3.8.2 Potential Impacts

3.8.2.1 Construction Equipment Combustion Gas Emissions

A significant impact would result if the NAAQS for any of the six major criteria pollutants are exceeded. The proposed project is anticipated to result in the temporary air quality impacts during construction activities. It is expected that construction activities will result in the release of combustion emissions (primarily CO, CO_2, nitrogen oxides and volatile organic compounds) from construction equipment.

3.8.2.2 Fugitive Dust Generation

Construction activities associated with the proposed project will result the generation of fugitive dust both during the activities (i.e., excavation, rock drilling, blasting, demolition, vehicle traffic, human activity, etc.) and as a result of wind erosion over the exposed earth surfaces. Site operations, including material sorting, moving and placement of materials within the landfill cell may also generate fugitive dusts. Wind movement across the project site may also potentially affect the migration of fugitive dusts.

Fugitive dust is a particulate matter which becomes airborne and contributes to air quality as a nuisance and potential threat to human health and the environment. Of particular concern is particulate matter less than ten microns (10 μ) in diameter. Particulate matter of this diameter is considered to be respirable (able to be deposited into the respiratory tract) and is designated as PM_{10}.

Ambient allowable concentrations of fugitive dusts have been established and are promulgated by the Occupational Safety and Health Administration (OSHA). Other regulatory agencies, including the United States Environmental Protection Agency (USEPA), the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC) have created technical guidance and recommended limits for ambient levels of fugitive dust.

The United States Environmental Protection Agency (EPA) has suggested, in general, an overall emission rate of about 1.2 tons of particulate/acre/month of active construction from all phases of land clearing operations, before accounting for fugitive dust control measures. This is a national estimate and does not estimate the quantity of dust anticipated to be generated on the project site. It is anticipated that much of the fugitive dust generated by construction activities will consist of larger particulate matter, which would be expected to settle-out within a short distance from the construction area.

3.8.2.3 Landfill Gas Generation

Although primarily an issue for solid waste landfills, C&D landfills can also produce landfill gases such as methane and carbon dioxide and hydrogen sulfide. In comparison to solid waste landfills, C&D landfills generally contain little organic material which produces landfill gases as it decomposes. Certain C&D materials, such as gypsum wallboard, can produce landfill gas such as hydrogen sulfide, particularly if the wastes become and remain saturated. Given its low odor threshold and its characteristic "rotten egg" smell, hydrogen sulfide and other landfill gases may cause aesthetic and nuisance impacts.

Landfill gas is produced by the microbial breakdown of waste and debris materials. Landfill gas consists primarily of carbon dioxide and methane with trace amounts of other gases, such as hydrogen sulfide. Although certain components of landfill gas mixtures are heavier than air (e.g. carbon dioxide and hydrogen sulfide), according to EPA, they *"... will not separate by their individual density.."*, but rather move, ".. *as a mass in accordance with the density of the mixture and other gradients such as temperature and partial pressure*". This usually results in landfill gas moving upward through the landfill surface into ambient air.

Hydrogen sulfide is a colorless, naturally occurring flammable gas under normal conditions. Hydrogen sulfide is heavier than air and will tend to migrate low to the ground surface. The generation and migration of landfill gas is affected by many conditions, including, but not limited to, landfill cover material, presence of natural and/or manmade pathways, groundwater levels, wind speed and direction and barometric and soil gas pressure

Hydrogen Sulfide is generated within landfills from sulfur containing materials, such as gypsum, as a microbial byproduct under anaerobic (no oxygen) conditions. Anaerobic conditions can develop in a landfill under saturated or high moisture conditions as available oxygen is displaced by water and/or consumed by aerobic microbes. Typically, historic problems related to excessive gas generation from C&D landfills are related to the presence of large quantities of pulverized waste containing fine gypsum particles and the persistent presence of excessive moisture. In an effort to minimize the potential for adverse odor conditions, AMR will not accept pulverized waste at this facility and will minimize excessive moisture content of the waste through proper stormwater management, daily, intermediate and final waste cover systems, leachate collection, and post-closure gas venting.

3.8.3 Mitigation Measures

3.8.3.1 Construction Equipment Combustion Gas Emission Control

Construction equipment will be temporarily operated on the site and all equipment will be maintained and operated in a manner which reduces ambient emissions (i.e. no un-necessary idling, proper equipment maintenance etc.). These impacts will be temporary, limited by the staging of construction activities. Emissions from construction equipment will be dispersed over relatively large construction areas, and any single piece of equipment will not result in adverse impacts to the project area. Truck traffic to and from the construction sites will be a small percentage of overall traffic volumes in the project area. The operation of construction equipment on the site property is not expected to result in significant air quality impacts and no mitigation measures are proposed.

3.8.3.2 Fugitive Dust Control

The following fugitive dust suppression and particulate monitoring program will be employed at the facility during construction and operation:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during construction activities such as the rock drilling/blasting, excavation, grading, or placement of soil and along any unpaved stretches of haul roads and during the operational phase for debris handling, processing and landfilling.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

   Object to be measured: Dust, Mists, Aerosols
   Size range: <0.1 to 10 microns
   Sensitivity: 0.001 mg/m3
   Range: 0.001 to 10 mg/m3
   Overall Accuracy: ±10% as compared to gravimetric analysis of stearic acid or reference dust

   Operating Conditions:
   Temperature: 0 to 40oC
   Humidity: 10 to 99% Relative Humidity
   Power: Battery operated with a minimum capacity of eight hours continuous operation
   Automatic alarms are suggested.

4. Particulate levels will be monitored immediately downwind at the working site and integrated over a period not to exceed 15 minutes. Consequently, instrumentation shall require necessary averaging hardware to accomplish this task; the P-5 Digital Dust Indicator as manufactured by MDA Scientific, Inc. or similar is appropriate.

5. In order to ensure the validity of the fugitive dust measurements performed, there will be appropriate Quality Assurance/Quality Control (QA/QC to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

6. The action level will be established at 150 ug/m3 over the integrated period not to exceed 15 minutes. While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be measured immediately using the same portable monitor. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see Paragraphs 8 and 9).

7. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential for off-site impacts, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as rock drilling/crushing or debris sorting and loading will require the need for special measures to be considered.

8. The following techniques have been shown to be effective for the controlling of the generation and migration of dust and are applicable for the construction phase of the project:

   - Applying water on haul roads.
   - Wetting equipment and excavation faces.

- Maintaining overburden and/or wetting rock drilling/blasting operations.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped or watertight containers.
- Restricting vehicle speeds to 15 mph.
- Dust suppressants, such as calcium chloride, may be used in certain areas to control the generation of fugitive dusts. It is anticipated that calcium chloride will be applied to constructed access roads to control the generation of dusts prior to the pavement of these roadways. Chemical suppressants selected for the site will be approved by the NYSDEC, City and other agencies prior to use and their use will be in accordance with applicable guidelines.
- Covering excavated areas and material after excavation activity ceases.
- Reducing the excavation size and/or number of excavations.
- Construction workers shall park in designated parking area(s) to help reduce dust emissions.
- All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains shall be removed immediately.

9. The following techniques have been shown to be effective for the controlling of the generation and migration of dust and are applicable for the operation phase of the project:

- A vegetative covering will be maintained around the project perimeter. A natural vegetative cover will serve to confine the migration of fugitive dusts, should they reach the perimeter of the project area.
- A daily cover will be placed on the landfill cell to minimize the generation of dusts from the waste mass.
- Most materials handling within the landfill cell will occur below the surrounding grade and, therefore, will minimize the migration of airborne dust beyond the project limits.

- Material sorting will be performed within the recycling area only. This area is surrounded by a 20-foot high berm. Additionally, actual sorting procedures will be performed below a roofed structure to minimize airborne particle development. If necessary, materials will not be sorted during periods of high velocity winds.

- In the landfill cell area, leachate generated within the cell, water from the stormwater management pond located north of the cell, or a water tanker truck will be utilized to mist debris within the cell and minimize dust generation. Leachate for dust control is only proposed for application within the active landfill cell. The application of leachate for dust control within the landfill cell is subject to NYSDEC approval under the Part 360 Permit process and is anticipated not to have any adverse impacts considering the nature of C&D leachate and the small amounts needed for dust control.

- Haul vehicles transporting soil into or out of the property shall be covered.

- Vehicles entering or exiting the facility shall travel at a speed which minimizes dust emissions. Based on guidance documentation on dust control during construction activities, a maximum speed limit of 15 mph will be established and enforced.

- Dust suppressants, such as calcium chloride, may be used in certain areas to control the generation of fugitive dusts. It is anticipated that calcium chloride will be applied to constructed access roads to control the generation of dusts prior to the pavement of these roadways. Chemical suppressants selected for the site will be approved by the NYSDEC, City and other agencies prior to use and their use will be in accordance with applicable guidelines.

- Mitigation measures will be employed to control the generation of dust from crushing operations. The crusher will be located within the recycling facility area, which is surrounded by a 20-foot high berm. The crusher will be equipped with water spray dust suppression nozzles at the hopper, jaws and discharge conveyor.

3.8.3.3 Landfill Gas Control

Landfill gases will be managed in a manner which is protective of the health and safety of landfill operators/facility personnel, site occupants and the surrounding community. In accordance with Part 360 requirements, landfill gas will be evaluated during the post-closure period for a minimum of 30 years.

A detailed landfill gas program will be prepared as part of the Operation and Maintenance Plan for the Part 360 Permit for both operational and post-closure phases of the project and is subject to review and approval by the NYSDEC. Based upon guidance documents prepared by the Massachusetts Department of Environmental Protection, the landfill gas plan will include operational measure to minimize the production of objectionable odors, periodic odor surveys, periodic real-time air monitoring, and response action to address exceedances of qualitative odor thresholds and/or quantitative air monitoring criteria.

Operational Controls

Operational measures to control landfill gases and odors include the following:

- Exposed debris materials in the landfill cell will be covered on a daily basis and intermediate and final cover systems will be installed in phases to limit the exposure of debris to ambient air;
- Stormwater will be managed to minimize contact with debris within the landfill cell, thus minimizing the potential for methane and hydrogen sulfide generation from debris decomposition;
- Leachate management practices will limit exposure of debris to leachate and saturated conditions; and,
- A landfill gas control system will be incorporated into the post-closure landfill design. The landfill gas control system will be designed and operated in accordance with 6 NYCRR Part 360 requirements to manage the migration of landfill gas.

Odor Survey

To determine if an odor nuisance exists, AMR will conduct an odor survey on a weekly basis or in response to complaints. The odor survey will be conducted at predetermined locations within the facility and adjacent community locations selected based upon the proximity to the landfill, potential sensitive receptors, topography, meteorology, predominate wind direction, accessibility and other potential sources of odors and emissions.

In general an odor nuisance shall be deemed to occur if the survey determines that one of the following conditions exist beyond the property line of the facility:

1. The odor characteristic (or type of odor, separate from the intensity of the odor, example: rotten egg type or garbage odor) is deemed to be unpleasant or objectionable and the average odor intensity is determined

by the inspector to constitute a level of three (3) or greater for a period of 15 minutes or greater. Odor "observations" shall be made at least twice during the 15-minute period and shall be noted in a logbook or form.

2. The odor characteristic (or type of odor, separate from the intensity of the odor, example: rotten egg type or garbage odor) is deemed to be unpleasant or objectionable and the odor intensity is determined by the inspector to constitute a level four (4) or greater for any period of time.

3. The odor characteristic (or type of odor, separate from the intensity of the odor, example: rotten egg type or garbage odor) is deemed to be unpleasant or objectionable and the odor intensity is determined by the inspector to constitute a level of two (2) or between levels two (2) and three (3) for a period of 60 minutes or greater. Odor "observations" shall be made at least three (3) times during the 60-minute period.

AMR proposes to use a five (5) point odor intensity field reference scale as noted below:

0	Odor not detectable.
1 - Very Light	Odorant present in the air which activates the sense of smell, but the characteristics may not be distinguishable.
2 - Light	Odorant present in the air, which activates the sense of smell and is distinguishable and definite but not necessarily objectionable in short durations but may be objectionable in longer durations.
3. - Moderate	Odorant present in the air which easily activates the sense of smell, is very distinct and clearly distinguishable and may tend to be objectionable and/or irritating.

4 - Strong	Odorant present in the air, which would be objectionable and cause a person to attempt to avoid it completely.
5 - Very Strong	Odorant present which is so strong it is overpowering and intolerable for any length of time.

Ambient Air Monitoring Protocols for Hydrogen Sulfide

Action Levels for hydrogen sulfide in ambient air at the facility property line are proposed as follows:

- greater than or equal to 15 ppm averaged over 8 hours; or,
- greater than or equal to 30 ppb averaged over one hour.

To determine if a hydrogen sulfide Action Level has been exceeded, ambient air monitoring equipment will be performed on a monthly basis or more frequently if hydrogen sulfide is detected or if odors are present. Please note that the determination of an odor nuisance condition discussed can be entirely separate from determining the ambient air concentrations of hydrogen sulfide. Hydrogen sulfide is only one of many compounds that could be emitted from a landfill that may cause an odor nuisance

AMR proposes the following protocols be used for determining if hydrogen sulfide concentrations in ambient air are greater than the established Action Levels:

- Stationary or portable continuous monitoring device(s) (e.g. Jerome meter or similar device)
- method detection limit of approximately 3 ppb;
- sampling interval of approximately 10-15 minutes

The "Jerome meter" is a portable hydrogen sulfide meter manufactured by Arizona Instrument LLC, that has a detection range of 3 ppb to 50,000 ppb. The Jerome meter, or similar device, can be used as a portable or stationary continuous monitoring device with the use of the data logger. Monitoring will be conducted at facility property line in the predominant downwind direction of the landfill, in low-lying areas, and in the direction of the nearest receptor(s) or in the area with the greatest number of odor complaints.

Response Actions

Odor and Hydrogen Sulfide Action Level Event investigations and response actions are required upon the receipt of a complaint, detection of odors off-site at nuisance levels, or exceedance of the hydrogen sulfide Action Levels. In addition to off-site odors, landfill personnel will be cognizant of odors that exist on-site that have the intensity and duration to potentially migrate off-site. AMR will take all necessary actions as soon as possible when an odor is detected on site, even before a complaint is placed.

AMR will undertake the following assessment, monitoring and response actions to be implemented in response to an Odor Action Level Event or an exceedance of the Hydrogen Sulfide Action Level:

1. AMR will immediately log the complaint/detection of odors;

2. AMR investigate to determine the source and extent of the odors;

3. AMR will implement the following management practices;

    a. cease acceptance of any material that has the potential to contribute to odorous landfill gas emissions, on at least a temporary basis; and
    b. place additional daily or intermediate cover soils or apply other cover technologies to reduce odorous landfill gas emissions to ambient air.

4. AMR will conduct landfill gas monitoring if verified odors have not been traced to a particular source and remedied;

AMR will conduct additional investigations including, but not limited to, landfill gas characterization, emission monitoring, near-surface landfill gas monitoring and ambient air monitoring. This monitoring shall be performed to determine the nature, source and extent of the emissions ongoing at the landfill site.

3.9 Cultural Resources

This section describes cultural resources characterized for the site based on the findings of a Phase 1 Cultural Resources Survey performed for the site property.

3.9.1 Existing Conditions

A Phase I Cultural Resource Survey was conducted by Landmark Archeology Inc. in June 2003 on the project site to inspect the property and precisely define the spatial boundaries of any archeological resources in relation to the limits of

the project area. A copy of the Phase I Cultural Resource Survey is included as Appendix F, however the methodology and findings of the survey are summarized in this section.

The Phase I study was conducted in two stages: A Phase I A literature review and a Phase I B intensive-level identification survey. The purpose of the Phase I investigation was to assess the potential for National Register of Historic Places (HRHP) properties to exist within the project area. The Phase I B study consisted of an intensive-level identification survey consisting of shovel test excavations within the area proposed for development.

The Phase I A Cultural Resource Survey confirmed that no State or National Register of Historic Places historic sites and no archaeological resources are located on-site.

The Phase I B field investigation were performed between June 9 and June 17, 2003 and consisted of shovel tests excavated across areas exhibiting less than 15 % slope with the exception of those areas that had been graded. A pedestrian survey was conducted across graded areas. The survey was conducted along parallel transects located three to five meters apart. Shovel tests were aligned to transects and were spaced at 15 meter intervals. The diameter of the shovel tests ranged from 30 to 50 centimeters. Soils were removed in 20-centimeter levels within soil horizons. All excavated soil was screened and soil characteristics (including texture, color, disturbances etc.) were noted. All shovel tests were backfilled after completion. The investigation included a total of 96 shovel tests within 24 transects. The shovel test locations are identified in the Phase I Cultural Resource Survey is attached as Appendix F.

No evidence of archeological sites was identified during the Phase I B investigation.

3.9.2 Potential Impacts

The cultural resource investigation did not identify evidence of archeological sites or archeological resources. Therefore, no effect on significant archeological resources is expected from the proposed project.

3.9.3 Mitigation Measures

The proposed project will have no effect on significant archeological resources, therefore no mitigation measures are considered necessary.

3.10 Land Use

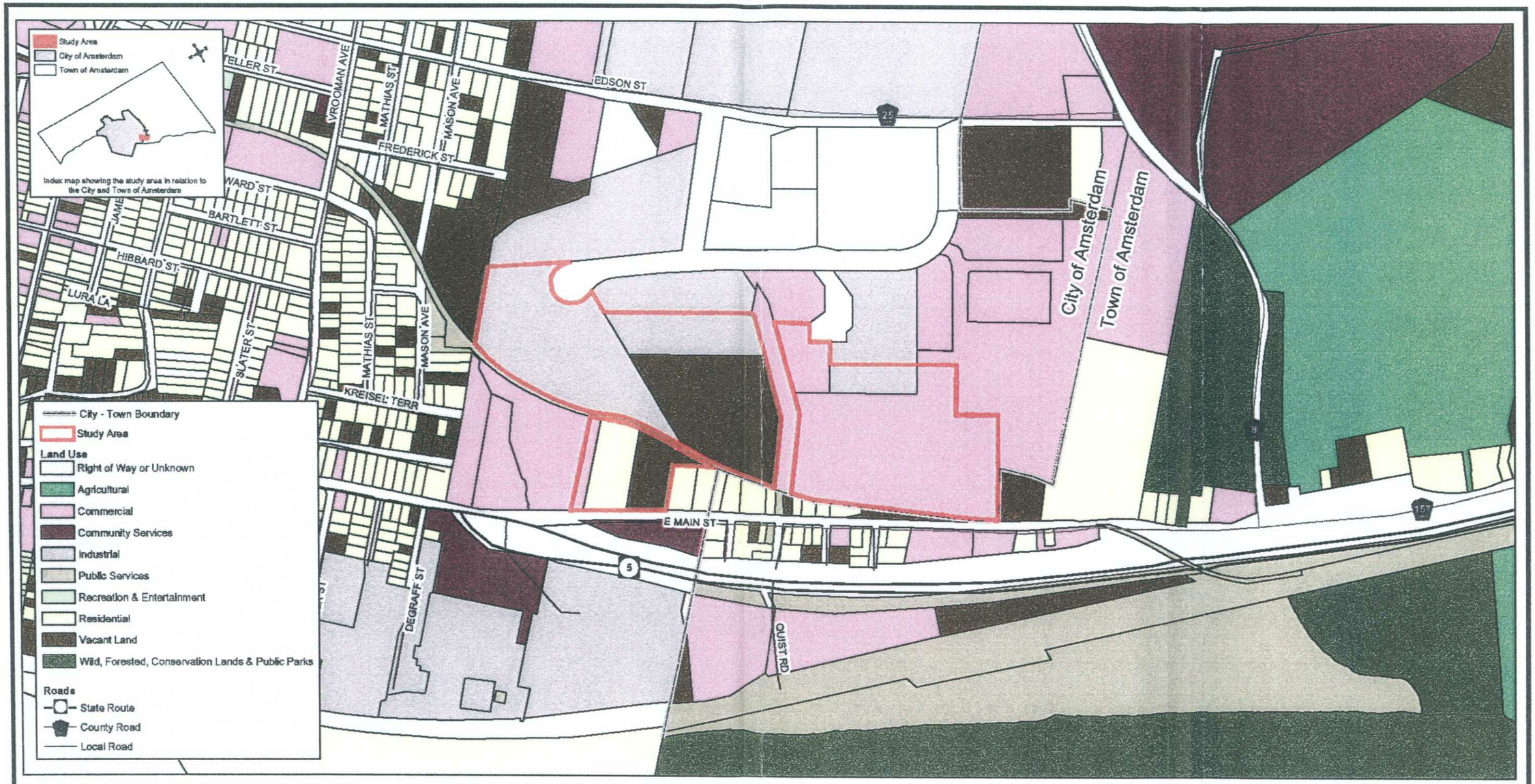
This section will discuss existing land uses on and in the vicinity of the project site.

3.10.1 Existing Conditions

Information maintained by the Montgomery County Real Property Tax Service indicates that the majority of the property located in the City of Amsterdam is used in a residential manner. Vacant land accounts for approximately 14.5 % of the City's area. The degradation of Amsterdam's industrial base has been well documented. Real property and tax information indicate that there are currently 50 industrial parcels in the City of Amsterdam which comprise a total of 167 acres (approximately 4.2% of the City area).

Current land uses on the project site and surrounding area are described on Figure 3-8, *Land Use Map*. As indicated in Figure 3-8, the majority of the project site is described as a commercial land area while the northwestern site area is defined as industrial land. A small portion of the site property is defined as vacant land. The southwestern portion of the site is identified as a residential land parcel. As previously indicated, this parcel was formerly utilized as a private residence. The parcel has been acquired by the AIDA and its future use will be consistent with the proposed action and uses of the surrounding industrial park.

The main land uses in the immediate vicinity of the project site include commercial and industrial uses to the north, within the industrial park. Lands to the south include residential properties, commercial properties (such as the TeePee Restaurant). Residential, commercial and vacant lands lie to the east and west of the subject site.



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North Country Office:
110 Glen Street
Glens Falls, New York 12801
Phone: (518) 812-0513

Map Scale

Feet

0 200 400 800 1,200 1,600

Amsterdam Materials Recycling

Figure 3-8: Land Use Map

Amsterdam Materials Recycling
AIDA - Edson Street

City of Amsterdam, Montgomery County, New York

Created by:	Carol Conolly
Date:	December 5, 2003
Scale:	1:6,600
Project #:	90309.00

Map Document: (K:\90\90300-90399\90309\GIS\gis_maps\Mxd\ai\90309_Figure3-8_LandUse_11x17.mxd)
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3.10.2 Potential Impacts

Potential impacts to nearby land use include changes to the visual character of the site, drainage and groundwater impacts and impacts from site operations (i.e. noise, landfill gas odors). These potential impacts are also discussed under separate headings in the DEIS.

The project is not anticipated to have any adverse impacts on the long-term use of the Edson Industrial Park. The project incorporates a number of mitigation measures to ensure that adjoining lands will not be adversely impacted. Once closed, the landfill will be subject to long-term monitoring to ensure the adjoining lands are not adversely impacted, and a Post Closure Bond will be posted to correct problems in the unlikely event any do occur.

At project completion additional lands will be available for development in the industrial park, subject to the approval of the U.S. ACOE. .The landfill cell itself will not be developed, but the recycling area and other lands will have been regarded and made suitable for development. The project will thus have a positive long-term impact on the development of the industrial park.

3.10.3 Mitigation Measures

3.10.3.1 Visual Character

Adverse impacts to nearby land uses are considered to primarily be impacts to the aesthetic/viewshed due to landfill uses which are not consistent with surrounding residential lands. Mitigation measures to address visual/aesthetic impacts include the use of buffers, screening and low profile design and are described in greater detail in Section 3.12 of this report.

Additionally, the future use of the site would be limited to those uses allowed under the current LI, light industrial zoning. These uses would be consistent with those presently in the Edson Industrial Park and would be subject to site plan review by the City of Amsterdam Planning Board.

3.10.3.2 Noise

The proposed project is anticipated to generate noise during the construction phase from the operation of construction equipment and during the operational phase from truck traffic and waste processing equipment (i.e. crusher).

To evaluate the noise levels anticipated to be generated during the construction and operational phases of the project, a noise survey was performed by TCC in August 2003. The methodology and findings of the noise study are discussed in

Section 3.13 of this report. Based on the findings of this survey, mitigative measures to address noise impacts include design measures, such as the use of berms and vegetative screening and operational measures, such as limiting facility operations to the hours of 8 a.m. to 5 p.m. Monday - Friday are described in greater detail in Section 3.13 of this report.

3.10.3.3 Landfill Gas Odors

As described in Section 3.8.3.3 of this report, landfill gas control measures will be incorporated as part of this project to minimize impacts to air resources from landfill gas odors. Landfill gas generation and migration will be assessed throughout the operational period, and in accordance with Part 360, will continue to be assessed during the 30-year post-closure period.

3.11 Planning and Zoning

This section will discuss the City of Amsterdam/s planning and zoning documents as they relate to the project site.

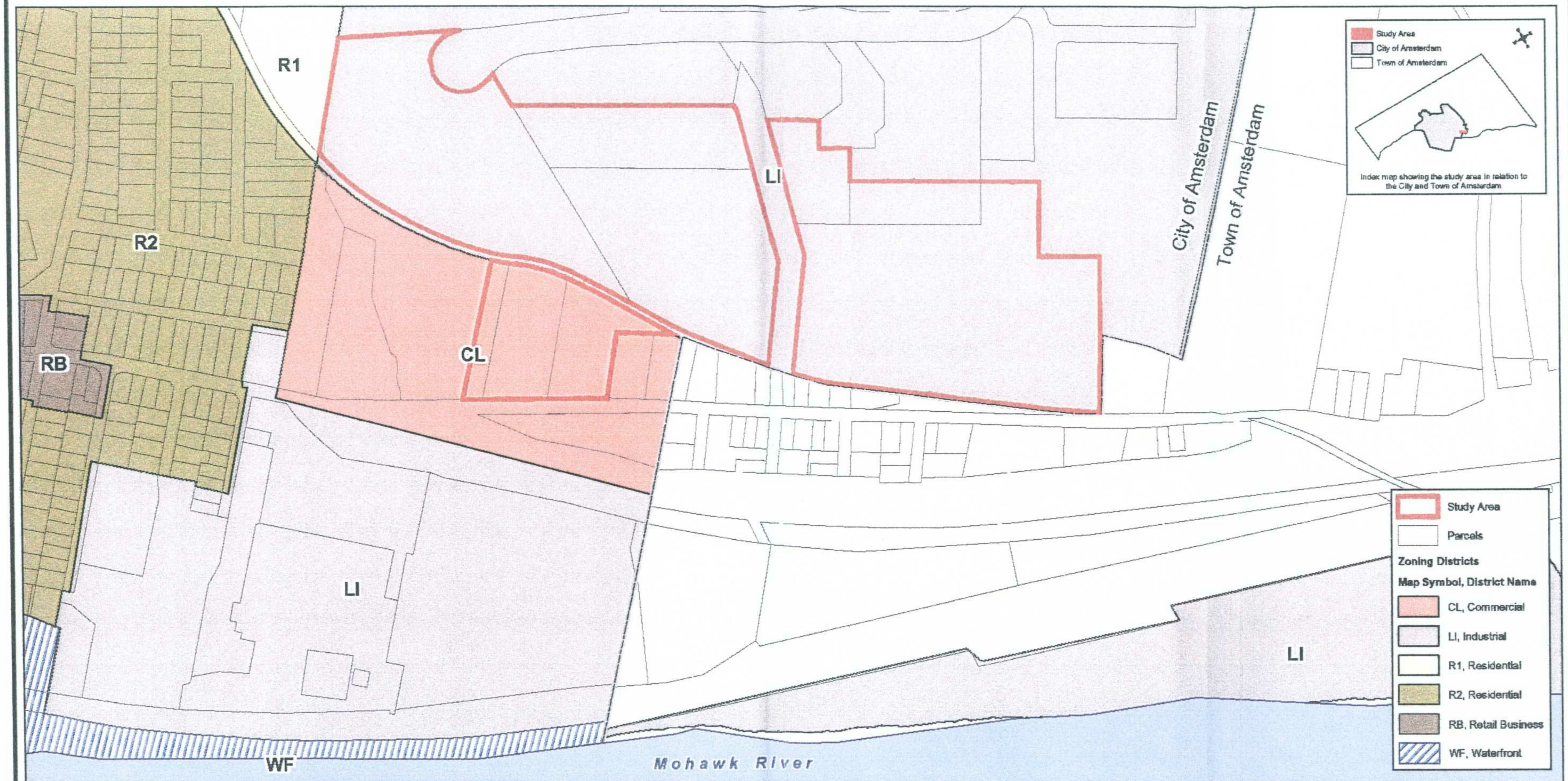
3.11.1 Existing Conditions

As indicated in Figure 3-9, Zoning Map, the project lands currently located within the industrial park (which comprises the majority of the project site) are currently zoned Light Industrial (LI). The two parcels proposed to be acquired to the south of the industrial park (including A 1.729-acre parcel currently owned by Theodore Dick and Robert Riechel and a 1.919 acre parcel currently owned by Robert & Susan Butterfield) are located within the Commercial/Light Industrial zone (CLI). According to the City of Amsterdam Engineering Office, the allowed density of development within the LI and CLI zones is 35% greenspace.

Properties which adjoin the site to the north within the industrial park and properties located south of the site are zoned Light Industrial. Properties located north of the industrial park are located within the Single-Family Residence (R1) Zone. To the west of the site, properties are located within the Single-Family (R1) and Two-Family (R2) Zones.

Under these zoning classifications, a significant amount of development could occur on and around the project site including light industrial operations, industrial warehousing, search and development, multi-tenant commercial facilities and general office space.

The City of Amsterdam Community and Economic Development Department verified that the City of Amsterdam has a local waterfront re-vitalization program, however the project site is not located within the program area.



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Map Scale

Feet

0 100 200 400 600 800

Amsterdam Materials Recycling

Figure 3-9: Zoning Map

Amsterdam Materials Reclycling
AIDA - Edson Street

City of Amsterdam, Montgomery County, New York

Created by: Carol Conolly
Date: December 4, 2003
Scale: 1:3,617
Project #: 90309.00

3.11.2 Potential Impacts

3.11.2.1 Zoning

The areas where the proposed C&D landfilling and recycling activities will occur are currently zoned light industrial (LI). Landfilling and other disposal operations are not permitted uses in the LI zone (or any other zone within the City). The proposed recycling operation and the associated storage activities are permitted uses in the LI zone since light processing uses and the associated storage facilities are permitted uses within the LI zone. AMR will seek confirmation of this conclusion from City officials. The project will require a zoning change to permit the proposed landfilling activity and, depending, upon the interpretation of City zoning officials, may require a change to permit the recycling and associated storage activities as well.

This DEIS has examined the impacts of such a zoning change under the assumption that the change would take the form of the designation of a new zoning district in §250-5 of the zoning code. All provisions related to LI districts in the zoning code would be identical in the newly created district except that landfilling of C&D debris (and recycling and storage of C&D debris, if necessary) would be additional permitted uses. The amendment would not permit the landfilling of any other type of materials or wastes. Only the parcels in the project areas where these activities are occurring would be re-designated into the new zoning district. The environmental impact analysis has been conducted under this assumption.

Although the project would not be permitted under current zoning, it would assist the City accomplish a number of goals that are laid out in its recently adopted comprehensive plan. The project itself is intended as a relatively short-term land use (between 6 to 10 years), after which the uses permitted by the existing zoning would be the only ones that continue. Therefore, the project sponsor maintains that the proposed project should be viewed as a means to accomplish a number of goals in the comprehensive plan.

Specifically, the proposed project would assist the City achieve the following goals identified in the 2003 comprehensive plan.

1. The Plan has identified the need to re-develop old mill sites (See Comprehensive Plan at page III-4 and IV-32). The redevelopment is likely to generate substantial amounts of C&D debris.[11]

2. The Plan recognizes the impediments that large numbers of tax delinquent residential properties create to the community's revitalization (See Comprehensive Plan at page IV-29-30). As part of this effort, extensive

[11] In the case of Mohasco, the C&D debris is to be disposed on on-site in an unlined facility.

building demolition and renovation is likely for vacant and under-utilized properties throughout the City.

With respect to both of these goals, the proposed project would provide the City with very affordable disposal capacity. It is projected that the cost of C&D debris management (i.e. tipping fee and transportation costs) would be approximately half as much as the cost to delivery of such materials to MOSA.

3. The Plan has identified the urgent need to stabilize and reduce the real property tax rates in the City (See Comprehensive Plan at page IV-3). The proposed project would provide at least $10 million in unrestricted funding to the City that could be used for these purposes. It is anticipated that the City will conduct its own study to determine the full extent of the impact of using this funding for tax stabilization and reduction purposes.

4. The Plan has identified the goal of utilizing public funds to stimulate private investment in the City (See Comprehensive Plan at IV-20-21). If the City chooses, some of the unrestricted funding referenced immediately above could be used to stimulate private investment (e.g. improve infrastructure). If this approach is taken, the revenues the City recognizes from the project could be used as a matching source for state and federal grants that focus on economic development. In this way, the impact of these revenues could be greatly magnified and serve a significant role in achieving the Plan's stated goal.

5. The Plan contemplates a complete build out of the Edson Street Industrial Park (See Comprehensive Plan at IV-5). No new building sites are available and building new sites in the project site area is economically infeasible (projected to cost $350,000 per acre in pre-development costs alone) because of the need to bring the area up to grade. The propose project will create a 7-acre area that can be used to create 2-4 new building sites in the Industrial Park.

6. The Plan calls for a new access road to the Edson Street Industrial Park in order to divert traffic off local streets (See Comprehensive Plan at IV-5). The proposed project will create an access road off State Route 5. At the end of the useful life of the project that road plus a fund of at least $2 million will be turned over to the City to upgrade the road to accommodate all the traffic entering and leaving the Park.[12] With such a road in place, all traffic to and from the Park would be removed from local streets.

[12] The $2 million fund is in addition to the $10 million in unrestricted funds discussed in this section above.

3.11.2.2 Solid Waste Planning

The proposed facility would be located in a community now served by the Montgomery-Otsego-Schoharie Solid Waste Authority (MOSA). When MOSA was established it entered into a contract with the three affected counties. Each county is obligated to provide a minimal quantity (guaranteed annual tonnage or GAT) of waste on an annual basis. The GAT is set for each county annually. If a county fails to deliver the GAT, that County is obligated to pay a contractual penalty for the shortfall. Originally it was contemplated that the counties would fulfill their GAT through county flow control laws. In 1994, the US Supreme Court issued a decision in the Carbone case that has effectively prevented the use of flow control laws.[13] As a consequence, the counties have been unable to control the waste stream and have been unable to meet the GAT. As a result, they have paid contractual penalties.

Currently, MOSA only operates transfer stations. It no longer operates any disposal facilities. MOSA contracts with a transporter for a fixed price to pick up wastes and deliver to specifically designated disposal site or sites. If the proposed project became operational, possible that MOSA could take advantage of the existence of such a facility to lower its rates to customers. However, this would depend upon MOSA's contractual relationships. Even if MOSA could not or did not take advantage of the presence of a C&D debris facility in such close proximity to the generating sources in its service area, individual generators of the C&D debris could choose to use the proposed facility instead of delivering to a MOSA transfer station. The fiscal impacts of such a decision would be very difficult to analyze and are beyond the scope of this DEIS.

Even if MOSA could not or did not take advantage of the presence of a C&D debris facility in such close proximity to the generating sources in its service area, individual generators of the C&D debris could choose to use the proposed facility instead of delivering to a MOSA transfer station. The fiscal impacts of such a decision would be very difficult to analyze and are beyond the scope of this DEIS.

NYSDEC Rules do not require merchant facilities (i.e private facilities that are not intended to serve the needs of any community or region and accept wastes from many locations) to demonstrate consistency with state, regional or local solid waste management plans.

[13] The recent 2d Circuit Court of Appeals Decision , United Haulers v. Oneida-Herkimer Solid Waste Authority, opens the possibility of imposing a municipal flow control law in a non-discriminatory way.

3.11.3 Mitigation Measures

Zoning is only a tool to help a community achieve the goals that are articulated in its comprehensive plan. Although the proposed project is not currently a permitted use, the proposed land use is medium term, not permanent, and its character and impacts are comparable to other light industrial uses that are currently permitted in the industrial park (e.g. contractor's yard, light manufacturing, warehousing and storage facilities, mining and excavation). To the extent that the project has the potential to cause impacts that are inconsistent with the character of the community or land use patterns the City seeks for the industrial park, those potential impacts have been analyzed individually in the DEIS and mitigation proposed. Therefore no separate mitigation is proposed beyond what is offered elsewhere in the DEIS.

It is also important to note that the proposed project would assist the City in achieving a number of the goals it has established in the comprehensive plan. In effect, the project can be considered not as an end land use onto itself but rather as a means to an end.

Unless the City Council determines that the proposed activities are consistent with the comprehensive plan, the project will not move forward.

No mitigation is proposed with respect to respect to solid waste planning impacts as there are no potentially significant adverse environmental impacts of the project that would be associated with such planning.

3.12 Visual Character

This section will discuss the visual character of the site in the context of surrounding uses. Potential impacts to the visual character will be identified and mitigation measures will be discussed.

3.12.1 Existing Conditions

The existing landscape of the foreground, within a 0.25-mile radius of the project site, consists of what is generally characterized as urban/industrial lands. The foreground is located within the immediate proximity of the project.

The middle ground viewshed, which is defined as the area between 0.25 and a 1-mile radius of the project site, is characterized by a mixture of woodlands, urban/industrial and rural residential uses located along the road corridors. The background, which lies within a 1-mile to 2.5 mile radius of the project site, consists of rural residential uses, woodlands and urban lands. The majority of the city of Amsterdam lies within the 2.5 mile viewshed with rural residential uses located outside of the viewshed envelope. The vegetation, which exists within the 2.5 mile view shed radius is consistent with the land uses in the viewshed. Large

areas of dense deciduous and evergreen woodland exist throughout the study area. However, the City of Amsterdam is urban in nature. The rural landscape outside of the city limits, particularly south of the subject site within the background viewshed, consists of areas of deciduous and evergreen vegetation. South of the facility is the Mohawk River – Erie Canal corridor. The river is dominate in the viewshed from the south along the New York State Thruway corridor and is considered a complex viewshed with large structures, smoke stack towers, and large signage. These features further reduce the impact of the proposed project on the surrounding area.

3.12.2 Potential Impacts

In order to evaluate the visual impact of the proposed facility, a Visual Impact Analysis was performed in July 2003 by The Chazen Companies (Appendix G). The analysis was conducted in accordance with the DEC's Visual Impact Policy DEP-00-2 purpose of the visual impact analysis was to visualize, anticipate, simulate and evaluate potential changes to the visual quality of the local environment at the proposed project site prior to implementation of the project.

To examine theoretical visibility (where views might be seen, or might be expected to be seen) of the proposed project within the 2.5-mile viewshed radius, a visibility/viewshed analysis was performed. The visibility analysis examined potential visibility of the project site, at the post-closure phase, given the topography of the proposed landfill, topography of the surrounding terrain, and areas of continuous tree cover within the 2.5-mile radius visibility analysis zone. Geographic Information Systems (GIS) software (Environmental Systems Research Institute's (ESRI's) ArcMap 8.3 with the 3-D Analyst and Spatial Analyst Extensions) was used to calculate the theoretical visibility of the proposed landfill in the City of Amsterdam within the 2.5-mile radius of the proposed project site. The post-closure phase of the project, which assumes that the landfill cell is closed, capped and vegetated, is considered to be a worst-case scenario and present the greatest potential for visibility within the 2.5-mile viewshed. Under this worst-case scenario, nine areas which present theoretical visibility of the proposed project were identified.

Based on the three part selection criteria, 40 key viewpoints were identified. These viewpoints were identified by use of topographic mapping to identify where views of the facility might be seen, or might be expected to be seen, and by locating views in the immediate vicinity of the facility. Each viewpoint was analyzed for the impact of the proposed facility. Site reconnaissance and the photographic inventory indicate that out of the 40 viewpoints, nine (9) viewpoints have potential views of the proposed facility, and are considered as possible visual receptors. The remaining viewpoints where either completely blocked by topography or man-made structures, or screened by vegetation.

Of the nine visual viewpoints, one viewpoint was considered to have the greatest potential for visual impact associated with the proposed facility. This viewpoint is located along Interstate I-90 and therefore is associated with the highest number of potential viewers and presents the longest duration of view, as compared to the other viewpoints. This viewpoint is identified on Figure, 3-10, *Existing Conditions View*. Additionally, given the area topography and vegetation, this viewpoint has the highest visibility of the project site from the surrounding viewshed. Given these conditions, this viewpoint was identified as a potential critical visual receptor and was further evaluated to determine the visual impact.

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FIGURE 3-10
EXISTING CONDITIONS VIEW

Amsterdam Materials Recycling Facility

View looking north from I-90

Date:
August 2003

Scale:
Not To Scale

Project #:
90303.00

To visualize, anticipate, simulate and evaluate potential changes to the visual quality of the local environment at the proposed project site, a visual simulation was performed for the identified critical receptor. Photographs were taken from this viewpoint and proposed site conditions were overlaid onto the existing photograph and were projected, using computer modeling software, to produce a simulated view of the proposed project during the following two development site conditions:

- Operational Phase: This phase assumes the following conditions:

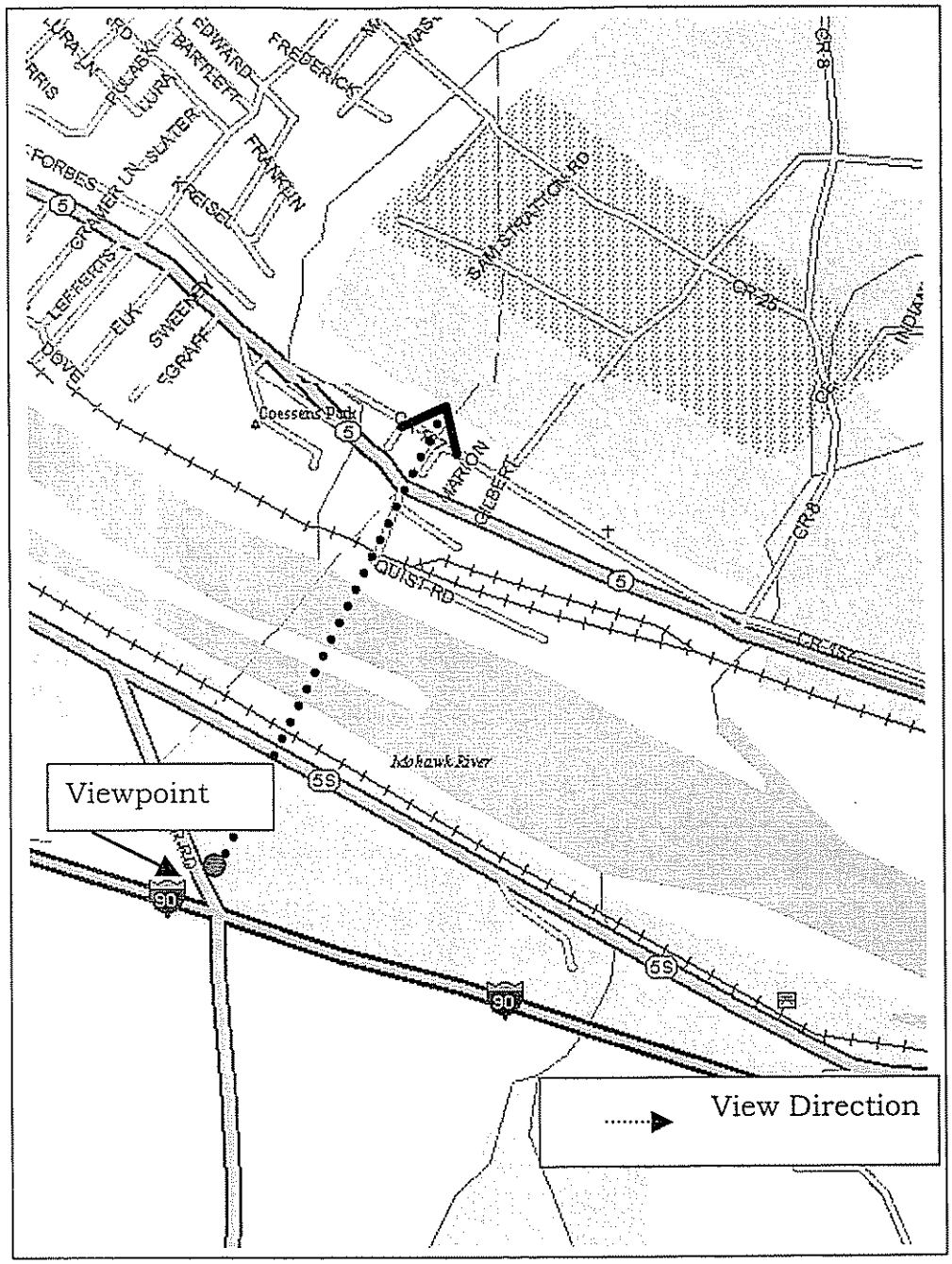
  1). Property graded and developed with proposed structures
  2). Landfill cell partially filled with C&D debris to the elevation limit with that portion of the cell covered and vegetated. The remaining portion of the landfill cell is open and the exposed bedrock within the cell is visible.

- Post-Closure Phase: This phase assumes the following conditions:

  1). Project has reached its duration
  2). The landfill has been filled, capped and a vegetative cover has been established with the structures removed

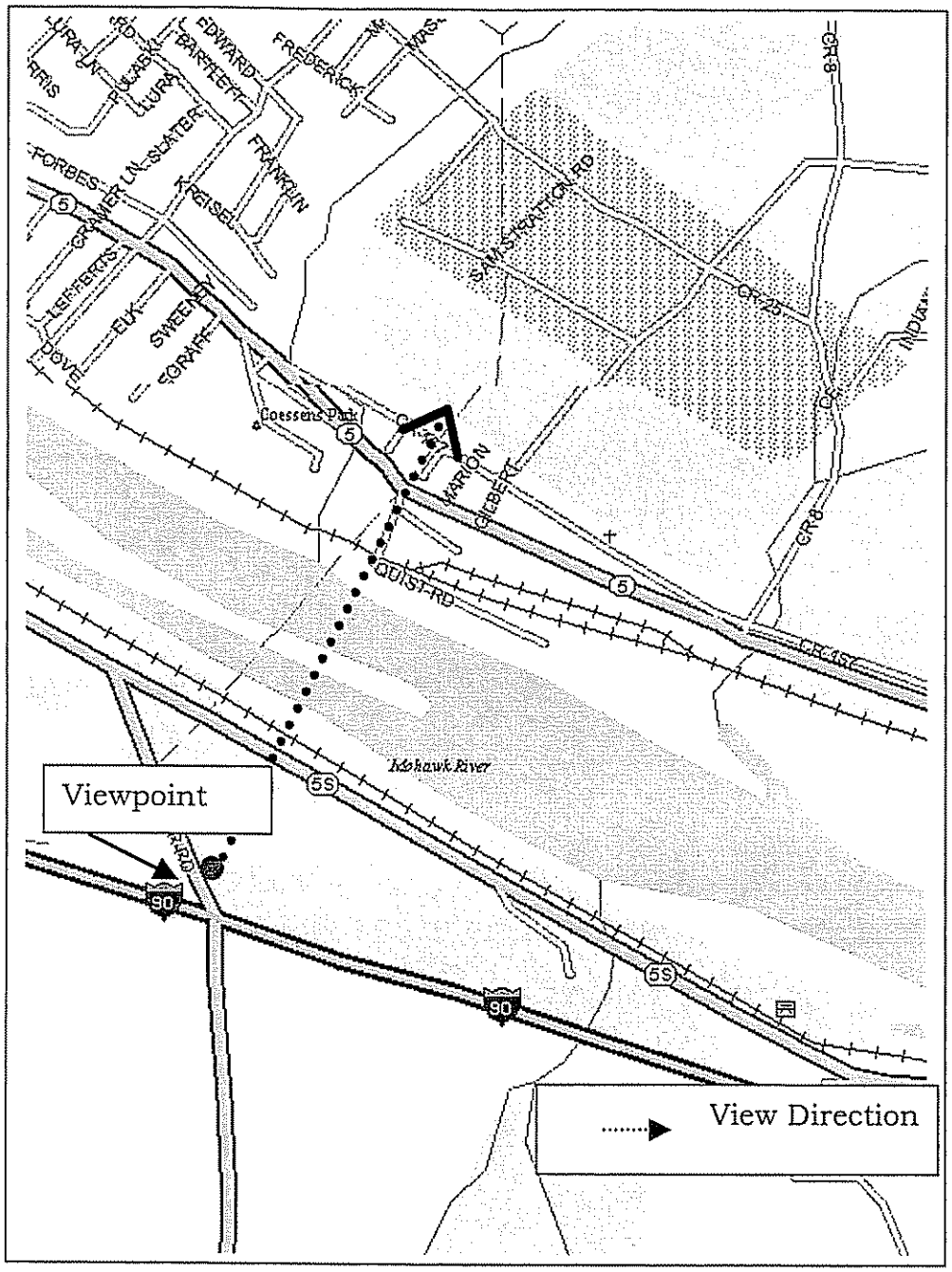
Proposed site conditions were overlaid and projected, using computer modeling software and onto a superimposed photograph of existing conditions to produce a simulated view of the proposed project during operation and upon final closure of the landfill. Figure 3-11 identifies the representative viewpoint used in the visual assessment. This location was selected to present a worst-case scenario for visual impacts. Given the area topography, this vantage point provides a view of the entire project site from the surrounding viewshed, which has the highest visibility of the proposed site. Visual simulations of the Operational Phase and the Post-Closure Phase are including on the following page as Figures 3-12 and 3-13.

Figure 3-11: Representative Viewpoint For Visual Assessment



Viewpoint: Intersection of Thayer Road and Interstate I-90 (NYS Thruway)
Looking North-Northeast

Figure 3-11: Representative Viewpoint For Visual Assessment



Viewpoint: Intersection of Thayer Road and Interstate I-90 (NYS Thruway)
Looking North-Northeast

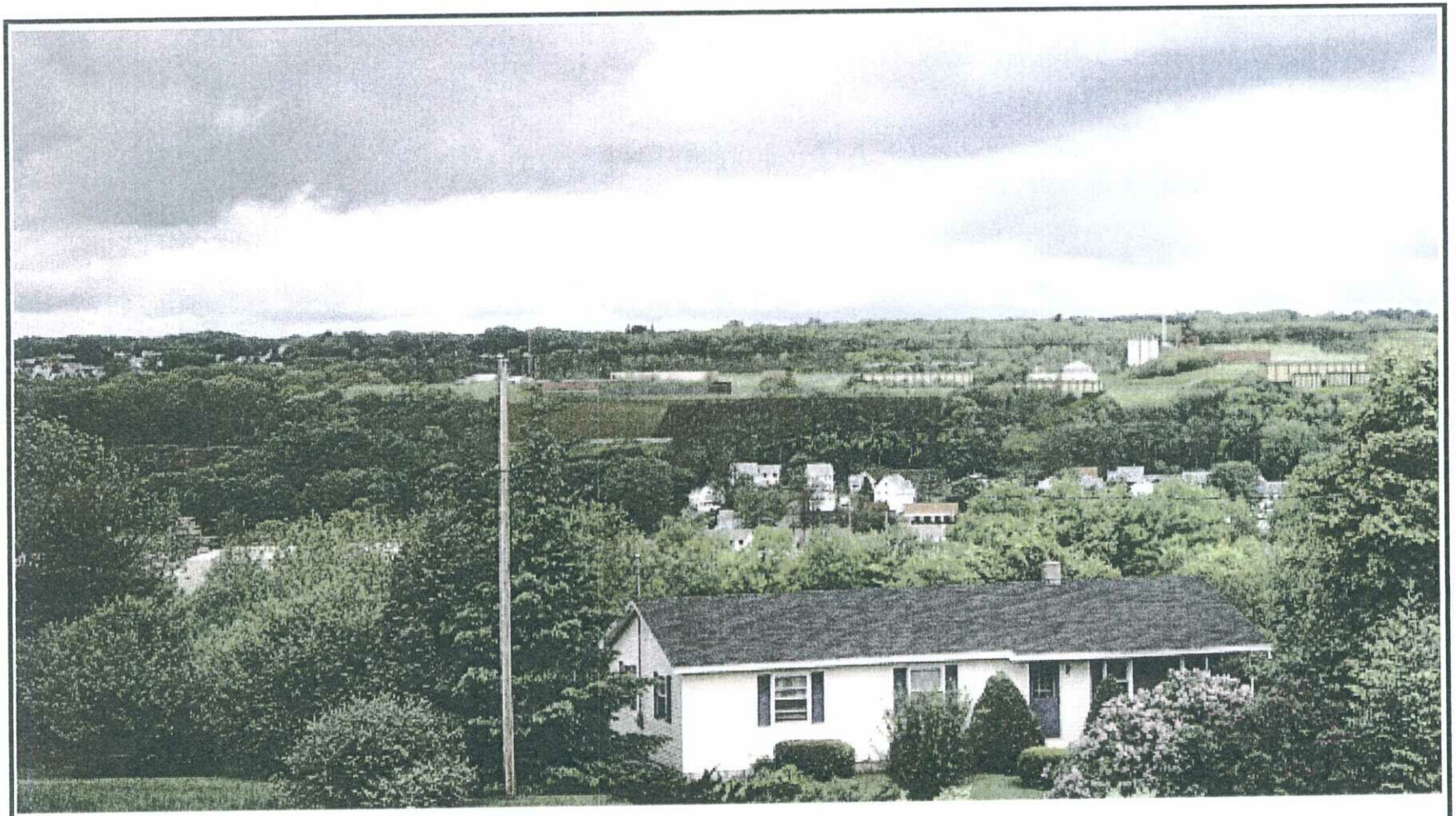


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FIGURE 3-12
OPERATIONAL PHASE VIEW
Amsterdam Materials Recycling Facility

View looking north from I-90

Date:
August 2003

Scale:
Not To Scale

Project #:
90303.00

3.12.3 Mitigation Measures

The Visual Impact Analysis concluded that the proposed project will not result in a significant adverse visual impact, either during operational or post-closure phases. Although no significant adverse visual impacts are anticipated, visual screening will be used, as needed, along the property line to minimize any local visual impact.

Screening will consist of controlled plantings of deciduous and evergreen trees and shrubs. The majority of the planting will be established on the southern portion of the site between the adjacent residences at East Main Street and Chapman Drive and along the western portion between the residential area at Mathias and Mason Streets. Tree plantings in these areas will consist of mature, nursery grown trees and shrubs that have a fast growth rate and year round foliage. The proposed plantings will be arranged to simulate forested conditions with canopy trees, understory trees, and groundcover. All material used in conjunction with the proposed planting plan will be native, indigenous plants.

To mitigate the loss of visual buffers for residents and commercial properties located south and west of the site, landscape plantings, raised berms and selective tree clearing and grading are proposed. The proposed plant material will be located where it will achieve the greatest level of visual screening. Additionally, the use of vegetated earth berms around the project site will also help to enhance existing visual buffers by blocking the view through topography and by adding height to the proposed plantings.

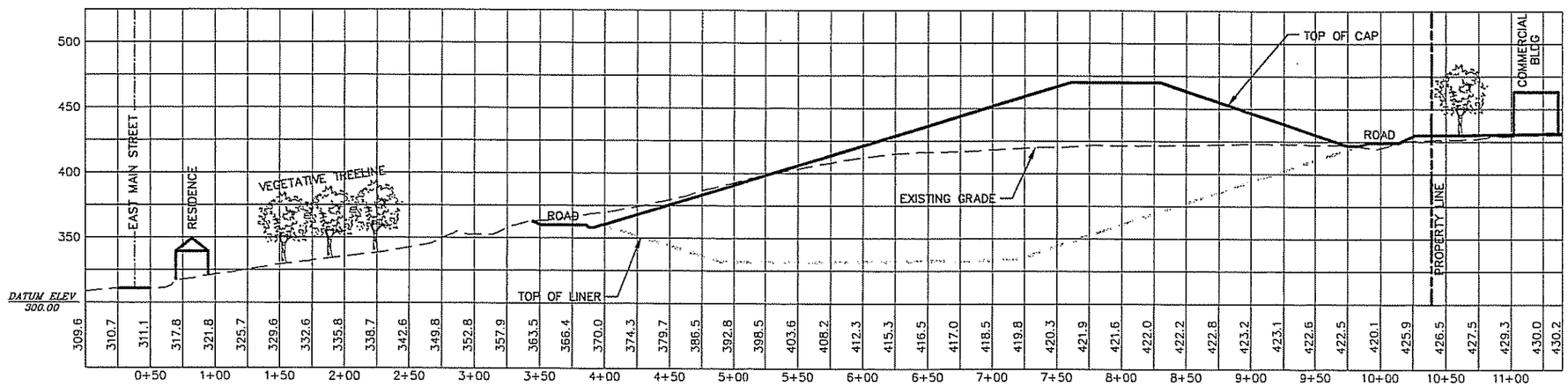
The design and layout of the proposed facility also serves as a mitigation measure for potential visual impacts. Berms will be placed around to recycling area to create a visual buffer as well as to minimize the migration of dust and the generation of noise from recycling operations. Additionally, the landfill design will result in a relatively flat area following closure and the proposed action will not result in a typical "landfill mound".

The final closure of the proposed landfill will be planted with grasses, therefore blending into the surroundings of the proposed location. The upper portion of the proposed facility could potential be utilized as a park and host additional benefits to its practical purpose of disposing waste. Additionally, the recycling area will be restored to the original condition upon final closure. This area will no longer need to function or operate as intended, such that the building structures will be removed entirely and the large berm surrounding the facility will be removed to create space for other buildable purposes.

The properties along Chapman Drive that abut the Amsterdam Materials Recycling property will experience a temporary loss of vegetative buffer within the industrial park. Proposed planting and raised berm areas will be established between the properties to compensate for any loss of vegetation. Landscaping

and visual buffer provisions for the project will be incorporated into the Site Plan Review process and will be subject to the City of Amsterdam's Planning Board review process.

A cross-section of this area is provided as Figure 3-14 showing that a vegetative buffer zone will adequately screen the proposed facility from adjacent residences.



1
3–14

CROSS SECTION PROFILE STA. 0+00 TO 11+40

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 50'

BAR SCALE
50 0 25 50 100
1 inch = 50 ft.

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rev.	date	description

AMSTERDAM MATERIALS RECYCLING

PROFILE AT EAST MAIN STREET

AMSTERDAM MATERIALS RECYCLING AIDA - EDSON STREET

CITY OF AMSTERDAM, MONTGOMERY COUNTY, NEW YORK

drawn	checked
CMT	JCM
date	scale
12/5/03	AS SHOWN
project no.	
90303.00	
sheet no.	
FIG-3-14	

Drawing Name: Z:\S\90300-90399\90303_00\Eng\SECR\Visual\site-plan.dwg
Xref's Attached: 90303_ENG, abrown-lopez 90303Xrfs XTB_90303-00_27x34
Date Plotted: Dec 05, 2003 11:29am

3.13 Noise

This section will discuss existing baseline noise levels on the project site and anticipated noise levels associated with proposed landfill operations based on noise surveys performed at similar operating facilities. The Noise Impact Analysis was conducted according to DEC Policy DEP-00-1, "Assessing and Mitigating Noise Impacts." Potential impacts to the noise environment identified through these studies and noise mitigation measures are outlined.

3.13.1 Existing Conditions

Noise is defined as any loud, discordant or disagreeable sound. In an environmental context, a discussion of noise primarily refers to unwanted sound. The principal features of this definition are that there must be sound energy and that there must be a human receptor that perceives the sound and considers it unwanted.

Several factors affect sound as the human ear perceives it. These include the actual level of sound (or noise), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels during exposure. Levels of noise are measured in units called decibels. These measurements are adjusted to correspond to the frequencies the human ear can hear. The "A-weighted sound level" or "dBA," is used in view of its widespread recognition and its close correlation with human perception of noise. In the current study, noise levels are reported in dBA. Table 3-11 lists typical noise levels from representative sources.

Table 3-11: Common Noise Levels

Noise Source	Typical Level (dBA)
Threshold of hearing	0
Soft whisper at 5 meters (16 feet)	30
Normal Conversation	60
Predominantly industrial area	60
Freeway Traffic at 50 feet	70
Backhoe at 50 feet	83-86
Primary and secondary crusher at 100 feet	89

Table 3-11, cont.

Noise Source	Typical Level (dBA)
Wood chipper at 50 feet	89
Heavy truck at 50 feet	90
Bulldozer at 50 feet	105

Sources: National Institute For Occupational Safety and Health (NIOSH)
NY League For The Hard of Hearing; NYSDEC, Assessing and Mitigating Noise Impacts

The ability of an individual to perceive noise is variable and is affected by many environmental conditions including distance from the noise source, effects from multiple sound sources, time of year, wind, temperature and humidity and the presence of land forms and structures. Although perception of noise is an individual characteristic, there are some general conclusions relative to human perception and reaction to noise. Generally, changes in noise levels less than 3 dBA are not perceptible to most people, while 10 dBA changes are normally perceived by individuals. Sound level increases approaching 10 dBA are generally perceived as doubling the level of noise. The typical ability of an individual to perceive changes in noise levels is summarized in Table 3-12.

Table 3-12: Human Perception Of Noise

Increase in Sound Pressure (dBA)	Human Reaction
Under 5	Unnoticed to tolerable
5-10	Intrusive
10-15	Very noticeable
15-20	Objectionable
Over 20	Very objectionable to intolerable

Source: NYSDEC, Assessing and Mitigating Noise Impacts

Noise impact is judged on two bases: the extent to which governmental regulations or guidelines may be exceeded, and the extent to which it is estimated that people may be annoyed or otherwise adversely affected by the

sound. Regulatory authority for assessing and controlling noise is contained in specific NYSDEC program regulations. Specific regulatory references are described below.

NYSDEC: The solid waste management regulations in 6 NYCRR Part 360 1.14(p) mandates that noise levels resulting from equipment or operations at a facility be controlled to prevent transmission of sound levels beyond the property line at locations zoned or otherwise authorized for residential purposes to exceed the following equivalent steady-state sound levels (Leq):

	7 am – 10 pm	10 pm – 7 am
Rural	57 dBA	47 dBA
Suburban	62 dBA	52 dBA
Urban	67 dBA	57 dBA

The NYSDEC Noise Regulation for Solid Waste Facilities, 6NYCRR 360-1.14(p) prohibits sound levels at the property from exceeding certain thresholds. The thresholds are determined based on the "Nature of the Community". For communities with an Urban Residential character, the threshold is 67 dBA. For communities with a Suburban Residential character, the threshold is 62 dBA. The DEIS estimated the community character as Urban for the following reasons:

- The project is located completely within the City of Amsterdam;
- The project site is completely within the Edson Industrial Park and is currently zoned Light Industrial;
- The narrow corridor of residential/commercial properties to the south of the proposed facility is currently within a Commercial Zone for the City of Amsterdam and a Manufacturing Zone for the Town of Amsterdam. This corridor contains a number of active and inactive commercial operations including an auto service shop, motel, and a restaurant/conference facility. This corridor is bordered on the north by the industrial park and an active industrial railroad spur serving the park. To the south, this corridor borders State Route 5, a 55-mph 4-lane divided highway and overlooks the numerous manufacturing operations on the south side of Route 5.
- To the west, across steep wooded ravine from the project site, is an urban residential community, typical of upstate New York cities such as Amsterdam.

The New York State Department of Environmental Conservation (NYSDEC) published a guidance document, DEP-00-1, titled *Assessing and Mitigating Noise Impacts* (October 6, 2000) provides guidance on assessing adverse impacts from noise from landfill facilities. NYSDEC guidance identifies an increase of between 0-3 dBA as having no appreciable effect, 3-6 dBA as having the potential for impact only for the most sensitive receptors, between 6 and 10 dBA as a condition that may require closer analysis, and greater than 10 dBA deserving consideration of avoidance and mitigation.

The guidance states ambient sound levels in industrial or commercial areas may exceed 65 dBA with a high end of approximately 79 dBA. In these instances, mitigation measures utilizing best management practices should be used in an effort to ensure minimum impacts.

City of Amsterdam: The City of Amsterdam has a noise ordinance to control and eliminate unnecessary noise. The ordinance prohibits any loud or unnecessary noise which disturbs the peace and quite of any neighborhood. The noise ordinance does not provide any quantifiable noise level restrictions and states a number of qualitative standards in Paragraph 154.4 of the code, such as noise level, background noise, proximity to residential areas, zoning, time of day or night, etc.

To evaluate existing noise character, a Baseline Noise Study was performed by in August of 2003 at 15 locations within the project site. The noise survey is attached as Appendix H.

During construction, heavy equipment (i.e. excavators, loaders, dozers, etc.), a rock crusher, and hauling trucks will be used at the site. During operations, the facility will utilize crushing and grinding equipment to break down recyclable components of the construction debris, a compactor to compress the materials in the landfill and large trucks to transport materials throughout the facility. The use of this equipment is considered to be the dominant noise sources.

In order to evaluate potential noise impacts from the proposed facility, noise levels generated by the proposed equipment were incorporated into a noise model to predict future noise levels during site operation.

Sound level recording was completed on the project site using a tripod-mounted Bruel & Kjaer Model 2238 Sound Level Meter. This instrument is designed to meet environmental and occupational noise measurement standards and complies with IEC Standard 651 (1979) & 804 (1985) Type 1 and ANSI SI.4-1983 Type 1 meter specifications. Sound level readings were measured on August 12th through August 14th 2003 at 15 locations at the property boundary of the site.. The measurement locations and data collection information are outlined in Table 3-13.

Table 3-13: Pre-Development Measurement Summary

Location	Start Time	Date	Description
1	10:57 AM	8/12	Along cul-de-sac at northwest corner of site
2	12:04 PM	8/12	Northwest corner of site
3	1:09 PM	8/12	West corner of site along train tracks
4	4:19 PM	8/14	Southwest edge of site along train tracks
5	10:20 AM	8/14	Southwest edge of site
6	9:51 AM	8/13	Southwest corner of site
7	10:54 AM	8/13	Southern edge of site adjacent to existing residence
8	1:26 PM	8/13	Southern edge of site along train tracks
9	5:27 PM	8/14	Southern edge of site, adjacent to existing overhead power line easement, along train tracks
10	12:11 PM	8/13	Southern edge of site along train tracks
11	2:46 PM	8/13	Southeast corner of site
12	1:15 PM	8/14	Northeast corner of site
13	12:05 PM	8/14	Northern edge of site
14	2:20 PM	8/14	Northern edge of site
15	9:03 AM	8/14	Northern edge of site

Ambient noise levels were recorded in 1-hour intervals and a minimum recorded duration of 12 minutes was used to record equipment noise levels. Ambient noise readings were measured in equivalent noise level or Leq, which is the average noise level over the measurement time period. The A-weighting scale was used for this investigation. This weighting scale most closely approximates human hearing at the threshold of audibility. Measurements were recorded when no activities were taking place at the site. Other normal weekday activity was ongoing during ambient day sound level monitoring. Table 3-14 presents the background noise level measurements.

Table 3-14: Pre-Development Measurement Data

Location	Lmin(dBA)	Leq (dBA)	Lmax(dBA)	L_{90} (dBA)	Dominant Noise Source
1	49.4	55.4	79.6	53.1	Vehicle traffic
2	52.4	53.9	73.9	53.4	Brook, woods
3	51.9	53.5	74.0	52.4	Brook, woods
4	50.4	56.8	84.5	51.7	Industry, vehicle traffic
5	49.0	55.0	82.8	50.9	Industry, vehicle traffic
6	51.4	61.4	90.0	54.1	Vehicle traffic
7	48.5	56.7	82.4	51.7	Vehicle traffic
8	46.1	56.1	74.1	48.7	Vehicle traffic
9	45.5	54.5	82.6	49.6	Vehicle traffic
10	46.4	56.3	82.4	49.0	Vehicle traffic
11	47.3	62.5	89.4	50.5	Vehicle traffic
12	49.1	58.1	87.3	51.1	Woods, vehicle traffic
13	47.4	54.7	82.0	49.0	Woods
14	53.6	56.5	80.9	54.6	Woods, blower on building
15	49.7	55.2	80.1	51.6	Woods

3.13.2 Potential Impacts

The proposed project is anticipated to generate noise during the construction phase from construction equipment, rock crushing and passing trucks and during the operational phase from truck traffic, waste processing/recycling equipment (i.e. ,crusher, grinder), and landfill operations (i.e. landfill waste compacter).

Noise produced during landfill construction from trucks and construction activities will occur over approximately a 6-month period. Construction noise from rock crushing prior will be contained within the excavated landfill area. As discussed below, measurements of noise levels from similar equipment within a berm showed significant reductions in sound level.

To evaluate the noise levels anticipated to be generated during the construction and operational phases of the project, field measurements were taken at other landfills using equipment similar to that proposed for this project, or from published sources where comparable field measurements could not be taken. Measurements for equipment proposed to be located within the 20-foot high berm surrounding the recycling area were taken outside of a similar berm at

another landfill. The berm was found to result in a 15 decibel decrease in sound levels. This data are presented in Table 3-15.

Table 3-15: Predicted Equipment Noise Generation

Equipment	Noise Level Generation	Noise Data Source
Concrete Crusher	91 dBA @ 60 feet	Field Measurements
Tub Grinder	91 dBA @ 60 feet	Field Measurements
Trash Compactor	80 dBA @ 50 feet	Caterpillar®
Heavy Truck	91 dBA @ 50 feet	NYSDEC

Future sound levels for stationary equipment (i.e. crusher and grinder) were calculated using the accepted formula whereby sound levels decline in inverse proportion to the square of the distance. Stated differently, each doubling of distance results in a 6 dBA reduction in sound levels. Future sound levels for truck traffic and landfill compactor were estimated using the Federal Highway Administration Traffic Noise Model (FHWA, TNM) Lookup Program, Software Version 2.1, 11/21/05. Additionally, where multiple noise sources are present, the results were added according to a standard formula presented in the in the NYSDEC Guidance Document. The calculations do not take any credit for intervening vegetation or for the effects of topography, both of which commonly act to reduce sound levels.

Table 3-16 illustrates the projected noise levels while Table 3-17 illustrates the projected levels compared to existing sound levels.

Table 3-16: POST DEVELOPMENT NOISE ESTIMATES

Construction Phase

Location	Leq (dBA)	Lmax (dBA)	Dominant Noise Source
1	61.8	91.0	Crushing Operation, Interior Heavy Equipment
2	55.8	79.9	Crushing Operation, Interior Heavy Equipment
3	56.1	80.9	Crushing Operation, Interior Heavy Equipment
4	60.2	86.9	Crushing Operation, Interior Heavy Equipment
5	60.6	80.4	Crushing Operation, Interior Heavy Equipment
6	60.9	82.7	Combined
7	64.3	88.1	Combined
8	65.5	91.0	Combined
9	61.4	83.4	Crusher Combined
10	59.5	82.1	Crushing Operation, Interior Heavy Equipment
11	52.9	73.4	Crushing Operation, Interior Heavy Equipment
12	56.3	81.5	Crushing Operation, Interior Heavy Equipment
13	56.7	71.4	Crushing Operations
14	60.9	79.9	Crushing Operations
15	66.0	91.0	Crushing Operations

Operational Phase

Location	Leq (dBA)	Lmax (dBA)	Dominant Noise Source
1	63.8	91.0	Heavy Truck, Heavy Equipment
2	56.0	79.9	Heavy Truck, Heavy Equipment
3	56.7	80.9	Heavy Truck, Heavy Equipment
4	60.7	86.9	Heavy Truck, Heavy Equipment
5	57.3	80.4	Heavy Truck, Heavy Equipment
6	57.9	82.7	Heavy Truck, Heavy Equipment
7	61.5	88.1	Heavy Truck, Heavy Equipment
8	61.8	91.0	Heavy Truck, Heavy Equipment
9	62.6	83.4	Heavy Truck, Crusher
10	62.7	82.1	Heavy Truck, Crusher
11	59.1	73.4	Heavy Truck, Crusher
12	65.7	81.5	Crusher, Grinder
13	71.6	71.4	Grinder
14	60.7	79.9	Heavy Truck, Crusher, Grinder
15	63.8	91.0	Heavy Truck, Compactor

Table 3-17: Leq and Lmax – Pre-Development Vs. Post Development

Construction Phase

	Leq (dBA)			Lmax (dBA)		
Location	Pre	Post	Increase	Pre	Post	Increase
1	55.4	61.8	6.4	79.6	91.0	11.4
2	53.9	55.8	1.9	73.9	79.9	6.0
3	53.5	56.1	2.6	74.0	80.9	6.9
4	56.8	60.2	3.4	84.5	86.9	2.4
5	55.0	60.6	5.6	82.8	80.4	-
6	61.4	60.9	-	90.0	82.7	-
7	56.7	64.3	7.6	82.4	88.1	5.7
8	56.1	65.5	9.4	74.1	91.0	16.9
9	54.5	61.4	6.9	82.6	83.4	0.8
10	56.3	59.5	3.2	82.4	82.1	-
11	62.5	52.9	-	89.4	73.4	-
12	58.1	56.3	-	87.3	81.5	-
13	54.7	56.7	2	82.0	71.4	-
14	56.5	60.9	4.4	80.9	79.9	-
15	55.2	66.0	10.8	80.1	91.0	10.9

Operational Phase

	Leq (dBA)			Lmax (dBA)		
Location	Pre	Post	Increase	Pre	Post	Increase
1	55.4	63.8	8.4	79.6	91.0	11.4
2	53.9	56.0	2.1	73.9	79.9	6.0
3	53.5	56.7	3.2	74.0	80.9	6.9
4	56.8	60.7	3.9	84.5	86.9	2.4
5	55.0	57.3	2.3	82.8	80.4	-
6	61.4	57.9	-	90.0	82.7	-
7	56.7	61.5	4.8	82.4	88.1	5.7
8	56.1	61.8	5.7	74.1	91.0	16.9
9	54.5	62.6	8.1	82.6	83.4	0.8
10	56.3	62.7	6.4	82.4	82.1	-
11	62.5	59.1	-	89.4	73.4	-
12	58.1	65.7	7.6	87.3	81.5	-
13	54.7	71.6	16.9	82.0	71.4	-
14	56.5	60.7	4.2	80.9	79.9	-
15	55.2	63.8	8.6	80.1	91.0	10.9

As noted in Table 3-16 and Table 3-17, under the worst-case construction and operational phase noise scenarios, no residential receptors will be subjected to noise levels above the Regulatory thresholds of NYSDEC Part 360-1.14(p) and no industrial/commercial receptors will subjected to noise levels above the recommended guidance levels of the NYSDEC Program Policy.

Although the NYSDEC regulatory and policy noise threshold are not exceeded, certain receptors are estimated to experience an increase in Leq noise levels over existing pre-development conditions.

As discussed in the NYSDEC Guidance Document, increase in the Leq of between 3 and 6 dBA may have a potential for adverse noise impacts for only the most sensitive receptors. Sound increases of more than 6 dBA may require closer analysis of impact potential, and increases of 10 dBA deserve consideration of avoidance or mitigation.

Construction Phase

Examination of the data in Table 3-16 shows that during the construction phase, the estimated increase of the Leq is less than 3 dBA for 6 of the receptors (2, 3, 6, 11, 12, and 13) between 3 dBA and 6 dBA for 4 receptors (4, 5, 10, and 14), and greater than 6 dBA for 5 receptors (1, 7, 8, 9, and 15). Most significantly, the residential property lines to the south of the proposed access road, represented by receptors 7, 8, and 9 are estimated to experience an increase in the Leq of between 6.9 dBA and 9.4 dBA. The predominant source of this noise is the truck traffic associated with the off-site shipping of crushed rock and the operation of the crusher within the excavated landfill cell area.

Operational Phase

Examination of the data in Table 3-17 shows that during the operational phase, the estimated increase of the Leq is less than 3 dBA for 4 of the receptors (2,5,6, and 11), between 3 dBA and 6 dBA for 5 receptors (3,4,7,and 14), and greater than 6 dBA for 6 receptors (1,9,10,12, 13, and 15). Most significantly, the residential property lines to the south of the access road, represented by receptors 9 and 10 are estimated to experience an increase in the Leq of 6.4 dBA to 8.1 dBA. The predominant source of this noise is the truck traffic associated with the delivery of waste materials to the facility and the operation of the stationary equipment within the bermed recycling center.

To address the potential increase in noise levels at the residential property boundaries to the south of the facility, a traffic noise barrier is proposed along the new southern access road. The proposed barrier will be approximately 1000 feet long and will run along the southern edge of the access road from approximately

Receptor 7 to west of Receptor 10. To estimate the impact and sufficiency of this mitigation measure, additional modeling was performed to estimate the impact of the barrier in reducing noise from the interior equipment/truck traffic and off-site shipping traffic along the access road.

In Table 18 below for the construction phase, the noise impacts for the crushing operation remain the same, and the impacts for the interior equipment/trucking and off-site trucking are reduced to account for the traffic noise barrier in accordance with the TNM results in Appendix H.

In Table 19 below for the operational phase, the noise impacts for the crushing and grinding operations remain the same, and the impacts for the landfill compactor and waste hauling trucking are reduced to account for the traffic noise barrier in accordance with the TNM results in Appendix H.

Table 3-18 – Construction Phase Estimated Noise Levels with Traffic Noise Barrier (Residential Receptors)

	Calculated Noise Levels (dBA)		
Location	**Crushing Operation**	**Heavy Equipment/ Interior Trucking**	**Off-Site Trucking**
7	60.5	55.8	53.1
8	60.5	56.8	53.8
9	57.1	53.5	54.0
10	55.1	52.8	50.1

Table 3-19 – Operational Phase Estimated Noise Levels with Traffic Noise Barrier (Residential Receptors)

	Calculated Noise Level (dBA)			
Location	**Heavy Truck**	**Crusher**	**Grinder**	**Compactor**
7	51.1	50.8	50.1	51.1
8	51.7	53.6	51.6	51.7
9	51.9	59.6	54.1	51.9
10	52.6	60.7	55.4	52.6

These individual noise sources are combined and compared to the conditions without a traffic noise barrier in Table 3-20 for the construction phase and Table 3-21 for the operational phase.

Table 3-20 –Construction Phase Combined Noise Estimates with and without Traffic Noise Barrier

	Leq (dBA) w/o Barrier			Leq (dBA) w/ Barrier		
Location	Pre	Post	Increase	Pre	Post	Increase
7	56.7	64.3	7.6	56.7	62.5	5.8
8	56.1	65.8	9.7	56.1	62.5	6.4
9	54.5	61.4	6.9	54.5	60.1	5.6
10	56.3	59.5	3.2	56.3	58.1	1.8

Table 3-21 –Operational Phase Combined Noise Estimates with and without Traffic Noise Barrier

	Leq (dBA) w/o Barrier			Leq (dBA) w/ Barrier		
Location	Pre	Post	Increase	Pre	Post	Increase
7	56.7	61.5	4.8	56.7	57.1	0.4
8	56.1	61.8	5.7	56.1	60.1	4
9	54.5	62.6	8.1	54.5	61.6	7.1
10	56.3	62.7	6.4	56.3	62.7	6.4

As shown above, the proposed traffic noise barrier reduces the estimated noise impacts associated with traffic to the residential properties to the south.

With the exception of Receptor 8 during the construction phase and Receptors 9 and 10 during the operational phase, the remaining locations are below the levels (i.e. increase of between 3-6 dBA) indicated in NYSDEC Program Policy as having a potential for adverse impacts only in cases for the most sensitive receptors. The predicted impacts for Receptors 8, 9 and 10 slightly exceed this range, but are below the 10 dBA threshold indicating the need for additional avoidance and mitigation measures.

The construction phase noise impacts at Receptor 8 are primarily related to the close proximity of access road to the property line in this area. However, the railroad tracks immediately south of the property line provide an additional buffer zone for further noise attenuation before reaching any actual residential

receptors. The operational phase predicted impacts for Receptors 9 and 10 are related primarily to the operation of the crusher in the recycling center. These impacts are reduced by the berm around the recycling center and the traffic noise barrier along the access road.

3.13.3 Mitigation Measures

Although the estimated noise impacts at the property boundary are less than the NYSDEC regulatory requirements for solid waste facilities, the following measures are proposed to mitigate the potential noise impacts of greater than 6 dBA increase in the Leq estimated at the residential property lines adjacent to the facility:

1. Workdays will be limited to weekdays (Monday-Friday) for both the construction and operation phases;

2. Work hours will be limited to 8:00 am to 5:00 pm for both the construction and operation phases;

3. Construction operations will be sequenced to maximize natural noise attenuation provided by site topography and existing vegetative buffers along the site perimeter;

4. A new site access road will be constructed off East Main Street to minimize construction and operational traffic noise impacts in other adjacent areas of the City and Town of Amsterdam;

5. The applicant will construct a traffic noise barrier along the southern access road to reduce the noise impacts on the residential properties. The barrier will be approximately 1000 feet long and 10 feet high. The sound barrier will run from the approximate location of Receptor #7 to west of Receptor # 10;

6. A 20-foot tall earthen berm will be constructed around the he recycling center to minimize noise impacts from waste sorting and processing activities; and

7. Landfilling activities will be performed in a manner that shields adjacent residential areas from landfill operational noise to the maximum extent practical. Much of the landfill operation will be performed below existing grade. However, as a portions of the landfill reach existing grade, the elevation of the perimeter of the landfill will be maintained higher than the interior working face such that the dumping, spreading an compacting of the debris is shielded from the residential properties to the south and west.

In addition to the mitigation measures proposed above, the following stipulations are proposed to address the practical difficulties with predicting noise impacts with a high level of precision:

- During the construction phase, noise impacts at the southern and western property line will be limited to a Leq of 67 dBA in compliance with the NYSDEC Regulatory thresholds of 6NYCRR Part 360-1.13(p) for an urban residential community. In addition, general construction phase noise at the southern and western property line shall not exceed pre-existing conditions by more than 6 dBA. Temporary exceedances of up to 10 dBA shall be allowed for required construction activities near the property line such as bedrock removal, road construction and installation of the traffic noise barrier. These temporary exceedances shall not occur at any monitoring location for more than 5 work-days out of 15 work-days. These temporary exceedances shall be minimized in both duration and magnitude to the maximum extent practical using additional mitigation measures such as the temporary shut down or relocation of other noisy equipment and/or the installation of temporary noise barriers.

- During the operational phase, noise impacts at the southern and western property line will be limited an Leq of 67 dBA in compliance with the NYSDEC Regulatory thresholds of 6NYCRR Part 360-1.13(p) for an urban residential community. In addition, general operational phase noise at the southern and western property line shall not exceed pre-existing conditions by more than 6 dBA. If the proposed mitigation measure discussed above are not sufficient to meet these levels, additional operational modifications shall be instituted as necessary to meet these noise levels. If necessary, concrete crushing and or wood grinding operations will be performed under very limited conditions or not performed at the facility.

- The project sponsor will hire an independent third-party consultant to perform a baseline noise survey prior to construction and to provide daily noise monitoring throughout construction. In addition, operation noise monitoring will be performed at the start of operations and after any significant change in operations, such as an increase in trucking volume or the use of any equipment with a Sound Pressure Level exceeding 70 dBA at 50 feet.

- Should the noise monitoring indicate any exceedance of the stipulated thresholds, AMR will immediately take corrective actions to eliminate the offending noise source(s) and will not restart the equipment/operation until additional sound mitigation BMPs as listed in the NYSDEC guidance are instituted and determined through sound monitoring to be effective.

3.14 Lighting

3.14.1 Existing Conditions

No lighting currently exists on the project site, however lighting is utilized on the northerly adjoining developed portions of the industrial park.

3.14.2 Potential Impacts

It is anticipated that construction activities will be limited to day time operations, however, if certain operations necessitate night work, temporary lighting will be installed.

3.14.3 Mitigation Measures

Temporary lighting will be directed away from adjacent properties, to the extent possible. Additionally vegetative screening located along the southern portion of the site will to buffer the views for nearby residences. Facility design, hours of operation and vegetative screening will serve to minimize the effect of lighting and therefore lighting is not expected to present a significant adverse impact.

3.15 Vibration

This section will discuss the potential for vibration impacts from project operation.

3.15.1 Existing Conditions

The U.S. Department of Interior, Bureau of Mines performed extensive research on the effects of blasting vibration on structures in the 1970's and 80's. Their recommendations suggest that a safe single event vibration level of 50 mm/s be maintained. The concern of the effect of vibration caused by construction and construction equipment has become a concern, especially when dealing with wood-framed historic buildings. Many State Departments of Transportation have completed studies to determine safe levels of vibration on these structures in an attempt to alleviate public concern over construction projects. Based on their study, the California Department of Transportation (Caltrans) has set a vibration limit of 5 mm/s (one-tenth of the Bureau of Mines recommendation) as an architectural damage risk level for continuous vibration. In addition they

performed a study of construction vibration levels and have demonstrated that construction activities and equipment, such as D-8 and D-9 Caterpillars, earthmovers and haul trucks, have never exceeded 2.5 mm/s at a distance of 10-feet.

The proposed project involves extensive removal of earthen materials in the landfill area and may involve the need for blasting and rock removal in areas of shallow bedrock.

3.15.2 Potential Impacts

Developed properties are greater than 10-feet from the proposed operational areas of the project site where vibration-inducing equipment may be used and are greater than 10-feet from proposed haul roads. Given the proximity of developed properties with respect to the project site and the location of areas where vibration-inducing equipment may be used, vibration potentially produced on the project site from equipment use and truck movement is not anticipated to present an adverse impact for architectural damage.

The potential for nearby residences to experience vibratory effects from blasting operations is discussed in evaluated in Section 3.3

3.15.3 Mitigation Measures

Mitigation measures related to [potential impacts from blasting vibration are resented in Section 3.3.

No potential impacts with respect to construction vehicle-related vibration have been identified therefore no mitigation measures are proposed.

3.16 Traffic

3.16.1 Existing Conditions

Currently, the following seven roadways service the project site:

- ***NYS Route 5***: NYS Route 5 travels in an east-west direction through Montgomery County and is classified as an urban principal arterial near the project site.

- ***East Main Street***: East Main Street is a local roadway extending in an east-west direction through the City of Amsterdam to the City Line where it becomes Chapman Drive. East main Street overlaps NYS Route 5 within the City of Amsterdam.

- ***Chapman Drive (CR 157)***: Chapman Drive (County Route 157) is a local roadways extending in an east-west direction between the Amsterdam

City Line and Truax Road. Currently, there are posted truck restrictions ("No trucks Except Local Delivery") on each end of Chapman Drive.

- ***Widow Susan Road (CR 8)***: Widow Susan Road, also designated County Route 8, extends in a general north-south direction. Widow Susan Road consists of a single 11-foot travel lane in each direction. Near Chapman Drive, Widow Susan Road has a 10% grade. Widow Susan Road also has truck restrictions from Chapman Drive to NYS Route 67.

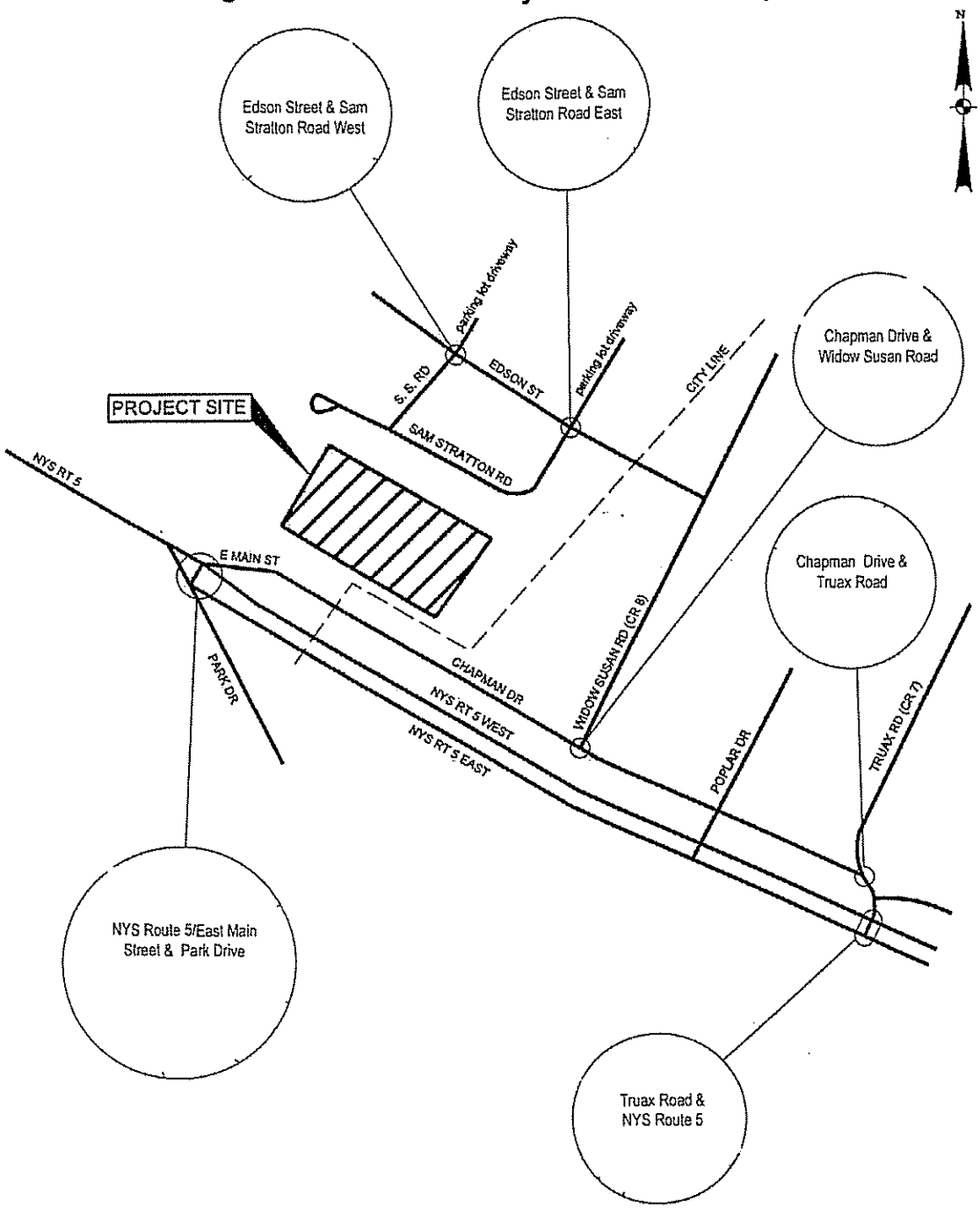
- ***Turax Road (CR 7)***: Truax Road (CR 7) extends in a north-south direction from NYS Route 5 to NYS Route 67. Truax Road consists of a single 12-foot travel lane in each direction and has a 10% grade near Chapman Drive.

- ***Edson Street***: Edson Street is a local roadway extending in an east-west direction from NYS Route 67 to Widow Susan Road.

- ***Sam Stratton Road***: Sam Stratton Road is a local roadway that forms a loop connecting to and from Edson Street, in a southerly direction. Sam Stratton road is used to service industrial park tenants along the road.

To determine existing traffic conditions in the project area, a total of five area intersections were evaluated by Creighton Manning Engineering, LLP (CME) to determine typical peak hour traffic volumes. Weekday turning movement traffic counts were conducted at the study area intersection by CME on June 16, 17, and 18, 2003 during the morning and afternoon peak periods from the hours of 6 am to 9 am and 3 pm to 6 pm. These peak hour traffic counts provided the existing traffic conditions at the study area intersections and were used as a basis for all traffic forecasts. The Traffic Impact Study Report prepared by CME is included as Appendix I. The study area intersections are shown of Figure 3-15 and are described as follows:

Figure 3-15: Traffic Study Intersections Map



Map source: Draft Traffic Impact Study: Amsterdam Materials Recycling, prepared by Creighton Manning Engineering, LLP, dated July 25, 2003

- ***NYS Route 5/East Main Street/Park Drive***: This intersection consists of two closely spaced intersections to connect eastbound and westbound NYS Route 5 East, East Main Street, NYS Route 5 connection and Park Drive with Stop control on the northbound Park Drive approach and Yield control on the southbound connection approach. The northbound, eastbound and southbound approaches provide a single shared lane for all turning movements.

  The northern intersection is a four-way intersection of NYS Route 5 West, East Main Street and NYS Route 5 connection with Stop control on the southbound East Main Street approach and Yield control on the northbound connection approach. The East Main Street, NYS Route 5 West and connection approached to the intersection provide a single land for shared turning movements.

- ***Chapman Drive (CR 157)/Widow Susan Road (CR 8)***: This is a T-intersection with Stop control on the southbound Widow Susan Road approach. Each intersection approach provides a single lane for shared turning movements.

- ***NYS Route 5/Chapman Drive (CR 157)/Truax Road (CR 7)***: This intersection is comprised to closely spaced T-intersections. The northern intersection of Truax Road and Chapman Drive provides Stop control on the westbound Chapman Drive approach. Each approach to the intersection provides a single lane for shared turning movements.

  The south intersection consists of Truax Road and NYS Route 5. Stop control is provided on the southbound Truax Road approach which also provides a single lane for shared turning movements. The eastbound approach provides two through lanes and a left-turn lane and the westbound approach provides two through lanes and a right-turn lane.

- ***Edson Street/Sam Stratton Road West:*** This is a T-intersection with a parking lot driveway opposite Sam Stratton Road West creating a fourth leg. The northbound Sam Stratton Road West approach to the intersection is Stop controlled and each approach to the intersection provides a single lane for shared turning movements.

- ***Edson Street/Sam Stratton Road East:*** This is s a T-intersection with a parking lot driveway opposite Sam Stratton Road East creating a 4-way intersection. Stop control is provided on the northbound Sam Stratton Road East approach to the intersection. Each approach provides a single lane for shared turning movements.

The raw traffic count data is included in the CME Draft Traffic Impact Study attached as Appendix I. CME noted the following observations from the traffic count data:

- The morning peak hour generally occurred from 7 am to 8 am at the NYS Route 5/East Main Street/Park Drive, Chapman Drive/Widow Susan Road (CR 8), and NYS Route 5/Chapman Drive/Truax Road (CR 7) intersections. The morning peak hour occurred from 6:15 am to7:15 am at the Edson Street intersections.

- The afternoon peak hour generally occurred from 4:15 pm to 5:15 pm at the NYS Route 5/East Main Street/park Drive, Chapman Drive/Widow Susan Road (CR 8), and NYS Route 5/Chapman Drive/Truax Road (CR 7) intersections. The afternoon peak hour generally occurred from 3:30 pm to 4:00 pm at the Edson Street intersections.

- The two-way traffic volume on East Main Street at the proposed truck access site driveway is 37 vehicles during the morning peak hour and 42 vehicles during the afternoon peak hour.

- The average heavy vehicle turning movement percentage in the study area was less than 4% during the morning peak hour and 5% during the afternoon peak hour.

- The westbound heavy vehicle percentage from Chapman Drive is approximately 11% during the morning peak hour and 4% during the afternoon peak hour.

3.16.2 Potential Impacts

The potential traffic impacts were analyzed by CME by evaluating existing traffic conditions in the project area, projecting future traffic volumes, adding peak hour trip generation of the site and comparing the operating conditions of the study area after completion of the project. Full-build out (facility constructed and fully operational expected in 2007-2008); no-build and build scenarios were evaluated.

A regression analysis of traffic volumes on NYS Route 5 indicated that there has been some growth in the area over the last 10 years. Based on this data, an annual growth factor of 2% was applied to existing traffic volumes to estimate 2005 No-Build volumes. Based on existing operational data, 36 trucks are expected at the project site daily or 72 truck trips/day. Over a nine-hour day, one fuel truck is expected per day and four dump trucks are expected per hour. Therefore the facility anticipates an average of approximately 10 truck trips/hour. In addition, all 15 employees will enter the facility during the a.m. peak hour and exit during the p.m. peak hour. The proposed project is expected to generate 25 trips during the a.m. peak hour of adjacent street traffic with 20 trips entering and 5 trips exiting. During the p.m. peak hour of adjacent street traffic, the facility is expected to generate 25 trips with 5 trips entering and 20 trips exiting.

The traffic forecasts for the 2005 No-Build, and Full-Build scenarios are included in the CME Traffic Impact Study attached as Appendix I and level of service analysis is summarized in Table 3-18. The Full-Build Scenario and level of service estimates are based on an increased traffic volume of 25 vehicle-trips per hour occurring during both morning and afternoon rush hours.

Table 3-18: Unsignalized Intersection Level of Service Summary

Intersection		AM Peak Hour			PM Peak Hour		
		2003 Existing	2005 No-Build	2005 Build	2003 Existing	2005 No-Build	2005 Build
Rt 5 E / E Main St / Park Dr							
EB	LTR	A (7.2)	A (7.2)	A (7.2)	A (7.3)	A (7.3)	A (7.3)
NB	TR	C (15.6)	C (16.1)	C (16.2)	B (12.1)	B (12.3)	B (12.4)
SB	LT	C (15.6)	C (16.0)	C (16.2)	B (11.7)	B (11.8)	B (11.9)
Rt 5 W / E Main St							
WB	LTR	A (7.2)	A (7.2)	A (7.2)	A (7.2)	A (7.2)	A (7.2)
NB	LT	B (11.4)	B (11.6)	B(11.7)	C (18.0)	C (18.9)	C (19.3)
SB	TR	B (10.5)	B (10.6)	B (10.6)	B (13.5)	B (13.9)	B (14.0)
E Main St / Truck Access							
EB	LT	—	—	A (8.2)	—	—	A (8.2)
SB	LR			A (9.5)			A (9.6)
Chapman Dr / Widow Susan Rd (CR 8)							
EB	LT	A (7.6)	A (7.6)	A (7.6)	A (7.8)	A (7.8)	A (7.8)
SB	LR	A (9.7)	A (9.8)	A (9.9)	A (9.8)	A (9.8)	A (9.9)
Chapman Dr / Truax (CR 7)							
NB	LT	A (7.9)	A (7.9)	A (8.0)	A (7.4)	A (7.4)	A (7.4)
EB	LR	B (10.6)	B (10.7)	B (10.7)	B (11.8)	B (12.1)	B (10.8)
Truax (CR 7) / Rt 5							
EB	L	A (8.6)	A (8.6)	A (8.7)	B (11.1)	B (12.3)	B (12.3)
SB	LR	F (58.1)	F (76.8)	F (79.1)	D (29.6)	D (33.2)	D (34.5)
Edson Rd / Sam Stratton W							
EB	LTR	A (7.5)	A (7.5)	A (7.5)	A (7.6)	A (7.5)	A (7.5)
WB	LTR	A (7.5)	A (7.5)	A (7.5)	A (7.4)	A (7.4)	A (7.4)
NB	LTR	B (11.2)	B (11.3)	B (11.3)	C (22.8)	D (25.1)	D (27.3)
SB	LTR	---	---	---	B (13.3)	B (13.4)	B (13.4)
Edson Rd / Sam Stratton E							
EB	LTR	A (7.5)	A (7.5)	A (7.5)	A (7.3)	A (7.3)	A (7.3)
WB	LTR	A (7.5)	A (7.5)	A (7.5)	A (8.0)	A (7.4)	A (7.4)
NB	LTR	A (9.8)	A (9.9)	B (10.0)	A (9.8)	A (9.8)	A (9.8)
SB	LTR	—	—	—	A (8.7)	A (8.7)	A (8.8)
Sam Stratton / Employee Access							
NB	LT	—	---	A (7.2)	---	---	A (7.2)
EB	LR			A (8.4)			—

EB, WB, NB, SB = Eastbound, Westbound, Northbound, Southbound
L, T, R = Left, Through, Right
X (Y.Y) – Level of Service (Delay, seconds per vehicle)

The traffic analysis determined that approaches to the study intersections currently operate at good levels of service and are expected to continue to

operate at good levels of service through the no-build and build conditions. Additionally, the CME Traffic Impact Study identified the following conditions relative to truck access on existing roadways:

- Steep grades on Widow Susan Road and Truax Road currently make it difficult for trucks to stop at intersections.
- The southbound approach of Widow Susan Road requires the radius to be increased to accommodate right-turning trucks.
- Chapman Drive is in poor condition and appears to require extensive work to accommodate trucks. Montgomery County has plans to repave Chapman Drive from the Amsterdam City Line to Truax Road. The scope of work planned will not increase the structural integrity of the road to accommodate the truck traffic anticipated at the site.
- Trucks traveling from the east on NYS Route 5 West cannot navigate the right turn from NYS Route 5 West to East Main Street.

The Traffic Impact Study was conducted for operational phase traffic. However, significant traffic is also expected during the construction phase for the shipment of excess rock excavated during construction. As provided in Section 3.3.2.2, rock shipments during construction are estimated at 70 trucks per day, or 8.75 trucks per hour (rock shipments occurring over 8 hours of the 9-hour construction day). This rate is equivalent to17-18 truck-trips per hour for the shipment of rock during the construction phase.

The temporary increase in truck traffic associated with the transportation of excess rock material during construction is not considered a significant deviation from the operational conditions. As described below, the vehicle trips per hour for the construction phase are actually less than the peak vehicle trips analyzed for the operational phase and will not coincide with rush-hour traffic.

- The estimated peak construction phase traffic is less than the operational phase traffic estimates of the Traffic Impact Study. The operational phase analysis is based upon 25 vehicle-trips per hour (15 employee vehicle trips and 10 waste vehicle trips) while the construction phase traffic is estimated at 17-18 vehicle-trips per hour;
- During the construction phase, the employee traffic is not added to the truck traffic as it will not be occurring simultaneously. The construction employees will need to arrive on-site, attend to daily start-up activities, and begin loading trucks before the actual truck traffic can get underway.

- Significant construction-phase truck traffic will likely not occur during peak rush hour as was assumed for the operational phase traffic analysis of the Traffic Impact Study. Rock truck shipments will primarily occur between 8:00 am and 4:00 pm, which is after the 8:00 am end to the morning rush hour and before the 4:15 pm start of the afternoon rush hours identified in the Traffic Impact Study.

3.16.3 Mitigation Measures

To mitigate the potential impact on these local roads and avoid likely improvements needed to accommodate truck traffic, it is proposed to establish a designated truck routes to the site. The truck routes are identified on Figure 3-16 and are described below.

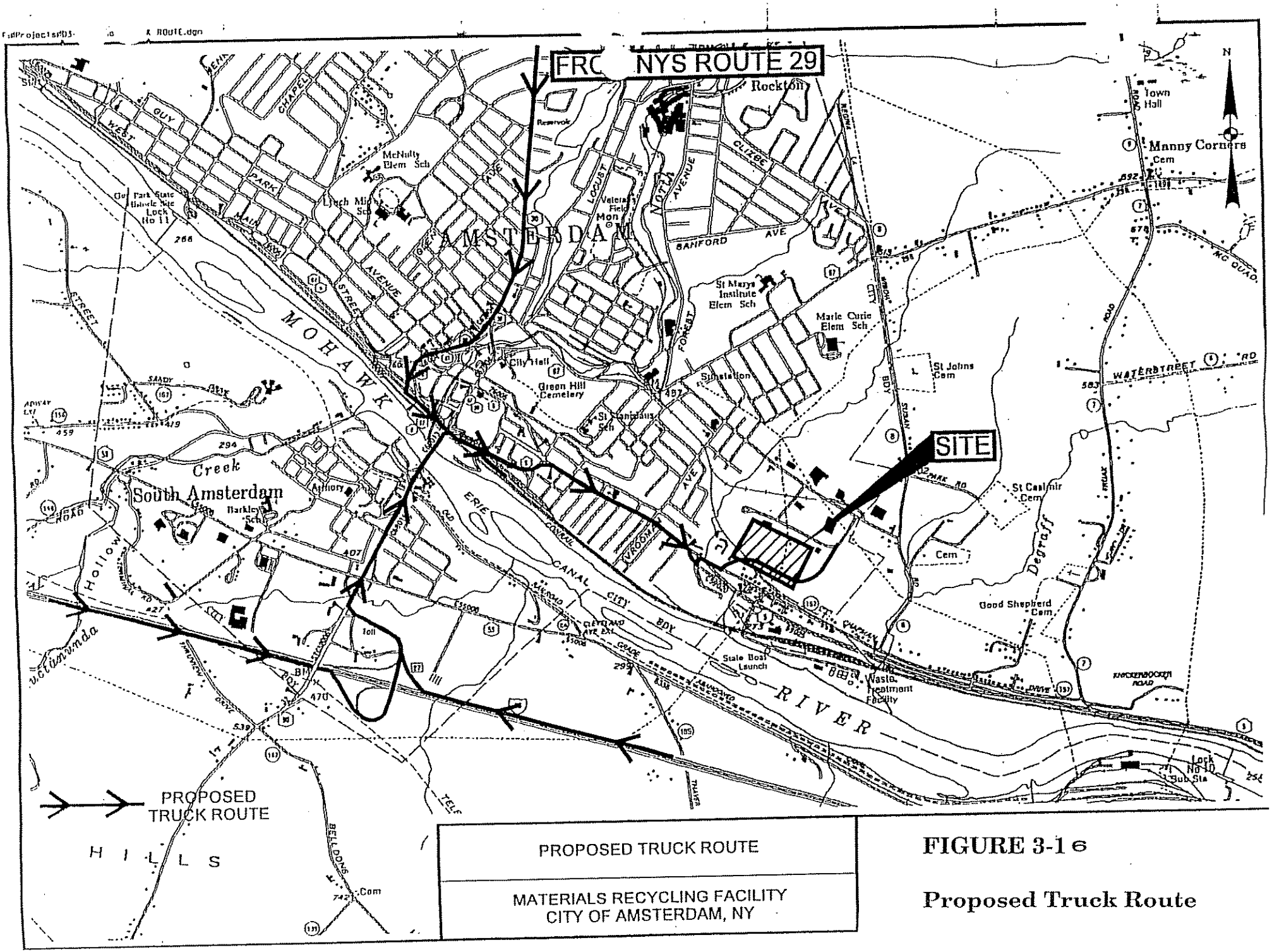
- From the West: trucks should travel through the City of Amsterdam on NYS Route 5 East and access the site from East Main Street

- From Saratoga County: trucks should travel along NYS Route 29 to the junction with NYS Route 30 and finally to NYS Route 5 East and into the site from East Main Street

- From the East: trucks should travel to the City of Amsterdam on Interstate 90 via Exit 27. Access to the site is from East Main Street via NYS Route 30 North to NYS Route 5 East.

Level of service calculations indicate that there is sufficient capacity at the intersections of NYS Route 5 East/Main Street/Park Drive and NYS Route 5 West/East Main Street to accommodate the peak operational project traffic volume of 25 vehicle trips per hour and the peak construction phase project traffic of 17-18 vehicle trips per hour.

During the construction phase, peak truck volume of 17-18 truck-trips per hour is greater than the operational phase peak truck volume estimates of 10 truck-trips per hour. However, the overall traffic impact during the construction phase is less than the peak volumes evaluated in the TIS since the construction phase trucking is not cumulative with employee traffic and does not occur during rush-hours.



PROPOSED TRUCK ROUTE

MATERIALS RECYCLING FACILITY
CITY OF AMSTERDAM, NY

FIGURE 3-16

Proposed Truck Route

By use of these designated routes which use State Routes, adverse impacts to local streets will be avoided.

3.17 Water Supply

This section describes the provision of water service to the site and the City of Amsterdam's ability to provide needed flows will be assessed. Mitigation measures will be identified as necessary.

3.17.1 Existing Conditions

The existing City of Amsterdam public water service area includes the entire City limits, the New York State Thruway Authority, the Town of Amsterdam Route 30 Water District, the Harrower Water Districts and several Town of Amsterdam property connections. Private residences account for approximately 90% of the users within the City. Commercial and industrial uses are metered and use approximately 1,000,000 gallons per day. Water District users account for approximately 100,000 gallons per day. The remaining approximately 3,500,000 gallons/day is allocated as residential use, but this figure does not take into account any illegal uses, leaks or fire flows.

The City of Amsterdam owns and maintains three reservoirs and an intake pond, located approximately 14 miles north-northeast of the City, which serves as the primary raw water source for the City. Direct filtration and treatment of the water is accomplished at a water filtration and treatment plant, which has a maximum design capacity of 12 million gallons per day (mgd). The filtered water is treated with chlorine and the finished water is then delivered by gravity to the 4-mg storage tank located at the Brookside Reservoir.

Within the project site, an 12-inch potable water line runs along Sam Stratton Drive and an 8-inch potable water line extends south off Sam Stratton Drive, terminating on the northeastern portion of the site. The proposed action involves extending the 12-inch line to the landfill perimeter road for fire protection water and extension of the 8-inch line to the recycling center operation.

To identify the potable water supply sources for properties within the downgradient vicinity of the project, a water well survey was conducted by The Chazen Companies. The survey was comprised of a questionnaire requesting information pertaining to water supply sources (i.e. private potable water supply wells) and requested specific information pertaining to private wells. A detailed discussion of the water well survey is provided in Section 3.4.1.2 of this report.

3.17.2 Potential Impacts

The proposed project will require a minimal use of potable water for the 15 full-time employees who are anticipated to the work on-site in the trailer/office with

additional minor amounts for occasional dust control within the recycling center operations. It is estimated that the project will require the usage of approximately 328,500 to 657,000 gallons of water over a 6 to 10 year period. The proposed project will require connection to the existing water mains on the northern and northeastern portions of the site. On-site storage of potable water is not anticipated.

3.17.3 Mitigation Measures

The existing water service is anticipated to adequately service the proposed project. The proposed project will require connection to the existing water main however, no adverse impacts to potable water supply are anticipated and no mitigation measures have been identified.

3.18 Sewage Disposal

This section will describe the provision of sanitary sewer service to the project site and the ability of the City of Amsterdam to accommodate sewage flows from the project. Mitigation measures will be identified as necessary.

3.18.1 Existing Conditions

The City of Amsterdam is served by a municipal sewer system. The city system contains both separate and combined sewers. The majority of these lines consist of 8" diameter clay tile pipes. All new connections and sewer line extensions are made with PVC pipes. The sanitary and combined sewers carry flow to the interceptors which direct wastewater to one of the three major pump stations. The three major pump stations are located on Pine (Johnson) Street, River Street and Kline Street (east side). The Pine Street and River Street intermediate pump stations serve the west side of the city and the section south of the Mohawk River.

The Kline Street pump station is located on the east side of the city. It receives all east side flows, but in addition is recipient of flows pumped from the other two stations. Consequently, because the Kline Street or east side pumping station receives most of the City flow, it is considered an integral part of the treatment plant. The sewage received at the station passes through a bar screen and grit chambers prior to pumping to the treatment plant for further processing. The station contains 2 pumps with a capacity of 16,000 gpm (23 mgd) and 10,000 gpm (14.4 mgd) for peak flows.

An existing 15-inch sanitary sewer line extends south from Sam Stratton Drive on the northwestern portion of the site.

3.18.2 Potential Impacts

3.18.2.1 Sanitary Wastewater

Sanitary wastewater is anticipated to be generated in minimal quantities by the 15 full-time employees who are anticipated to the work on-site in the trailer/office. It is estimated that the project will generate approximately 180 gallons pre day of sanitary wastewater. The proposed action will require connection to the existing system which is anticipated to handle site sanitary wastewater discharge.

3.18.2.2 Leachate

A leachate collection and management system will be implemented to collect, and store leachate generated on the project site. For the purposes of the project, leachate will be considered as any liquid that is generated within the landfill cells or recycling pad.

Organic materials, such as wood and gypsum wallboard, are typically found in C&D debris and such organic material can produce leachate as the debris mass decomposes and comes into contact with water. While the chemical composition of C&D landfill leachate is dependent upon many factors such as the debris materials present and landfill conditions, research has been performed by several organizations (including the USEPA, the National Association of Demolition Contractors, and the Florida Center for Solid and Hazardous Waste Management) which provides a general characterization of C&D landfill leachate. Representative reports regarding C&D leachate quality are presented in Appendix J. While leachate quantity and chemical composition vary and are dependent upon various site characteristics, research indicates that compounds which may be found in C&D landfill leachate include heavy metals, such as cadmium, chromium, arsenic, zinc and lead. Volatile organic compounds such as trichloroflouromethane, 1,2 dichloroethane and trichloroethane were also identified as potential leachate parameters.

In accordance with 6NYCRR Part 360, the system will be designed to maintain less than a one-foot depth of leachate on the landfill cell liner during the prescribed design storm event. The leachate collection system will be designed such that hydraulic conductivity, transmissivity, and chemical and physical qualities are not adversely affected by the waste placement, operation, equipment, or the leachate generation.

The leachate collection system, as shown in Figure 2.3, consists of a composite geosynthetic drainage material located on top of the synthetic liner and a granular drainage layer. A series of perforated collection pipes is also used within the granular drainage layer in the base of the landfill to ensure the peak-flow of the design storm can be collected and removed quickly from the landfill.

To minimize the volume of leachate generated in the landfill, the landfill will be constructed with internal berms to separate clean stormwater collected within the unused portions of the landfill from leachate generated within the active portions. These inter-cell berms will be constructed on top of the liner system and will isolate the leachate collection layers in the active cell(s) from the inactive cells. Water collected within an active cell(s) will be managed as leachate. Water collected within unused cell(s), will be managed as stormwater.

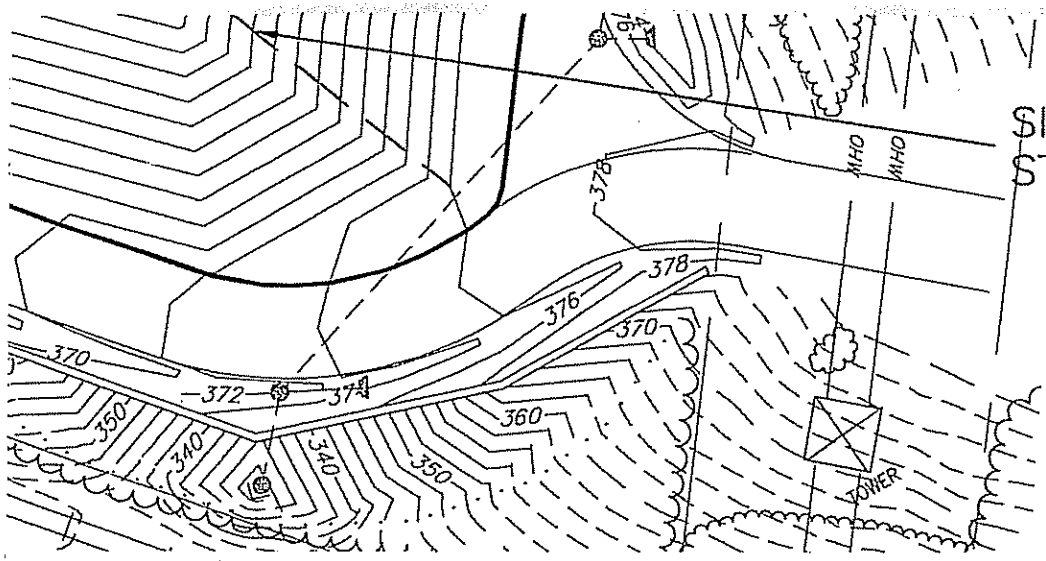
The configuration of the proposed inter-cell berms and the leachate collection system is shown in the Leachate Collection System Plan, Figure 3-17. In general, waste disposal operation will begin in the eastern portion of the landfill, Cell 1, and proceed to the west, into Cells 2 and 3.

To reduce leachate generation within each Cell, the final cover system will be constructed in 2-acre increments over completed portions of the cell as waste disposal operations are completed in an area and the wastes have reached final grades.

Once landfill operations begin, leachate collected in Cell 1 will be pumped from Sump 1, up a side-slope riser and through underground piping to the leachate storage tanks at the recycling center. Stormwater collected from unused landfill cells in Sump 2 will be pumped up a sideslope riser and discharge as stormwater into the perimeter ditch along the south of the landfill.

When landfill operations begin in Cell 2, Sump 1 will be used for the collection and removal of leachate generated in both Cells 1 and 2. Sump 3 will be activated to manage stormwater from the inactive Cell 3, and will discharge through a sideslope riser to the perimeter drainage ditch. When Cell 3 becomes active, Sump 1 will be used for the collection and removal of all leachate from the landfill.

Peak leachate flow rates and volumes occur when there is little waste disposed in the landfill, and the largest Cell, Cell 1, is open with no areas of installed final cover.



AMSTERDAM MATERIALS RECYCLING

LEACHATE COLLECTION SYSTEM PLAN

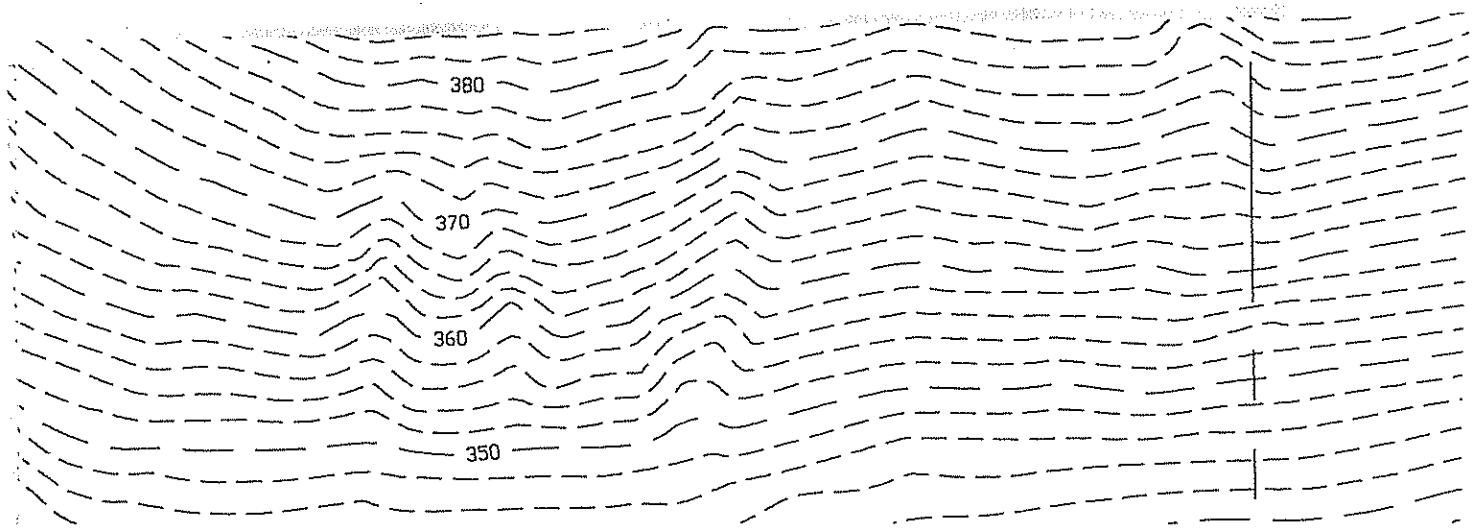
City of Amsterdam, Montgomery County, New York

drawn AJM	checked
date 1/15/07	scale AS SHOWN
project no.	
sheet no. **FIG. 3-17**	

Maximum Leachate Generation Rates are calculated as follows:

Cell 1 Area:	208,652	square feet
Recycling Pad Area (uncovered)	22,500	square feet
Total Area:	**231,152**	**square feet**
Rainfall-Annual	**36**	**inches**
Rainfall 24-Hour, 25-Year Storm	**4.7**	**inches/day**
Annual Leachate Generated in Cell 1	**5,187,060**	**gallons/year**
Average Daily Leachate Generated in Cell 1	**14,211**	**gallons/day**
Leachate Generated in Cell 1 during 25-year Design Storm	**677,199**	**gallons/day**

The piping and storage tanks will be constructed, installed and maintained in accordance with 6 NYCRR Part 360 requirements and will be designed to allow the efficient collection and removal of landfill leachate. As shown in Figure 3.18, Leachate Piping and Storage System Plan, Leachate generated in the landfill cell will be conveyed via double-walled underground piping to leachate storage tanks located in the recycling area. The leachate storage system will consist of two storage tanks with a capacity of approximately 1 million gallons, within a concrete secondary containment structure. The leachate storage tanks will have the capacity to store the maximum leachate volume generated during the design storm, with an additional capacity of over 300,000 gallons for contingency events.



AMSTERDAM MATERIALS RECYCLING

LEACHATE PIPING AND STORAGE SYSTEM PLAN

City of Amsterdam, Montgomery County, New York

drawn AJM	checked
date 1/15/07	scale AS SHOWN
project no.	
sheet no. **FIG. 3-18**	

As designed, the leachate storage system has the capacity to store the entire volume of the 25-year storm, with a buffer of over 300,000 gallons. The impact of additional storms occurring after the 25-year, 24-hour design storm is estimated as follows:

Storm	**Rainfall (inches)**	**Maximum Leachate Volume (gallons/day)**
2-Year, 24-Hour	2.7	389,029
5-Year, 24-Hour	3.5	504,297
10-Year, 24-Hour	3.9	561,931

Once the 25-Year, 24-Hour Storm is collected and in storage, assuming a discharge rate of 50,000 gallons per day to the POTW, the 2-Year Storm could be accommodated in two days, the 5-Year Storm in four days, the 10-Year Storm in less than six days, and another 25-Year Storm in eight days. This analysis demonstrates the design capacity of the leachate storage system can store the entire 25-year storm and other significant storm events that might occur in quick succession.

The collected leachate in the storage tanks will be discharged through a new pressure sanitary sewer main installed along D'Andreano Drive to the existing 12" gravity sewer main at the intersection of Sam Stratton Drive for treatment at the City of Amsterdam's Publicly Owned Treatment Works (POTW). Flow equalization requirements and discharge rates will be established in coordination with the City of Amsterdam. However, the City engineer has indicated that daily flows of up to at least 50,000 gallons should not pose a problem at the wastewater treatment plant.

As a contingency measure, should the City of Amsterdam's POTW, be unable to accept the leachate, the leachate will be pumped into tanker trucks and delivered to an alternate treatment facility. Using standard 8,000-gallon tanker trucks, a additional two trucks (four truck-trips) per day would be required to remove the maximum average daily flow. This temporary additional truck traffic would not have significant impacts based upon the Traffic Impact Study discussed in Section 3.16.

The leachate storage tanks will likely be in operation until shortly after the closure of the final Cell, Cell 3. At this time, daily leachate generation rates will likely fall to below the peak daily discharge rates allowed by the City POTW. The tanks will be removed and the leachate pump directly to the sanitary sewer system without intermediate storage and/or flow equalization. Decommissioning of the storage tanks will regulated under the post-closure plan/permit and will be subject to the approval of the City.

3.18.3 Mitigation Measures

The sewer service and treatment plant are anticipated to adequately service the proposed project with respect to sanitary wastewater and leachate. Therefore no adverse impacts to these utilities are anticipated and therefore no mitigation measures have been identified.

3.19 Private Utilities and Infrastructure

This section will describe existing utilities on the project site and the ability of utility providers to service the project site. Potential impacts to utilities will be discussed and mitigation measures will be identified as necessary. In addition, this section will also discuss the capability of local public infrastructure to service the project. Potential impacts to utilities and infrastructure will be discussed and mitigation measures will be identified as necessary.

3.19.1 Existing Conditions

3.19.1.1 Electric Service

Electric service is currently present on the project site and is provided by Niagara Mohawk. A 69-kV overhead electric transmission line traverses the project site from north to south. The proposed project will utilize electric service for leachate and stormwater pumping, lighting within the portable work trailer/office, and lighting in the recycling area on the project site.

3.19.1.2 Natural Gas

Niagara Mohawk provides natural gas service to the project site via a high pressure gas line which parallels the overhead electric power line. No natural gas is anticipated to be used on the proposed project site.

3.19.1.3 Other Utilities and Infrastructure

Information pertaining to water, wastewater and sewer utilities is presented in Sections 3.17 and 3.18 of this report. Local public infrastructure consists of the existing water, wastewater, stormwater and pavement structures located around the proposed site.

3.19.2 Potential Impacts

The proposed project will require electricity for pumping leachate and stormwater, lighting in the work trailer/office, and for general facility lighting. No natural gas is proposed to be utilized on the project site. The existing electric service is anticipated to adequately service the proposed project. Therefore no adverse impacts to electric utilities are anticipated. A-diesel powered back-up generator will be installed for emergency operations in the event of an electrical power outage.

The potential impacts associated with the proposed project with respect to the local public infrastructure would pertain to the daily operating of the facility equipment and the truck traffic over the existing roadway systems. The construction impacts have been address in Section 2.2 of this report. The type of equipment to be utilized on site has been addressed in Section 2.3 of this report. The equipment to be utilized in the landfill is comparable to the use of a D-8 dozer, which is used onsite regularly for grading activities throughout the industrial park. The standard for vibration effects on structures has been set by the U.S. Department of Interior, Bureau of Mines. The Bureau of Mines states that the safe single event vibration level is 50 mm/s for a single event such as blasting, Studies performed by the California Department of Transportation show that construction vibration levels from construction equipment such as D-8 and D-9 Caterpillars, earthmovers and haul trucks, have never exceeded 2.5 mm/s at a distance of 10-feet. The California Department of Transportation suggests a limit of 5 mm/s for continuous construction vibrations. In addition, the portable crusher, located within the recycling area has a ground vibration impact of less than or equal to standard construction equipment.

The potential impacts associated with the existing utility lines and pavements would involve truckloads of approximately 30 tons traversing public roadways. The proposed truck route documented in Section 3.16 and Appendix I clearly indicates that the use of currently existing designated county and state truck routes will be followed for access to the project site. Existing truck routes should have been design for the expected loads associated with the type trucks to be used in this project. In addition pipelines located within these routes should have also been previously designed to handle similar truckloads.

As indicated on Figure 3-2, a 24" sewer main currently traverses a portion of the northwest corner of the proposed the landfill cell. The proposed project will require re-location of a small section of this piping system around the proposed landfill cell.

3.19.3 Mitigation Measures

As stated in Section 3.19.2, the proposed project will require re-location of a small section of the sewer main piping system on the northwestern corner of the

proposed landfill cell. The new sewer line location will be identified on the site utility drawings to be submitted during the construction phase of the project and will be located within the access road around the landfill.

No potential impacts to other private utilities or local public infrastructure are anticipated from the proposed action and therefore no mitigation measures have been identified.

3.20 Community Services

This section will describe the provision of community services such as fire, police and emergency protection. Additionally, community services such as educational and recreational facilities will be evaluated. Impacts to such services will be assessed and mitigation measures will be identified as necessary.

3.20.1 Existing Conditions

3.20.1.1 Fire Protection Services

The Amsterdam Fire Department provides fire response services to the project area. All responses are made from Fire Department Headquarters, located in the Public Safety Building, Guy Park Extension in the City of Amsterdam. Montgomery County provides coordination of emergency services through a "911" call system which serves as a main dispatch for fire, police, and emergency medical services.

Information provided from Mr. Richard A. Liberti, Fire Chief, indicates that the Fire Department provides fire suppression, fire education, enforcement of State and City codes, Advanced Life Support emergency medical services, heavy rescue response and water response services in the City of Amsterdam service area. The area protected includes residential, commercial, mixed occupancy, seven schools, industrial sites, two hospitals, waterway, railroad and roadway, including a section of the NYS Thruway. Services are provided 24 hours a day, seven days a week, 365 days a year.

The Amsterdam Fire Department currently has of 35 uniformed employees, 17 members certified as EMT-D, 5 members certified as EMT-I and 6 EMT-Paramedics. Equipment maintained by the Department includes:

- Engine 1-1992 Beck, 1500 gallon /minute (gpm), 500 gal. Class A pumper
- Engine 3- 1978 IH, 1750 gpm, 750 gal. Class A Pumper
- Truck 1-1996 Central States, 75' Aerial, 1500 gpm, 300 gal. Quint
- Tower 4-2002 Central States, 104' Aerial Platform, 2000 gpm, 500 gal. Quint

- Rescue 10-2000 Central States, 1500 gpm, 500 gal. Class A Pumper
- Car 207-1994 Jeep
- Support 1-1994 Chevrolet CK31003

The Amsterdam Fire Department stated that the Department also performs code enforcement duties include enforcement of the NYS Fire Prevention and Building Code, fire safety inspections of all commercial and industrial buildings, multiple dwelling inspections on a scheduled basis, and inspections of residential buildings as requested. In addition, the Bureau of Housing Code Enforcement employs two non-uniformed members who respond to complaints regarding housing safety and maintenance.

3.20.1.2 Police Protection Services

The project site is located within the Amsterdam Police Department response area. Police response is initiated 24 hours/day, 7 days/week from the Amsterdam Police Headquarters, located in the Public Safety Building, Guy Park Extension in the City of Amsterdam.

Information provided by Mr. Thomas V.N. Brownell, Chief, Amsterdam Police Department indicates that the Police Department has 39 police personnel and 20 response vehicles. In addition to the Patrol and Detective Divisions, there are a wide variety of specialized units: Scuba Team, Bicycle Patrols, D.A.R.E. Officers, School Resource Officers, K-9 teams, Truck Weight Enforcement Teams, Youth Aid Bureau, Emergency Response Team, and Police Scout Explorers.

3.20.1.3 Emergency Medical Services

The Greater Amsterdam Volunteer Ambulance Corps., Inc. (GAVAC) has provided emergency medical response services to the project area since 1967. GAVAC's primary coverage territory spans 114 square miles, with an additional 200 square miles of mutual aid territory. This service area covers the City of Amsterdam, the Town of Amsterdam including Fort Johnson, Fort Hunter, and Cranesville, and the Towns of Florida and Perth. The mutual aid territory extends into Saratoga, Fulton, Schenectady and Schoharie counties. In addition to 24-hr, 7 day/week response to emergency medical calls, the GAVAC provides non-emergence ambulance transports, long distance ambulance transports, advanced life support intercepts with other agencies, special event ambulance coverage, and public education services. Response to calls is initiated from the facility headquarters, located at 24 Gardner Lane (PO Box 11), in the City of Amsterdam.

Information provided by Mr. Thomas P. Pasquarelli, Jr., Executive Director of the Greater Amsterdam Volunteer Ambulance Corps Inc. indicated that, presently, the Corps. has over 50 members with a staff consisting of both paid and volunteer members and operates six (6) Advanced Life Support ambulances.

The project area is well served by health care facilities, including two local hospitals, three skilled nursing homes and three assisted living/adult homes

The primary hospital serving the site area is St. Mary's Hospital, a 143-bed acute care facility located at 427 Guy Park Avenue in the City of Amsterdam. Amsterdam Memorial Hospital a 236-bed acute acre facility is located at 4988 State Highway 30, just north of the City line. The hospital also operates the Amsterdam Memorial HealthCare Center on Guy Park Avenue, which is a full-service primary care center offering health care to families, and reproductive health and family planning education services for men and women. Both hospitals also offer a wide range of outpatient services including laboratory services, outpatient treatment etc.

3.20.1.4 Educational Facilities

There are no K-12 public or private schools buildings within the project site. The project site is located within the Greater Amsterdam Central School District (GASD), which offers K-12 education at seven different school locations. Total enrollment in the GASD public schools is approximately 3,600 students.

General information pertaining to the schools which comprise the Greater Amsterdam Central School District is provided in Table 3-19. The nearest public school to the project site is the Marie Curie Elementary, located approximately 0.67 miles north of the project site.

Table 3-19: The Public Schools Of The Greater Amsterdam Central School District

School	Address/Contact Information	Education Level
Bacon Elementary	40 Henrietta Boulevard (518) 843-3020	Elementary
Barkley Elementary	66 DeStefano Street (518) 843-1850	Elementary
Curie Elementary	9 Brice Street (518) 843-2871	Elementary
McNulty Elementary	60 Brandt Place (518) 843-4773	Elementary
Tecler Elementary	210 Northern Boulevard (518) 843-4805	Elementary
Lynch Middle School	55 Brandt Place (518) 843-3716	Middle
Amsterdam High	140 Saratoga Avenue (518) 843-4932	High School

Two private schools, St. Marys Institute and St. Stanislaus School are also located in the City of Amsterdam. Information pertaining to these schools is provided in Table 3-20.

Table 3-20: Private Schools In The City Of Amsterdam

School	Address/Contact Information	Education Level
St. Mary's	Upper Church Street (518) 842-4100	K-8th Grade Pre-K Program
St. Stanislaus	42-44 Cornell Street (518) 842-6710	K-7th Grade Pre-K Program

Regionally, several colleges and vocational facilities are located in the general project area, including Fulton-Montgomery Community College and Hamilton-Fulton-Montgomery BOCES located in Johnstown, NY.

3.20.1.5 Public Recreational Facilities

No public recreational facilities are located on or adjacent to the project site. According to the City of Amsterdam Comprehensive Plan (January 2003) the City of Amsterdam contains 773 acres used for public recreational purposes. These areas include public parks, school facilities, public golf courses and state owned lands (including waterways). The number of acres and percentage of lands utilized for public recreational purposes in the City of Amsterdam is summarized as Table 3-21.

Table 3-21: Public Recreational Lands In The City Of Amsterdam

Land Use	Number of Parcels	Acres	Percent (%) of Parks, Rec. & Open Space
Public Parks & Recreation Areas	22	80	10.3
School Facilities	10	225	29.1
Public Golf Course	1	201	26.1
State Owned Land (including waterways)	33	367	34.5

Source: City of Amsterdam Comprehensive Plan, January 2003

An evaluation of parks and recreational facilities conducted by the City of Amsterdam classified recreational facilities within the City into three categories (community park, neighborhood park/playground and mini-park), based on National Recreation and Park Association, Park and Open Space Standards and Guidelines. A description of each park classification and a summary of the recreational facilities in each classification are described below and are summarized as Table 3-22.

Community Parks:

Community Parks are areas of diverse environmental quality and may include areas suited for intense recreational facilities, such as athletic complexes, and swimming pools. They may also be an area of natural quality for outdoor recreation, such walking, viewing, sitting, and picnicking. Community Parks usually serve several neighborhoods.

Neighborhood Parks:

Neighborhood Parks are areas for intense recreational activities, such as field games, crafts, playground apparatus area, skating, picnicking, wading pools, etc.

Mini-Parks:

Mini-Parks are areas with specialized facilities that serve a concentrated or limited population or specific groups such as tots or senior citizens.

Table 3-22: Inventory of Recreational Facilities In The City Of Amsterdam

Community Parks	Veterans Field, Shuttleworth Park, Guy Park Manor, Greater Amsterdam Riverlink Park, NYS Canal Way Trail (South Side), and the Amsterdam Municipal Golf Course.
Neighborhood Parks	Frank J. Sirchia Memorial Park, Kirk Douglas Park and the Fifth Ward Park. Each of the Elementary Schools has some playground apparatus and baseball fields and can all be classified as neighborhood parks.
Mini-Parks	The Arnold Avenue playground, Isabel's Field and the Port Jackson Bocce Club

Source: City of Amsterdam Comprehensive Plan, January 2003

Aside from parks, public recreational facilities in the project area include the several notable museums including the Indian Museum and the Walter Elwood Museum. Additionally, the City of Amsterdam maintains a multi-use trail system along the Mohawk River.

3.20.2 Potential Impacts

3.20.2.1 Fire Protection Services

Based on written correspondence provided by Mr. Richard A. Liberti, Fire Chief of the Amsterdam Fire Department, the Department is equipped to respond to the project site and the proposed action will have little deleterious impact on the Department's ability to service the project area and community. A copy of the written correspondence is included as Appendix E.

3.20.2.2 Police Protection Services

Mr. Thomas V.N. Brownell, Chief, Amsterdam Police Department stated that the Police Department is able to provide adequate police protection services to the project site. A copy of the written correspondence provided by the Amsterdam Police Department is attached as Appendix E.

3.20.2.3 Emergency Medical Services

Based on written correspondence provided by Mr. Thomas Pasquarelli, Jr., Executive Director of the Greater Amsterdam Volunteer Ambulance Corps Inc., the Corps is able to service the project site. Additionally, the proposed project will not adversely affect the Department's ability to service the area. A copy of the written correspondence provided by the Greater Amsterdam Volunteer Ambulance Corps Inc. is included as Appendix E.

3.20.2.4 Educational Facilities

The proposed action will not adversely impact local educational facilities either during construction or operation. There are no educational facilities on or adjacent to the project site and therefore construction activities and subsequent facility operations are not expected to adversely impact local educational facilities.

The proposed project will benefit local educational facilities through an increase in property values and increased tax revenues.

3.20.2.5 Public Recreational Facilities

The proposed project is not anticipated to have an adverse impact on public recreational facilities. The proposed action will result in re-claiming and re-shaping the project land to a nearly level property which will be conducive to further development/expansion and would be favorable for a public use space.

3.20.3 Mitigation Measures

Written correspondence provided by the community service organizations described above indicate that community services can be provided to the project site and that the proposed project will not adversely affect the quality or response to other areas. Additionally, the project is not anticipated to adversely impact educational or public recreational facilities. Based on this information, no significant adverse impacts to community resources are anticipated and no mitigation measures are identified.

3.21 Fiscal Conditions

This section will discuss the current fiscal benefits of the project site and will provide information pertaining to future tax payments, the payment of a community benefit fee and the creation of employment.

3.21.1 Existing Conditions

The loss of industrial facilities and a decreasing population trend have contributed to a sustained economic downturn experienced by the City of Amsterdam over the last half century. Additionally, an evaluation of socioeconomic conditions performed for the City of Amsterdam and incorporated in their 2003 Master Plan, indicates that:

- The population of Amsterdam has been declining steadily since 1930, whereas the, County, exclusive of the City, has shown a modest increase, and the State has increased by 83% in the same period.

- The median household income of the City of Amsterdam rose by 77% between 1979 and 1989, but continued to lag behind the Montgomery County average. Median household income in Amsterdam is lower than that of the Albany-Schenectady-Troy and Rome-Utica Metropolitan statistical areas.

- Educational attainment in Amsterdam is lower than that of the Albany-Schenectady-Troy and Rome-Utica Metropolitan statistical areas. Just 12% of the adult population on the City of Amsterdam has a college degree or higher.

- Compared to other small cities (Auburn, Corning, Glens Falls, Fulton, Oswego and Rome), Amsterdam's total equalized taxes per $1,000 full value are the highest.

- Residential land accounts for 85.3% of the City's taxable property value, placing a heavy tax burden on residential property owners

These factors have contributed to the poor economic status of the City of Amsterdam. As part of the City's initiative to boost the economic climate, the City proposes an increase in industrial/commercial land use to off-set the high tax burden currently carried by residential property owners. Additionally, the creation of employment opportunities within the City is considered to be an important goal.

The project site currently generates revenues from property and school taxes. The existing tax revenues generated by the project site are provided in Table 3-23.

Table 3-23: Property and School Taxes Currently Derived From Proposed Project Parcels

Parcel ID	Assessed Value	General County Tax (2003)	General City Tax (2003)	General School Tax (2003)
56.13-2-13	$2,700	$44.63	$34.61	$65.34
56.13-2-14	$80,000	$1,322.40	$1,025.60	$1,936.00
56.14-2-1	$20,000	$330.60	$256.40	$484.00
56.14-2-2.1	$100,000	$1,653.00	$1,282.00	$2,420.00
56.14-2-9	$425,000	$7,025.25	$5,448.50	$10,285.00
56.14-2-3	$1200,000	$3,223.35	$2,499.90	$4,719.00
56.14-2-7	$150,000	$2,479.50	$1,923.00	$3,630.00
56.14-2-6	$85,000	$1,405.05	$1,089.70	$2,057.00
Totals	$1,057,700.00	$17,483.78	$13,559.71	$25,596.34

Current County Rate: $16.53 per thousand
Current City Rate: $12.82 per thousand
Current School Rate: $24.20 per thousand
Information provided by the City of Amsterdam Assessment Office

3.21.2 Potential Impacts

As indicated in Table 3-23, the proposed project has an assessed value of $1,057,700.00 and generates some $56,639.83 in annual property and school taxes. If the proposed project is not built, it is assumed that property assessment will remain at existing levels into the future. Holding current year 2003 tax rates constant, this includes tax revenues of $13,559.71 to the City of Amsterdam, $17,483.78 to Montgomery County, and $25,596.34 to the Greater Amsterdam Central School District.

Construction and operation of the proposed project is anticipated to substantially increase the assessed value of the project property, thus generating additional tax revenues for the City of Amsterdam, Montgomery County and the Greater Amsterdam Central School District. The economic impacts of construction projects are anticipated to stimulate the local economy through construction-

related expenditures for services, and materials, and other goods related to the construction industry. Operation of the project is anticipated to create approximately 15 full and part-time employment positions. The creation of jobs is anticipated to stimulate the local economy as these individuals are anticipated to buy goods and services in the City of Amsterdam. In additional to these primary economic benefits, the City of Amsterdam and local community is anticipated to benefit from indirect project-related measures, including improved roads and access to the industrial park.

In addition to facilitating the City of Amsterdam's development initiatives, the project is offering a host benefit to the City of Amsterdam AIDA as follows.

- The City of Amsterdam/AIDA will receive an estimated 15-20 million dollars throughout the life of the facility based on $10 per ton;

- The City of Amsterdam/AIDA would receive a lump sum payment of approximately 2 million dollars near the end of this project for their new road and infrastructure projects in the park. The money will be maintained in a joint account during the project's operation based on $2 per ton of received debris.

- The City of Amsterdam/AIDA would receive a lump sum payment of approximately 2 million dollars near the end of this project to ensure the proper closure of the facility and to provide for proper post-closure care. The money will be maintained in a joint account during the project's operation based on $2 per ton of received debris.

- The City of Amsterdam/AIDA would receive a minimum of two additional building sites on the land.

- The City of Amsterdam/AIDA would be gifted the Butterfield property at the conclusion of this project.

- The City of Amsterdam/AIDA would receive bond fee. Current value estimate is $100,000 over the life of this bond but is subject to change based on final borrowing level.

- The City of Amsterdam/AIDA would be gifted the fence that will surround the entire parcel at the conclusion of this project

3.21.3 Mitigation Measures

The proposed project is anticipated to positively impact the local economy through increased revenues from property and school taxes, host benefit fee from project operation, creation of new jobs and improvement of services. No

adverse impacts on fiscal conditions are anticipated and therefore no mitigation measures are identified.

3.22 Community Character

3.22.1 Existing Conditions

As discussed in Section 3.10.1, the project site is located in an area that is in predominantly commercial and industrial use. Adjoining residential uses are limited to those on Chapman Drive on the southern border of the property. The Project site itself is zoned for Industrial Use and is a part of the Edson Street Industrial Park.

Amsterdam may be characterized as a typical small, older northern industrial city. Like many such cities, its economic base has been in decline for many years because the large mill buildings that formerly housed industries are no longer economically viable. These buildings serve as a hindrance to development because they use viable land with minimal economic return. Providing for a cost effective means of demolishing and disposing of these buildings so that the land may be re-used is an ongoing problem for the City.

Additionally, the City is characterized by several neighborhoods consisting of older, substandard housing. As with the mill buildings, finding an economically viable way to demolish and dispose of these structures so that the land may be redeveloped is an issue.

3.22.2 Impacts

The project will positively impact the redevelopment of Amsterdam by providing for a cost effective, local site for the disposal of construction and demolition debris. Providing for a place to dispose of such material can be a major hindrance to economically viable redevelopment. The project will remove this obstacle and thus contribute to the redevelopment of the City.

Additionally, as discussed in Section 1.2.2, the project will provide significant revenues to the City of Amsterdam, $10,000,000 over the life of the project. These revenues will aid the City in a variety of redevelopment activities contributing to the overall benefit of the City.

The mitigation measures incorporated into the project will avoid adverse impacts to adjoining landowners, In fact, the improvement of site drainage and the provision of alternative truck routes into the Park should improve the quality of life for residents on Chapman Drive. Therefore, the character of the community will not be altered by any physical changes occasioned by the project.

Nevertheless, it is recognized that there may be a stigma attached to living next to a landfill project, even one that demonstrably has no impacts. Such a stigma could adversely affect the values of those properties. Lower property values would impact any landowner who tried to sell their property, as well as the City and other taxing jurisdictions because of lower tax revenues.

Finally, the project will result in the conversion of approximately 39 acres of open space to developed use. However, as the project is presently zoned for industrial use, it can be reasonably inferred that the City's intent is to develop the land for that purpose.

3.22.3 Mitigation Measures

The proposed project will have positive impacts on the development and redevelopment of the City of Amsterdam, and therefore on the overall character of the City. Therefore, no mitigation measures are necessary or proposed.

With respect to potential impacts to the values of residential properties adjoining the Project Site, the Project Sponsor will establish a program to support property values at the existing levels for the duration of operations at the project. This guarantee will apply to all residential properties directly adjoining the Project site on the north side of Chapman Road. Details of the program are outlined below.

All affected homes would be appraised with agreed upon appraiser

- If during the operating period of the landfill, a homeowner wants to sell his/her home, the following would occur:

    1. The homeowner would retain a realtor to market the property on reasonable terms through the local multiple listing service. The company would reserve the right to improve the terms of the realtor contract (e.g. if a 5% commission were agreed upon, the company could agree to pay an additional 2% to raise the commission to 7%).
    2. The homeowner would have to agree to offer the property at the appraised value or at a higher value with the company's approval, such approval not to be unreasonably withheld.
    3. Any offers would have to be communicated to the company as well as the homeowner. The company would have the right to require the acceptance of any offer that met the seller's essential terms other than price. If the accepted offer is below the agreed-upon appraised value, the company would pay the difference to the homeowner at closing.
    4. If after a period of one year, no acceptable offer is made, the homeowner could compel the company to buy the property at the appraised value.

4.0 ALTERNATIVES

This chapter examines a range of alternatives to the proposed Amsterdam Materials Recycling Facility project. The New York State Environmental Quality Review (SEQR) requires that an Environmental Impact Statement (EIS) consider reasonable alternatives to a proposed action that avoid or minimize adverse environmental impacts. The identified alternatives must be reasonable, feasible, and consistent with the objectives and capabilities of the project sponsor. As set forth in Part 617, Section 14(f)(5), the alternatives analysis must include assessment of the No Action and can include a range of other alternatives, including alternative development options and alternate sites. Alternatives to the proposed project which are discussed include No Action, an Alternative Development Plan and Alternative Sites.

4.1 No-Action Alternative

The no-action alternative represents the environmental conditions if current land use and activities were continued into the future. The no-action alternative assumes that the project site would remain undeveloped land within the industrial park.

Under the current zoning classifications, a significant amount of development could occur on and around the project site including light industrial operations, industrial warehousing, research and development, multi-tenant commercial facilities and general office space. To reach this zoned potential, the site would need to be extensively re-graded and filled resulting in much the same change as is proposed by this project. These alternatives would have similar impacts with respect to visual resources, soil erosion and stormwater runoff as the proposed action.

4.2 Alternative Development Plan

Layout and design of the proposed project is dependent on the nature of the project itself, and is guided by conditions related to the landfill cell, recycling center and associated management areas (i.e. stormwater, green space etc.) as discussed below:

- ***C&D Debris Material Disposal Cell:*** A minimum of 14 acres for the landfill. This acreage is necessary to properly and efficiently excavated and shape the landfill cell for an appropriate liner system, to generate earth materials needed for site development, and to balance cut and fill materials on the site.

- ***Recycling Center:*** Approximately 6 acres is required for the recycling center to accommodate weighing, sorting and processing areas.

Additionally, the recycling center has been designed with earthen berms to minimize potential impacts from dust, noise, aesthetics etc.

- ***Greenspace, Buffers etc:*** The remaining portions of the site will be used for other project related activities including access roadways, stormwater management areas, greenspace buffer areas, utilities (both existing and proposed), and berm areas.

Given these considerations, alternative development plans were evaluated. Alternate development plans including a smaller facility and a larger facility were evaluated and are discussed below:

- ***Smaller Facility Alternate Development Plan***: Re-design of the proposed project to include a smaller operation is not feasible. Given the needs of a C&D debris material disposal facility, the anticipated quantity of C&D to be generated by the City, and the economics for the project sponsor to profitably support the business, a smaller landfill cell would not support these actions. Additionally, alternate design of the recycling facility would not be feasible. Given the nature of the project and the resultant design considerations, the existing facility design is considered to be the minimal size which can support the proposed action.

- ***Larger Facility Alternate Development Plan***: While a larger facility can be designed, the existing project site cannot accommodate such a facility. The existing project lands are the only lands under the control of the sponsor that can accommodate the proposed project.

The host community's receptiveness to the project, coupled with the City's unique and severe economic position and ability to host the project create unique advantages for the implementation of the proposed action within the City. In addition to the social, economic and logistic considerations for citing the proposed project in the City of Amsterdam, the AIDA's jurisdictional boundaries further necessitate location of the proposed project within the City of Amsterdam.

4.3 Alternative Sites

The Project Sponsor seeks to construct and operate a C&D debris landfill and recycling center. In order to make such a project economically viable, a site in excess of 28 acres with certain characteristics is required (specifically, suitable soils, bedrock and groundwater conditions, suitable access and no other major constraints to development). Further, in order to promote public acceptance of the project, the Project Sponsor sought to pursue this venture in a manner that would provide worthwhile benefits to the host community. To address all of these concerns, the Project Sponsor determined that the only way to proceed was in a public-private partnership. The public partner would have the authority to ensure

that conforming sites would be available and would provide the vehicle for extending benefits to the host community.

The Project Sponsor has developed such an arrangement with AIDA, subject to successfully completing the environmental impact review. AIDA identified two sites that had some potential for meeting the Project Sponsor's objectives: the proposed site and a second site across the river within the City. Both sites were evaluated by the Project Sponsor. After evaluation it was determined that the second site was not capable of meeting the Project Sponsor's objectives because it was too small, it is slated for a DOT highway improvement project that would interfere with the proposed project and it has significant wetland constraints. Therefore, after review of the two sites, the Project Sponsor determined that the proposed site was the only one that could meet its objectives.

There are no alternate sites under the control of the Project Sponsor that would meet the Project Sponsor's objectives. Therefore, pursuant to the SEQRA regulations at 617.9.(b) (v), no further evaluation of alternate sites is required.

5.0 IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

The implementation of the proposed action will require the use, alteration and consumption of certain natural and human resources. This section will discuss the commitment of resources that cannot be retrieved or avoided as a result of the project.

5.1 Soil Resources

Project construction and operation will require the use of various soil materials. During project construction, is anticipated that soils will be used for fill, road construction, berms, retaining walls, and as a substrate for the landfill liner. Operation and closure of the Landfill will also require the use of soils for site maintenance and for both daily and final landfill cover material.

Soils will be irretrievably committed for construction and operation of the project and will not be available for re-use. However, the use of soils on the site is not expected to result in a significant irreversible or irretrievable commitment of soil resources.

Construction activities are expected to generate approximately 200,000 cubic yards of excessive cut material. Excess cut materials generated from construction activities will be transported off-site. The transportation of excess cut materials is a short-term activity related which will occur during a short period during the construction phase and is not anticipated to have a significant adverse impact.

5.2 Water Resources

Water will be used on the project site for dust control, personal hygiene and sanitary purposes. Post-closure activities are not anticipated to require the substantial quantity of water.

While water will be irreversibly consumed on the project site, the use of water is not expected to result in a significant irreversible or irretrievable commitment of water resources.

5.3 Flora and Fauna

Some aspects of the proposed action will involve the irreversible and irretrievable commitment of site vegetation and wildlife. Other site actions will result in the temporary alteration/commitment and restoration of flora and fauna. Sufficient and comparable wildlife habitats exist on the project site for habitat re-establishment. Additionally, habitat within the project area is not unique and fauna which utilized the site habitat will have comparable and sufficient habitat in the general site area. The project design includes the maintenance and creation of buffers which will which create vegetated habitats at these locations. Additionally, at the end of the project duration, the final landfill cover system will be vegetated, thus restoring an open vegetated area that will attract certain wildlife species.

Given these conditions, the proposed project is not anticipated to have any significant impacts to flora and fauna and a significant irreversible and irretrievable commitment of ecological resources is not expected to occur as a result of the proposed project.

5.4 Wetland Areas

The proposed project will involve the filling of some wetland areas. Generally, the wetlands on the site are generally confined to three narrow, intermittent stream corridors and are of low quality.

Potential impacts to wetlands will be mitigated off-site, either through off-site creation, enhancement or preservation. Off-site wetland mitigation would provide additional flexibility in mitigation design, and allows for wetlands to be potentially established in an area closer to the Mohawk River, where greater public and environmental benefits could be produced. Given the implementation of these mitigative measures, the proposed project is not anticipated to result in a significant irreversible and irretrievable commitment of wetland areas.

5.5 Energy Resources

Construction, operation, and closure of the proposed facility will require the irreversible and irretrievable commitment of energy resources. Energy resources committed for the project are anticipated to include fuel for operation of vehicles and equipment and electricity for lighting and natural gas for heating buildings.

Measures will be employed to conserve energy and minimize the commitment of energy resources associated with the project. These measures are described in Section 8.2 of this report. While energy will be irreversibly consumed on the project site, the use of energy is not expected to result in a significant irreversible or irretrievable commitment of these resources.

6.0 UNAVOIDABLE ADVERSE IMPACTS

The proposed project will result in the following unavoidable adverse impacts:

It will result in the disruption and permanent displacement of approximately 21.5 acres of wildlife habitat. It will result in the displacement of wildlife on additional lands adjoining those directly disturbed by the project.

It will result in an alteration of the visual character of the project site.

It will result in increased noise during both construction and operational phases.

It will result in increased dust generation during both construction and operational phases.

It will result in increased combustion of fossil fuels.

It will result in the displacement of approximately 1.8 acres of low-quality, Federally regulated wetlands.

It may affect property values of those properties immediately adjoining the property site on Chapman Drive.

It will result in increased truck traffic during the construction phase.

It will result in slight increases in truck traffic on several roadways leading to the site during the operational phase.

Note that mitigation measures have been developed for all of the construction phase and operational impacts identified above.

7.0 GROWTH INDUCING ASPECTS

Like many historic industrial cities in America, the City of Amsterdam has experienced a decline in its economic base and has experienced great changes in its population, neighborhoods and commercial areas. The Amsterdam government through its comprehensive planning and development initiatives, is dedicated to strengthening the City by improving its economic base and re-developing its residential, commercial and industrial communities. The proposed action is conducive to the City of Amsterdam's initiatives for community re-development and will help the City to promote and achieve these goals.

The intent of the proposed action is the establishment of a C&D debris material disposal facility and recycling center. The proposed action will not only provide a mechanism for environmentally sound C&D debris waste disposal in the project area, but will promote redevelopment within the City of Amsterdam. The City of Amsterdam's re-development plan includes extensive building demolition and renovation of vacant and under-utilized properties throughout the City. The proposed action will provide a feasible and economic alternative for C&D debris disposal as well as provide the additional benefit of materials recycling. This project will help facilitate City neighborhood and community re-development initiatives and will generally promote re-development within the City. There is also a potential for the proposed action to attract commercial and industrial activity due to the availability of a C&D waste disposal and recycling facility.

As part of its initiative to stimulate economic development, the City of Amsterdam has identified the Edson Street Industrial Park as an area for improved and increased development. The proposed action will result in filling and re-shaping the project site to create land within the Industrial Park which is suitable for re-development. Thus, the proposed action will promote re-development of the Industrial Park and will stimulate economic growth in the City. Additionally, the alternate access Route from NYS Route 5 which will be created from the proposed action will further induce re-development of the Industrial Park.

The host benefit offered by the proposed project will provide an economic boost to the City of Amsterdam and the creation of jobs and increased tax base provided by the project present additional benefits and opportunities for growth within the City of Amsterdam.

8.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY

The proposed project will require the expenditure of energy resources during all phases of construction and during operation. A minimal demand for energy is anticipated during the post-closure and operation and maintenance (O&M) periods of the project. This section will describe the energy sources to be used and the anticipated levels of energy consumption and will identify methods to reduce energy consumption associated with the proposed project.

8.1 Energy Use and Consumption

Site grading, construction of the landfill and materials recycling facility will require the use of fuel to operate construction machinery and equipment. The fuels used will most likely include diesel and gasoline. The use of fuels during the construction phase will be a temporary consumption of these resources. Diesel and gasoline will be obtained from outside vendors and will be stored on-site in above ground storage tanks. Petroleum storage tanks will be registered and maintained on the site in accordance with NYSDEC regulations pertaining to petroleum bulk storage.

Operation of the landfill and materials recycling facility will require the continued operation of machinery and equipment and therefore the continued use of fuel resources. Electricity will be required for lighting and office equipment operation in the site building. Additionally, the operation of leachate and surface water pumps will utilize electric resources. Post-closure (O&M) facility operations are anticipated to require the minimal use of electricity. Electricity will be provided to the project site by the Niagara Mohawk.

Liquefied Petroleum Gas (LPG) will be utilized as a heat source in the site building. Natural gas will be provided by Niagara Mohawk.

8.2 Energy Conservation Measures

Energy resources must be consumed for the implementation of the proposed action. However, conservation methods will be implemented to minimize the energy required during construction, operation, closure, and post-closure periods.

During grading and landfill construction, energy will be conserved by using fuel and energy efficient equipment. The haul road and materials processing area are designed for efficiency, so vehicles are not required to idle for long periods of time. Additionally, energy will be conserved during facility operation by ensuring all vehicles and equipment are maintained in proper operating condition, running transfer vehicles with full loads whenever possible to reduce the number of vehicle trips, and minimizing vehicle idle time. Site buildings will be equipped with heating, cooling and lighting systems that would be designed to meet or

exceed the requirements of the State Energy Conservation Construction Code (9NYCRR, Parts 7810-7816). Electrical distribution and lighting systems will be designed for efficient distribution and use of electrical energy.

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